The Arris and Gale Lectures

ON

MORPHOLOGY OF THE EXTERNAL GENITALIA OF THE MAMMALS

vered at the Royal College of Surgeons of England on March 4th and 6th, 1914,

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LECTURE I

Delivered on March 4th

R. PRESIDENT, LADIES, AND GENTLEMEN,—One of atural outcomes of the efforts of naturalists anise the study of the lower forms of life has the desire, manifested in many different ways, sify and arrange the vast wealth of material is available for study. The orderly arrange t of the living world into properly labelled has been the aim of a very long line of nts of nature. There is an attraction about marshalling into ordered array which has ged the attention of even the greatest of alists, has limited the activities of lesser; and has cramped, confined, and stultified whole life work of some of the least among

stems have come and gone, first one set of butes and then another has been claimed as shing the true guide to the position of a living in the vast assemblage of the forms of life. It t proposed to follow the rise and fall of the methods of classification, for it is only with omparatively modern that the present investi- n has any concern. It is assumed that the m of classification into the fabric of which an pt has been made to weave one definite thread Huxley expressed it some 40 years ago, ed upon purely structural considerations, and be designated a morphological classification.' wing this guide we may limit ourselves to a deration of the arrangement of living things by dy of their structure.

STRUCTURE AND FUNCTION

w the "structure" of an animal or plant con in the ordered disposition of an assemblage of ns to constitute one composite body, and it is efore obvious that any classification by struc is in reality a classification by organs or the mblage of organs. Of the work of John Hunter, ley said, "the classification which he adopted classification by organs, and that is true; but st not be lost sight of that the summation of s' constitutes 'structure.' This fact, I , has been somewhat overlooked, indeed, ey himself seems to have been inclined to re it when he said of John Hunter's system, s admirably adapted to the needs of the com tive physiologist." Looked at in the way I am vouring to present the problem Hunter's m is equally adapted to the needs of the com ive anatomist. Huxley also observed truly the unrivalled collection of John Hunter intended to illustrate the *modifications* the great physiological apparatuses undergo animal series; and here in the midst of collection it is unnecessary to remind anyone Hunter—more than any other anatomist—demonstrated that the whole form and disposition of organs is dependent on the function of the organs. We have therefore come back—as every excursion in search of truth in living economy will inevitably bring us back—to the starting-point that "structure" depends upon "function." Unfortunately, such reasoning also leads to the apparently hopeless conclusion that since classification is effected by consideration of structure, and structure is dependent on function, classification itself depends ultimately on function. It is, however, only when dealing with the simplest forms of life that the very paucity of organs in which to note differences and likenesses allows us to see that the systematist is in reality separating and grouping his material by reference to function.

It is the increasing complexity of the assemblage of organs—and that alone—that saves the museum specialist from having to make the humiliating confession that he is endeavouring, under the worst possible conditions, to arrange his specimens according to the functions which they possessed during life. Hand in hand with increasing complexity there is manifested a wonderful conservatism in the living type which admits of functional alteration of structure in one organ or system of organs, while some other system retains its ancestral and primitive condition. It therefore comes about that, functional considerations producing alterations in any one system, it is by a comprehensive study of the whole of the organs of an animal that classification is achieved. It must be apparent, however, that such a method is only to be regarded as thoroughly reliable on the assumption that no functional needs can affect a complex living thing so profoundly as to alter every part of its body in harmony. It must also be noted that it is only by the complete knowledge of the entire anatomy of any form that real certainty of its position in any scheme can be secured.

How completely function may modify such a complex thing as the structure of a mammal we do not know, but there is evidence that the completeness with which it may do so may be a pitfall to the systematist. A well-marked and peculiar specialisation—such, for instance, as the dependence upon ants as a source of food—has produced profound alterations of structure in a large number of animals. It was only precise anatomy as distinct from mere superficial examination that separated Echidna from the Myrmecophagidæ with which it was originally placed, and it is still open to question if the common habit of eating ants rather than true zoological affinity is not the real bond of some of the divergent forms grouped together as the Edentata. Again, a completely aquatic life has produced far reaching modifications of the whole body of many creatures. And though no one with any anatomical knowledge would be in danger of classifying the dugong and manatee with the whales or with the seals, still it may be doubted if the modifying effects of such a life have been properly realised in separating the Sirenia so far from the elephants and tapirs. In these instances there has been an alteration in the structure of many systems in response to the same functional need, but there are still enough organs left retaining their ancestral condition to put the true affinities of the animals beyond doubt. But it is, perhaps, not beyond the range of possibility to imagine that the modifications could become more complete and that very little indeed might retain its primitive characters.

TRENDS OF THOUGHT IN CLASSIFICATION

The *fact that functional* modifications of any one set of organs *may render* them unsuited to the purpose of universal classification has produced two definite trends in the study of living forms In the first place, it has resulted in the specialist in one restricted group selecting the characters of one set of organs for his criteria of classification, while the worker in another, and perhaps nearly allied, group arranges his material by reference to an entirely different set of organs This inconstancy of standard is apt to strike an amateur and un specialised student of nature rather than a highly trained specialist In the second place it has resulted in compelling the man who takes a more comprehensive view of living things to embark on a search for the underlying "type" which is modified, here in one direction, and there in another It is unnecessary to follow the evolution of the theory of an essential plan which, old as Plato, received a fresh stimulus from the work of Goethe, and culminated in one direction with the researches of Richard Owen and others which produced the conception of the "archetype"

These two trends of thought must be briefly noted Concerning the second, it is frankly outside the province of this paper, although it provides a most interesting study Plan—or ancestral type—of course there is, it was almost the *perfection* of the development of this idea *that brought about* its relegation to the background of scientific thought The "archetype" grew so complex that it became more a creed than a part of knowledge The criticism of Herbert Spencer decreased its vitality, the advent of the ideas of Darwin caused it to be neglected, and added to its decrepitude, and the study of embryology has reduced it to day to the position of a dead ideal of a past generation. And yet the death is no more than apparent, for its own offspring has demonstrated its vitality As Dwight has said, "*embryology*, which 50 years ago was in its infancy, confirms distinctly the view of the archetype." Even if we abandon the use of the many terms and phrases that grew up around this central idea, we must still retain the fundamental principle involved We have shifted our ground rather from the notion of an adult "unity in variety" to the conception of an embryological recapitulation

With the other tendency of efforts at classification we have, however, more direct concern.

CRITERIA OF CLASSIFICATION OF VERTEBRATES

For the moment we will pass by the organs and systems most used in the comparison of the lower forms of life and turn at once to the vertebrates, and especially the mammals with which this paper deals The most superficial examination of the methods used to determine affinities among the representatives of higher orders reveals the extent to which reliance is placed upon features of the skeleton, the teeth, and the *integument* This is, of course, *owing to the* fact that these are the parts most readily capable of preservation, and therefore most commonly available for study by the museum specialists who are responsible for most classifications Again, since place has to be found in any scheme for the material contributed by the paleontologist, it is essential that bones and teeth should be accepted as criteria of rank The question is, Are these undoubtedly convenient, and often sole available criteria, ideal ones upon which to base affinities?

The Skeleton

If we regard the skeleton, as some an have apparently regarded it, merely as a scaffolding upon which the body is built, t may feel comparatively safe in presumin similarities in the design of this scaffoldi point to relationships between the bodies o the scaffoldings were the frame work Bu regard the osseous system as a highly plasti organs, which shows a wonderful *ability t* itself, by *beautiful adjustments, to every den* stress or *strain resulting from each function* and *purpose* of the limbs and trunk, then w have doubts as to the validity of these assum Every modification of gait, every alterat muscular adaptation produces its change habits swimming, running, climbing, and b ing all—bring about modifications regard zoological affinities Even the skull is prof altered by such simple functional factors method by which food is conveyed to the Numerous instances of skeletal adaptabilit occur to every one, but one, which bridge such wide space that real confusion wou impossible, may be given The tarsometatar typical birds is an elongated bone into whic elements of tarsus and metatarsus have b fused In the penguins (Spheniscidæ), which or waddle in mammalian *fashion*, the ele are *partially* separated and the composite is short as in the mammals, in the je (Dipodinæ), which *hop* like birds, the avian portions, and even the fusion of the element present This is an extreme instance that gross *that it could* never deceive, but it shows bones adapted towards the same functional could possibly be taken as indicating zool affinities between forms which, though w separated, are members of the same order

The Teeth

It is the same with teeth, for these organs serve the all important function of dealing wit food of the animal, and, in addition, may be loped *for* killing prey, for catching prey that n no special killing, for cutting herbage, for fig rivals, as tools employed in life processes un nected with feeding, and even as organs of motion. Now, *of course*, any organ connected the feeding habits of an animal—in fact, any of the alimentary system—must be expected to in response to the nature of the food taken, and method employed in taking it A wide seri facts fulfils this expectation It is *recognised* admitted at the outset that far *more than* functional adaptations are considered in *any* cl fication by teeth, still, it is *impossible to* es the conviction that *too great a reliance* upon characters of these organs may very easily mis

The Integumentary System

With the integumentary system *it is* unnece to deal at length, it is the happy hunting gro of the systematist Colour, pattern, a few h more or less here or there, a stripe or a spot or have often been enough, as we *might* make head or a bald one, a grizzled beard, or a fre face the criteria *for* species making among kind, so has the systematist used the integume system *There is something* far more *subtle* in outer *covering* of an animal than such trea can take into account As a huge sense organ reflecting surface of the central nervous sy and as a medium for the display of everythin which the life processes of the animal demand a canvas, the skin of every living creature must be considered Among the Edentata alone we have animals with a normal hairy covering (Myrmecophagidæ), animals with coats of specialised hair (Bradypodidæ), with skins the condition of which has prompted the familiar name of "pigs" (Orycteropodidæ), with armour plates (Dasypodidæ), with protective shells (Glyptodontidæ), and with imbricated horny scales (Manidæ) In the integumentary system, again, we even have the strange fact that so conspicuous a part as the tail may become entirely lost as a normal process in functional life The aberrant porcupine (Trichys), found in Borneo, starts life with a tail, as *T guentheri*, but the female, at any rate, loses it, and ends as the tailless *T lipura*

Systems of Varying Degrees of Constancy

Passing at once from these systems which, owing to the varying ways in which the functions that they subserve may be carried out, are plastic, and ever ready to be shaped in the varying mould of habit, to those organs which possess one function carried out on constant lines, we note immediately an enormous difference

The teeth have to deal with food which may be of almost any character, obtained in almost any way, but the essential organ of sight or of hearing subserves one definite function effected in one constant way throughout the whole series of animals Animals see or hear in only one way, they feed, progress, breathe, and become protected by colour, armour, or pattern in a very great number of different ways

The constancy of the structure of the internal ear, even in widely divergent forms, has been noted by many workers, among them especially by Dr Albert Gray, the same authority has noted the greater variability of the middle ear, while the external ear is the delight of the systematist, so many are its modifications

The whole optic apparatus, including its accessory parts, is profoundly modified by function, but the essential organ of vision is so remarkably constant in its structure that though one might make a shrewd surmise that the eye belonged to an animal of diurnal, crepuscular nocturnal, or subterranean habit, it would tax the powers of the systematic zoologist to assign an excised eyeball to a member of any of the main divisions of the mammalia

It would seem, from such a point of view as I am attempting to take, that in the animal body there are systems with highly variable functions, and consequently with such highly variable characters as to form unreliable criteria for any classification other than a frankly functional one Again, it seems there are systems of such constancy of function, and consequently of such uniformity of structure, as to furnish no clues to the finer gradations of affinity such as are required for a satisfactory scheme of classification It is not likely, and it is not reasonable to expect, that there is any one system in the animal economy which would strike the mean between these two extremes and form in itself an absolute and safe standard by which to assign an animal to its proper place in the scheme of living things Yet there are undoubtedly some systems which have special claims in this direction

The brain has great title to be regarded as an organ which notes the rank of its possessor Since it is true, in a great measure, that all evolution, the whole scale of animal types, consists in an increasing perfection of the brain, it may be said that the state of the brain will indicate at once where in the scale its possessor should be placed The brain may be said to sum up in its complex structure all the functions and attributes of an animal, and increasing completeness of the knowledge of the brain would mean increasing perfection of classification The work of Elliot Smith especially has made this clear If we had to depend upon one organ only to provide all the materials for a scheme of universal classification no better choice could be made than the brain

The Reproductive System

Another system which has long seemed to me to deserve special attention in this connexion is the reproductive system, its functions are so simple, its needs for change so infrequent, and yet the changes that have been produced in it are obviously so profound The reproductive system has not by any means been passed over as a guide in classification The botanist places reliance on it, to the zoologist who deals with parasites it may furnish the most valuable guide, since even if most of the other systems of the body become reduced to mere rudiments, the reproductive system must persist in full functional development Even in the mammalia the characters of the uterus and of the placenta are commonly used to make fundamental distinctions of the greatest importance "So far back as the year 1816 M de Blainville pointed out that the mammalia might be divided into three primary groups, according to the character of their reproductive organs, especially the reproductive organs of the female" It is from this work of M de Blainville that we have inherited the divisions of ornithodelphia, didelphia, and monodelphia

Classification by placental characters does not so directly concern us here, but Huxley has recorded his opinion of the taxonomic value of this structure in the most emphatic terms "It appears to me that the features of the placenta afford by far the best characters which have yet been proposed for classifying the monodelphous mammalia" The study of these portions of the reproductive system has therefore already yielded important results for the systematist, but I do not think that the taxonomic value of the system is exhausted by the study of these two characters In most instances it is practically certain that a complete study of the fœtal and adult genitalia of any debated candidate for classification would clear up all doubts as to its real systematic position

A detailed study of the development and the adult condition of the genitalia of the whole mammalian series is obviously a stupendous task and one that is limited at every turn by the lack of suitable material It has therefore been my aim to examine a series of types of which sufficient material could be got together, and to attempt to determine any principle which underlay the modifications that were met with Put quite briefly, it has been forced upon me that two very different tendencies are seen in the modifications of this system (1) the marked conservatism of the type upon which the genital system is formed, and (2) the complete transformations of which it is capable in functional emergencies These tendencies which at first sight seem to be opposed need some explanation and it is necessary to follow, briefly the modifications of the genital system up to the point at which we commence its detailed study in the mammalia

MODIFICATIONS OF THE GENITAL SYSTEM IN VERTEBRATES

We may take as a simple type of vertebrate genitalia, a system which consists, in both sexes, of bilateral genital glands, which may or may not shed their products into the cœlom, but which ultimately pass these products to the cloaca, and so to the exterior, by ducts which are primarily bilateral Such a system is found, with only minor modifications, throughout the fishes and amphibians, and, functionally, we may say that such a system is found where the ovum is extruded as a more or less gelatinous mass either into water or into some damp place It is the simplicity of the female genital products, extruded under such circumstances, that has served to retain the simplicity of the genital system. As long as a soft gelatinous ovum is extruded into water so long may the spermatozoon penetrate its envelope and effect fertilisation after extrusion External fertilisation, therefore, merely requires a system of genital glands and excretory genital ducts by which the genital products may escape to the exterior, and meeting in the surrounding medium insure fertilisation But such a genital system will only suffice for aquatic animals, or animals which are aquatic or semi aquatic during their breeding season, for an egg, so delicate that a spermatozoon may penetrate it, is far too perishable an object to be extruded in ordinary circumstances into the open air

When an animal becomes completely terrestrial in habit it is essential that the extruded egg cell should have some protective covering to insure it against destruction by the ordinary agencies that come into play in terrestrial life It is the addition of this protective covering that produces such great primary changes in the genital system, for the protective covering prohibits the entry of the spermatozoon after the extrusion of the ovum, and internal fertilisation becomes a necessity This is the first great modification brought about in the genital system—a modification due to the alteration of life habit

The vertebrates which first became, in part, independent of their aquatic environment still retained their ancestral habit of laying unprotected eggs, and this being so it was necessary for them to return to the water during the period when they were laying their eggs It is the breeding season, and that alone, that kept, and keeps, the amphibia in touch with their ancestral environment Some few have solved the problem by retaining the ovum within the genital passages until some degree of development has taken place (*Salamandra atra*, *Caecilia compressicauda*, &c) Such forms must effect internal fertilisation in some way, and the modifications that have taken place especially in Caecilia among the Gymnophiona are of peculiar interest and will need future reference

Other aquatic animals that have attempted to colonise the land have encountered the same disabilities, and here we may note, as we shall repeatedly have occasion to do, parallel developments in the invertebrates Among the Isopoda, *Birgus latro* has become apparently a purely terrestrial form, and yet though its whole body is admirably adapted to its new life, its ancestral habit is retained, and once a year it has to return to deposit its eggs in the element from which it has so successfully emancipated itself in all other respects A whole series of crabs showing intermediate stages of terrestrial adaptations exists, and in other invertebrate orders [illegible] could readily be multiplied

Of the vertebrate stock it is the reptiles as a class that first become so completely terrestrial as to be able to deposit eggs on land Even those members of the class that lead aquatic lives return to the land to lay their eggs The factor which permits this complete reversal of habit is the addition of the protective covering—the membranous or calcareous egg shell—to the ovum to enable it to withstand the desiccating influences of subaerial incubation But since this protective membrane is laid down in the female genital passages it is essential that the spermatozoon should reach the ovum when still within the passages and before the protective membrane is deposited With this functional change great structural alterations must be brought about, for the male must evolve some means for injecting the spermatozoa into the female genital passages, and the female passages must be modified for the reception of this

Changes in Structure to Secure Internal Fertilisation

We may see the initiation of these changes in non terrestrial forms, for the elasmobranchs, though thoroughly aquatic, have found it necessary to lay protected eggs (the familiar "mermaid's purses') or even to retain the ovum and embryo during certain phases of development within the maternal genital passages In them fertilisation must of necessity be internal. In response to this need the male fish has developed the "claspers" (though the name is by no means a good one) for insertion into the female cloaca. By these claspers or seminal guides the spermatozoa are conducted from the male cloaca into the female cloaca and genital ducts, and internal fertilisation is effected This seminal guide becomes the functional type of the male copulatory organ of the higher terrestrial vertebrates

We have a parallel evolution among the invertebrates, many of which lay protected eggs and have to secure internal fertilisation Among the Insecta, the development of copulatory organs has reached a high state of perfection, and it is to be noted that in many orders these organs have provided the systematist with very satisfactory guides for classification In the invertebrata again the production of living offspring has been adopted in many forms

Although analogous structures, the claspers of the elasmobranchs are morphologically quite distinct from the copulatory organs of the mammals The first hint of the mammalian condition is afforded in the Gymnophiona and in Salamandra among the Amphibia This fact has been noted by Gegenbaur, who says "Un indice d'un organe copulateur se remarque chez les amphibiens (*Salamandrines*) sous la forme d'une papille faisant saille dans la cloaque' Gymnophiona has long been recognised as an amphibian which everts a portion of its cloacal wall as a copulatory organ which is some 5 centimetres long

In the most generalised of the Reptilia (Sphenodon) no definite copulatory organ is developed, and doubtless some everted portion of the cloacal wall suffices as an intromittent organ But in all other reptiles a specialised copulatory organ is present

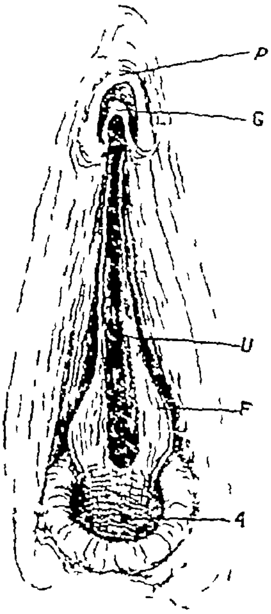
Reptilian Types of Organs

It is of the utmost importance to note that tw distinct types of copulatory organs are developed ar the reptiles The first type concerns us mos directly, since it is so obviously a stage that i in advance of that shown in the Gymnophiona or in Sphenodon, and yet is so easily interpreted as being a stage that is but little behind that seen in the monotremes, or in the more primitive insectivores among the mammals This is the type of copulatory organ developed in the chelonians and crocodiles (See Fig 1.) The second type—that belonging to the snakes and lizards—we may dismiss from this inquiry with a brief statement of its general condition Copulatory organs of this type consist of paired eversible sacs, each furrowed by a seminal groove, which are devoid of cavernous tissue and which are not developed within the cloaca They are extremely reminiscent in some ways of the claspers of the elasmobranchs and are difficult or impossible to homologise with the copulatory organs of the mammals

The genitalia of the chelonians and crocodiles, however, need careful study, since they seem so patently to carry on the process which, initiated in the gymnophiona, culminates in the mammalian condition (See Figs 1, 2, and 3)

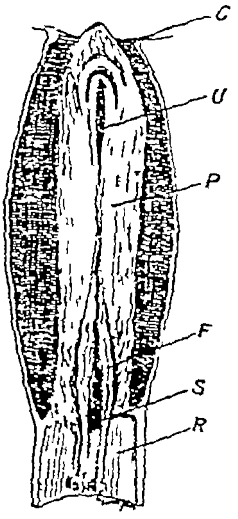
The marine chelonians possess an intromittent organ that is far more highly developed than anything seen in the amphibians Specialisation of the ventral wall of the cloaca has resulted in the production of an erectile thickening which is marked by a median groove—the seminal groove—which runs from the cloacal orifice of the uro genital sinus almost to the distal end of the erectile body In some forms this ventral erectile mass becomes raised from the cloacal wall, and altogether free of it at its most caudal limit, and a projecting penis, grooved on its dorsal aspect, is produced In many tortoises this intracloacal penis becomes further developed The distal portion which is free of the cloacal wall becomes longer and at the same time specialised and prominent lips are developed along the sides of the seminal groove

FIG 1



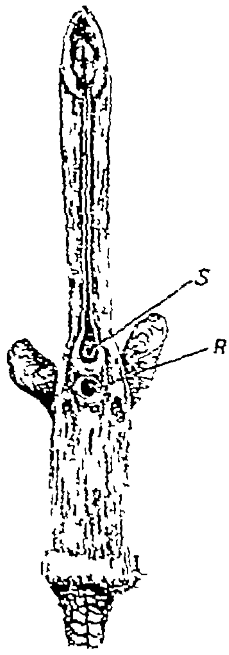
The penis of *Testudo elephantina* freed from its connexions with the cloacal wall In the male of this species the "seminal guides" pass within the anal margin P Fold over terminal portion (*prepuce*) G Terminal portion (glans) U Seminal groove (penile urethra) F Seminal guides (inner genital folds) A Anus (From a specimen in the Museum of the Royal College of Surgeons of England)

FIG 2



Penis of a species of *Testudo* within the cloaca and exposed by removal of the dorsal wall of the cloaca The rectum is opened and the "seminal guides" are seen passing into its lumen C, Cloacal orifice. U Seminal groove P Penis F Seminal guides. S Uro-genital sinus R Rectum (From a specimen in the Museum of the Royal College of Surgeons of England)

FIG 3



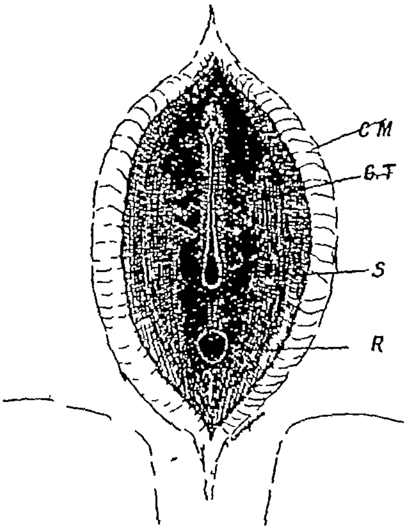
Penis of a species of *Emys* The cloaca has been split into an anterior and a posterior portion by incisions along its lateral margins and the anterior wall (penis) turned upwards S Orifice of uro-genital sinus R Orifice of rectum

The condition present in these reptilian types is singularly like that seen in some of the least specialised birds; for the Ratitæ possess copulatory organs obviously akin to those described, and other avian orders show rudiments or modifications of this condition The perfection of this reptilian copulatory organ is seen in some of the larger tortoises, such as *Testudo elephantina* (Fig 1) In these animals the organ is extremely large, and indeed in all the tortoises the mechanical difficulties imposed by the rigid carapace appear to be the functional cause of the great development of the penis The cloacal orifice is a transverse slit situated at the root of the tail, and in the ordinary quiescent condition the copulatory organ is entirely hidden within the cloaca, but even in these circumstances a very slight eversion of the cloacal margins reveals the free extremity of the penis in the male In the female the whole structure is considerably reduced

Comparison of Mammalian with Reptilian Organs

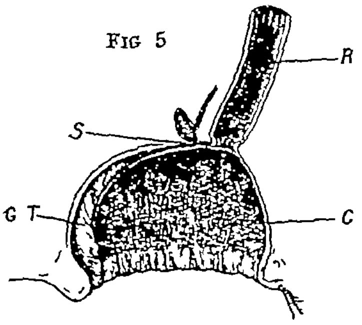
In the copulatory organs of these animals all the essential parts of the mammalian external genitalia may be recognised The penis stretches from the uro genital sinus orifice to its free tip just within the cloacal margin, and the proximal portion of its erectile tissue obtains a skeletal fixation point on the pelvic girdle within the carapace It is obviously strictly comparable with the whole of the erectile mass of the mammalian penis Its dorsal surface is marked with a groove—the seminal groove—which is continuous with the uro genital sinus orifice and runs towards the free extremity of the penis, but comes to an end some little distance short of that extremity Along the margins of this groove bilateral free folds are developed, these are sometimes termed the plicæ recto urethrales, but seminal guides is the best name that we can give them at this stage These folds terminate towards the tip of the penis at the point at which the *groove* ceases, towards the root of the penis they become more prominent and, skirting the sides of the uro genital sinus, they disappear within the margins of the anus or meet slightly in front of the anus The free tip of the penis shows several interesting features The seminal groove and its ridges end at a spongy swollen mass of tissue which is distinctly marked off from the rest of the body of the penis by a deep groove which surrounds its lateral and distal aspects The free tip of the penis distal to the surrounding groove is a narrow margin of tissue which may be said to constitute a hood encircling the spongy erectile mass in which the seminal groove ends This terminal hood I imagine may be taken as the chelonian representative of the human prepuce, and in harmony with this the distal spongy mass appears to be the equivalent of the human glans The seminal groove becomes the penile aspect of the human urethra and the fused seminal guides constitute its floor In the female these structures are reduced as a whole, the seminal guides are not so well developed, and it is to be noted that, as a rule, they do not extend further back than the orifice of the uro genital sinus The copulatory organ is smaller in the female and the seminal groove is not so deep as in the male

FIG 4



The cloaca of a chelonian opened to show the cloacal roof and the intracloacal genital tubercle *in situ* (semi-diagrammatic) C M Cloacal margin G T, Genital tubercle S Uro-genital sinus R, Rectum.

FIG 5

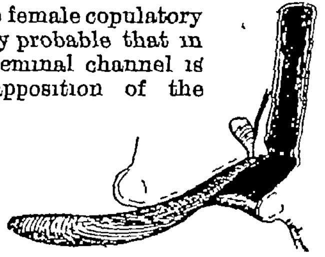


The chelonian cloaca seen from the left side in section The penis is in the quiescent intracloacal condition The products of the uro-genital sinus in this state are shed into the cloaca R Rectum C Cloaca S Uro-genital sinus G T Genital tubercle

Of the functional significance of the parts there can be no doubt The erectile copulatory organ of the male is protruded and everted from the cloaca, and in this action the seminal guides tend to close over the deepened seminal groove and to convert what is, in the unerected condition, a mere depression, into a complete tunnel. As the male copulatory organ is passed into the female cloaca it comes into contact with the dorsal aspect of the female copulatory organ, and it is highly probable that in these creatures the seminal channel is completed by the apposition of the seminal groove and guides of the male with those of the female

In the ordinary quiescent condition of the parts the products from the male uro genital sinus merely pass out of the orifice of that chamber into the cloaca, and so to the exterior (Fig 5) In this special act it is necessary that they should be conveyed into the corresponding orifice of the female, and this is effected by the closure of the male seminal guides, possibly assisted by those of the female (Fig 6)

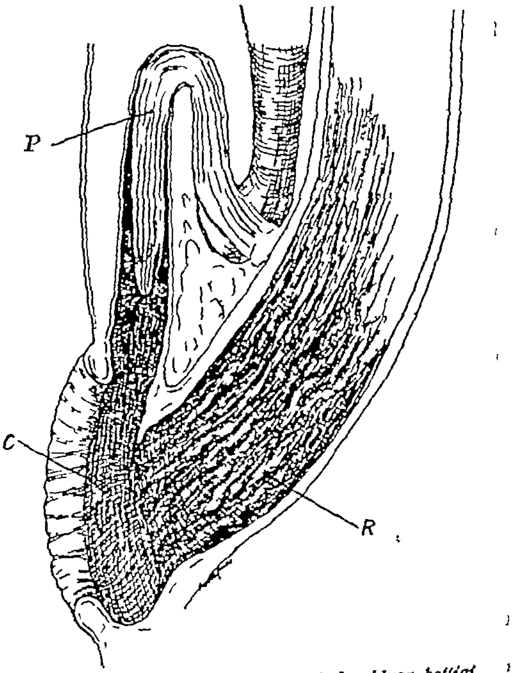
FIG 6



Chelonian cloaca seen from the left side in section The penis in the functional extroverted condition The seminal guides now meet and convey the products from the uro-genital sinus to the end of the penis.

Now, between this stage and the condition seen in the Monotremes there is no very wide difference, nor for that matter is there any very sudden transition to the type of cloacal genitalia of some of the Insectivora Speaking broadly the advance made consists of the closing over and meeting of the seminal guides in the male, so that the seminal groove is closed in whole (Insectivora) or in part (Echidna), but the cloaca

FIG 7



A reconstructed section of the cloaca of *Crocidura bottigi* (shrew from Abyssinia) showing the intracloacal penis P Penis C Cloaca R Rectum still exists, and in the quiescent state the external genitalia are still retained within the cloaca.

In Echidna the intracloacal genital tubercle of the male presents a completed penile channel in distal portion, but at its proximal end the seminal guides have not completely united over the seminal groove and a state of normal hypospadias exists at the root of the penis, this deficiency being obliterated with erection of the organ In the cloacal Insectivora, such as *Blarina* and *Crocidura*, the closure of the seminal canal is completed in the male, and the hypospadic condition of Echidna is lost (Fig 7)

We have therefore in some of the mammalian orders a retention of a cloacal condition, and in these an advance has been made on the chelonian condition mainly by the closing in of the seminal groove In the cloacal Insectivora the penis has reached a high degree of development and is usually remarkable for its great length, so much so that it is retained, more or less coiled, in a diverticulum of the ventral part of the cloaca. It is very important to recognise that the cloacal condition *does* exist among the Insectivora, and I have come to think that the appreciation of the differences to be detected in the methods of formation of the external genitalia within the limits of this group forms a basis for a better understanding of the inter relations of the other mammalian groups To this point it will be necessary to revert later on. It is equally important to recognise that the chelonian condition is not only practically identical with the lowest mammalian type of external genitalia, but it is also represented as an early stage in the embryonic development of the external genitalia of all mammals From a simple stage in which an intracloacal genital tubercle, bearing a seminal groove marked laterally by seminal guides, is present, the adult external genitalia of all mammalian orders are derived, but the method of derivation and the final condition produced present very striking differences, first, within the limits of the group Insectivora, and second, within the whole compass of the mammalia It is necessary to describe the stages of the development from this simple condition as they are displayed in various mammalian embryos

I have come to believe that there are two main types of development and two main types of resulting external genitalia, that all mammals may be placed in the one group or the other, and that an examination of the adult genitalia will generally, and an examination of the embryonic stages will always, reveal definitely into which group a particular species falls

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A POST-GRADUATE COURSE IN VENEREAL DISEASES.—A special course of lectures and demonstrations for post graduate and advanced students will be given at St Mary's Hospital on Mondays and Thursdays at 4 P M, beginning April 27th and ending July 2nd Dr Sidney P Phillips will deal with syphilis of the abdominal viscera, Mr J Ernest Lane with the treatment of venereal diseases and syphilis of the tongue, Dr Wilfred Harris with syphilis of the nervous system and parasyphilis Dr W J Gow with syphilis in relation to obstetrics and gynæcology Dr E G Graham Little with syphilis and the skin, Mr A Fleming with the biological and laboratory aspects of syphilis and Mr Leslie J Paton with the ophthalmology of syphilis Applications for admission to the course, for which the fee is 4 guineas should be made to the school secretary a reduction being made in the case of former St Mary's men

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AN ANALYSIS OF THE PROBLEM OF THE MINIMAL LETHAL DOSE AND ITS RELATIONSHIP TO THE TIME FACTOR *

BY GEORGES DREYER, M D,

AND

E W AINLEY WALKER, D M OXON

(*From the Department of Pathology, University of Oxford*)

IN a previous paper[1] evidence has been brought forward to show that over a wide range of weight in any given species animals of different size can readily be employed for the standardisation of toxic substances and antitoxins, instead of animals of an arbitrarily selected weight as has hitherto been necessary All that is required is that the doses given shall be calculated in relation to the body surface and blood volume of the individual animals employed For this purpose we have suggested the use of the formula $D = \frac{d}{W^{0\,72}}$, where D represents the dose in relation to the surface of the individual, W is the weight of the animal, and *d* is the actual quantity of drug administered From this formula one calculates with equal readiness the "surface dose" † (D) for any actual quantity of drug (*d*) administered, or the quantity (*d*) of drug which must be given in order to produce a dosage (D) in relation to the surface of the individual animal concerned But in the standardisation of toxins, antitoxins, and drugs by means of animal experiment another factor of the greatest importance comes into play—namely, the time to death. Accordingly, it has hitherto been the accepted custom not only to employ animals of an arbitrarily selected weight, but also to fix upon an arbitrary time to death as a means of rendering such experiments comparable *inter se* This method, the only accurate one hitherto available, we owe to the pioneer work of Ehrlich, which has been fundamental for the study of the problems involved in the phenomena of protection and the action of toxins But how far this method of comparison actually falls short of affording a true measure of relative toxicity will appear from the following considerations, which in our opinion have long demanded a detailed investigation

First, if one takes two samples of diphtheria toxin and determines the dose of each toxin which will kill a guinea pig of standard weight in standard time (and would therefore be considered equivalent doses), it is found that equal multiples or submultiples of these doses are no longer equivalent in their action in the animal body Accordingly, the equivalence thus determined is merely a coincidence, and not in any sense a real equivalence, since if any other lethal times be chosen the equivalent doses experimentally determined will be found to have an entirely different ratio to each other

Thus, taking two samples of diphtheria toxin, we arrive at the following results for the equivalent doses at different times:—

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* A more detailed account of this work is published in the Biochemi che Zeitschrift 1914 vol lx p 112.

† Dose calculated in relation to body surface (and blood volume)

TABLE I.—*Showing Comparative Strengths of Diphtheria Toxins (B) and (C)*

To kill a guinea pig of 250 grm in hours	Toxin B Dose in relation to surface × 10^7 in c.cm.	Toxin C Dose in relation to surface × 10^7 in c.cm.	Ratio between equivalent doses $= \frac{\text{Dose of B}}{\text{Dose of C}}$
36	3519	3233	1·09
48	2860	2241	1·28
60	2632	1867	1·41
72	2522	1672	1·51
96	2413	1472	1·64
120	2359	1366	1·73
144	2327	1303	1·79

It will at once be seen that the ratio of the equivalent doses of the two toxins increases steadily as the time to death is increased. Thus, when the standard time for death—namely, 96 hours—is taken, the equivalent dose of toxin B is about 65 per cent. greater than that of toxin C. But if 36 hours is selected as the lethal time the equivalent dose of toxin B is only about 9 per cent. greater than than of toxin C, while if 6 days is taken as the death time, the dose of toxin B is approximately 80 per cent. larger than that of toxin C.

Again, if instead of comparing the effect of two different samples of toxin on a given species we take the observations of Wolfgang Ostwald and Dernoscheck[2] on the small crustacean Gammarus poisoned by immersion in sea water of varying *concentration*, and thus compare the effect of one and the same toxic substance on the male and female animal respectively, we find the following results:—

TABLE II.—*From Wo. Ostwald's Observations on Gammarus*

Concentration of sea water in °/oo	Time to death in the male animal in minutes	Time to death in the female animal in minutes	Ratio between death times $\frac{♂}{♀}$
58·7	36	36	1·00
47·2	48	46	1·04
40·1	79	53	1·49
35·4	120	77	1·56
33·0	147	86	1·71
28·3	326	185	1·76
25·9	lives	328	∞

Table II. thus shows that for the same concentration of the toxic fluid the ratio between the lethal times for the two sexes steadily increases as the concentration of the toxin is diminished. Thus, with a concentration of 58·7 the time to death is the same in the two sexes while with a concentration of 40·1 it takes about 50 per cent. longer to kill the male than the female, and with a concentration of 28·3 over 75 per cent. longer.

Accordingly, whether we take times to death in a given species of animal, and compare the equivalent doses of two toxins which will kill in these times, or take different concentrations of one and the same toxin and compare the times to death in male and female animals of the same species, we find that the standard method hitherto employed cannot afford a true measure of relative toxicity. This conclusion necessarily follows from the fact that with different death times the ratio between the equivalent doses of the toxins is found to vary, and with different concentrations of the toxic fluid the ratio between death times is also found to vary. As these respective variations are extremely marked it is evident that the point requires no further elaboration.

It follows that a method of calculation must be sought by means of which toxicity can be estimated quite independently of any arbitrarily selected death time or any particular dosage chosen from comparison. After a prolonged consideration of a large mass of material one of us (G. D.) arrived at the following formula for the relationship between concentration and quantity of dose and the time required to cause death (or to produce any other desired effect in animals of any given species)—namely, $\frac{1}{D_0 - a} - \frac{1}{D_1 - a} = k\,(T_0 - T_1)$, where D_0 and D_1 are "surface doses" (doses expressed in relation to body surface corresponding to the times T_0 and T_1, in which the death of the animal (or other desired effect) is produced, a is a figure the value of which is dependent both on the particular species of animal employed and the particular toxin, and k is a constant to be determined for the particular toxin and the particular species of animal employed. Expressed in words, the formula simply states that *to every equal increment in time there corresponds a definite decrease in the active dose* $(D - a)$.

This formula we have tested over a very extensive series of observations of the most diverse character, and find that it affords an extremely satisfactory method of calculation. As will be shown below, it allows equal significance to be placed on each individual observation in a long series of animals of different weights, entirely independent of the dose and death time.

Before proceeding further it is now desirable to consider briefly the quantity a. In determining the minimal lethal dose of any toxic substance (or the dose required to produce any given effect) one arrives, by gradually diminishing the dosage, at a quantity less than the critical dose in question, which appears to be inactive. The animal does not die, or the other desired effect, whatever it may be, is not obtained. How closely the size of a, as determined by our method, approaches the size of the minimal effective dose (M.L.D. or other) depends not only on the character of the particular substance under investigation, but also on the character of the effect desired—whether this be death or any other manifestation of toxic action. But to the precise meaning of a we shall return.

The importance of discovering the relation between the concentration or quantity of dosage and the corresponding time to death has been fully realised by several of previous workers, and especially by Arrhenius,[3] Warren,[4] Wolfgang Ostwald,[5] and Ostwald and Dernoscheck.[2] Of these, Warren, Ostwald, and Ostwald and Dernoscheck suggest definite formulæ for the case of small crustaceans poisoned by immersion in solutions of various salts.

Warren's formula is $\frac{1}{T} = k\,(c - n)$, where T is the time to death, c the concentration of the salt solution, n a number constantly subtracted from c, and k a constant. This formula states that the time to death is inversely proportional to the concentration diminished by n But this is not the case

Ostwald and Dernoscheck's formula is $\frac{1}{T} = k\,(c-n)^m$, and it is clearly a generalisation of Warren's formula (which they criticise), obtained by the introduction of a varying power m instead of the power 1 This formula they substitute for Ostwald's original formula $\frac{1}{T} = k\,c^m$, in recalculating his observation on Gammarus They show how much more satisfactory is the agreement between observed and calculated figures when this formula is used instead of Warren's formula or even Ostwald's own earlier formula

As regards the significance of n Warren appears to consider it to represent the concentration of salt *normal* to the animal observed (Daphnia), while Ostwald and Dernoscheck arrive at its value by a process of calculation It does not, however, appear that the latter observers attach any rational significance to the meaning of n in their formula

One of us (E W A W) in 1901,[6] in attempting to clear up the difficulty which obtained regarding the relation between the amount of antitoxin or antibody required to neutralise one M L D in the body of an animal, and the amounts required to neutralise multiples of the M L D showed that a certain non effective dose (a) must always be subtracted in calculating the amount of antitoxin required As, however, no attention was then given to the time factor, the results obtained by administering doses on this system only held good over a quite short range of multiples of the M L D But in the formula devised by the other of us (G D) the value of (a) is made to be dependent on the *rate of killing*, and not merely on the fact that death does or does not occur

We now proceed to show how successfully this formula may be applied, not only to our own experimental results, but also to a mass of diverse published observations In all the cases which we have examined where a sufficient range and number of observations is provided to afford a material suitable for calculation the formula holds good, and represents the experimental findings in an extremely satisfactory manner

In Table III is given a series of our own experiments with a diphtheria toxin (B) The doses (D) are given as calculated in relation to surface by the formula $D = \frac{d}{W^{0.72}}$ where W is the weight of the animal in grammes, and d is the *actual dose* administered

The results in Table III show clearly that the formula proposed represents the experimental data for the grouped experiments in a very satisfactory manner Although the animals employed cover a range of weight from 200 grm to 530 grm, the difference between the death times calculated by the formula and those actually observed averages only 0 38 per cent Similar results were obtained for two other samples of diphtheria toxin (A) and (C) In the case of toxin (A) it was found that $k \times 10^7 = 330$ and $a = 1140$, while for toxin (C) $k \times 10^7 = 316$ and $a = 1045$ For toxin (A) the average death times ranged from 85 to 220 hours, and for toxin (C) from 67 to 148 hours

But as has already been pointed out above, it is impossible to draw any reliable conclusion regarding the actual strengths of the three samples of diphtheria toxin A, B, and C from a comparison of the doses required to cause death in any given fixed time, for, as already stated, their ratios to one another vary for each particular time A measure of relative strength can, however, be obtained by comparing the size of the three different constants k, which are dependent on the size of the effective doses of the toxins These constants vary in this sense, that in toxic substances of the same quality the weaker toxin has a larger k in the formula while the stronger toxin has a smaller value for k This comparison is the only one that can be obtained, which is independent, not only of the weight of the animal (in any given species), and of the dosage, but also of the time factor It gives an expression for the relative strengths of the three samples of toxin These are related to each other as k_A k_B k_C Expressing the facts in words, one is able to say that if we have two samples of toxin P and Q where—for example, two diphtheria toxins P and Q where the value of k for P is the *double* of that for Q—then for each given increment of time the *increase* in the reciprocal of the effective dose in the case of P will be the double of the *increase* in the reciprocal of the effective dose in the case of Q The effective dose is given in each case by the expression $(D - a)$

In regard to the significance of a in the formula this quantity represents the 'non effective' portion of the dose—that is to say, the dose which in itself

TABLE III—*Diphtheria Toxin (B) in Guinea pig Subcutaneous Injection (Own Experiments)*

$$\frac{1}{D_0 - a} - \frac{1}{D_1 - a} = k\,(T_0 - T_1) \quad k \times 10^7 = 665,\ a = 2200$$

$$(T_0 = 36\ 3\ \ D_0 = 3555)$$

No	Weight of animal in group	Actual dose (d) in c cm	Dose (D) in relation to surface $D = \frac{d}{W^{0.72}} \times 10^7$	Hours to death	Dose (D) in relation to surface grouped animals	Hours to death grouped animals = T observed	Hours to death calculated for grouped animals = T calculated	Percentage difference between T calculated and T observed
1	440	0·01900	2370	30	2495	76·0	76·0	0·00
2	355	0·01750	2552	118				
3	310	0·01600	2565	80				
4	200	0·01200	2640	100	2659	57 8	58·0	0 34
5	470	0·02215	2640	38				
6	400	0·01990	2661	55				
7	330	0·01750	2696	38				
8	230	0·01375	2745	64	2788	51·0	50·8	0 39
9	530	0·02560	2800	35				
10	435	0·02240	2820	51				
11	255	0·01575	2920	40	2953	45 0	45 2	0 44
12	215	0·01400	2940	42				
13	460	0·02490	3000	53				
14	430	0·02375	3015	44	3039	43 3	43 1	0 46
15	235	0·01535	3020	38				
16	400	0·02270	3040	44				
17	360	0·02135	3080	47				
18	415	0·02480	3220	44	3283	39 0	39 1	0 26
19	425	0·02520	3230	49				
20	435	0·02590	3258	32				
21	370	0·02415	3424	31				
22	415	0·02715	3525	49	3555	36·3	36 3	0·00
23	425	0·02780	3560	30				
24	435	0 02845	3580	30				
Average								0·38

is insufficient to cause death (or other desired effect) Accordingly, its size varies with the resistance of the sex and species, being larger for the more resistant type and smaller for the more susceptible Further, with one and the same toxic substance, *a* is greater the less the toxicity of the particular sample which is employed Thus, in the case of the three samples of diphtheria toxin dealt with above it was found that for C, the most active toxin, *a* had a value of 1045, while for A, which was somewhat less active, it was 1140, and for B, much the weakest sample, it was 2200

TABLE IV—*Synthetic Adrenalin in the Mouse Subcutaneous Injection (Schultz's Experiments)*

$$\frac{1}{D_0 - a} - \frac{1}{D_1 - a} = k(T_0 - T_1) \quad k \times 10^3 = 48, \; a = 900$$

$$(T_0 = 30\ 7, \; D_0 = 1677)$$

Group	Number of animals in group	Dose (D) in relation to surface grouped animals $D = \frac{d}{W^{0\cdot72}} \times 10^3$	Minutes to death Grouped animals = T observed	Minutes to death calculated for grouped animals = T calculated	Percentage difference between T calculated and T observed
1	6	1677	30 7	30·7	0·00
2	5	1886	25·0	25·0	0·00
3	5	2051	22·0	22·0	0·00
4	6	2357	18 8	18·2	3 30
5	3	2634	14 3	15 9	10·10
Average				..	2·68

In Table IV is given an analysis of experiments by W H Schultz[9] with a synthetic adrenalin (ethyl amino aceto catechol) in the mouse. Twenty five experiments done about the same time (Jan. 5th and 16th, 1909) on animals not previously injected with the drug are taken from his series (his Table XIV) The observations were made on mice varying in weight from about 12 grm. to 25 grm After they had been arranged in order according to "surface dosage" they were collected into five groups by averaging the "surface doses" and lethal times From these data the constant *k* was determined, and by its use the theoretical time to death was calculated for each group It was found that the average difference between the calculated and the observed lethal times was only 2 68 per cent From this it follows that the formula proposed also applies very satisfactorily to the case of synthetic adrenalin, where the death times are extremely short (minutes), as contrasted with the long death times (up to several days) with diphtheria toxins

The value of employing the method of calculation here brought forward is well illustrated by comparing the observations of Madsen and Noguchi[10] on filtered and unfiltered samples of cobra venom. As already pointed out, it takes account not only of the size and surface area of the animal concerned, but also of the time required to produce the desired effect (e g, death), while at the same time it gives results which can be applied (within a given species) quite independently both of lethal time and of the size of the individual animal employed

Madsen and Noguchi came to the conclusion from their experiments with *cobra venom* that the toxicity of the venom was not sensibly diminished by filtration through a Chamberland filter This result contrasted strongly with their further observation, that after similar filtration *crotalus venom* was diminished in toxicity by as much as 50 per cent The data for cobra venom (from their Tables XIX. and XXIX) were, therefore, calculated by our formula For the unfiltered venom *k* was found to be 110 and *a* 185, while for the filtered venom *k* was 130 and *a* 270 These results show that the toxicity of the cobra venom was in reality greatly reduced by the process of filtration, since the "surface dose" of filtered venom which is needed to kill a guinea pig with certainty is much greater than the surface dose required for unfiltered venom.

In view of the evidence which has now been given it is unnecessary to adduce further detailed calculations of experiments in support of the method and formula here proposed for dealing with questions of dosage and toxicity But it should be mentioned that the formula is in excellent accord with all the published observations which we have analysed where an adequate series of data is available Among the observations which we have examined from this point of view and which we find to fit the formula are the following Knorr's experiments with tetanus toxin injected subcutaneously in the mouse[11], Elliott, Sillar, and Carmichael's experiments with krait venom injected subcutaneously in rabbits[12], Fraser and Elliott's experiments with the venom of Enhydrina valakadien injected subcutaneously in rabbits[13], natural adrenalin in the mouse, Schultz[9], sulphate of physostigmia subcutaneously in rabbits, Fraser[14], caffeine subcutaneously in guinea-pigs and cats, Salant and Rieger[15], cobalt nitrate subcutaneously in guinea-pigs, Bock[16], and potassium chloride injected intravenously in rabbits, Hald[17]

From these facts we conclude that so far as evidence at present goes the formula is one of general application in regard to dosage and death time in warm blooded animals That it holds not only in regard to lethal effects but also in the case of ordinary pharmacological and toxic action in general is seen from the experiments of Schultz[9] on the mydriatic action of synthetic adrenalin in the excised frog's eye These experiments are analysed and calculated below in Table V, where it is seen that the percentage differences between Schultz s observed times and the times calculated by our formula are in every case but one very small indeed, and even taking in the one obviously divergent figure give an average error of only 2 73 per cent

TABLE V—*Mydriatic Action of Synthetic Adrenalin on the Excised Frog's Eye (Schultz s Experiments)*

$$\frac{1}{D_0 - a} - \frac{1}{D_1 - a} = k(T_0 - T_1) \; - k \times 10^4 = 805, \; a = 2\ 2,$$

$$(T_0 = 20, \; D_0 = 500)$$

Group (Schultz)	D = relative dose—i e concentration of the solution employed.	Time to maximum mydriatic effect = T observed minutes	Time to maximum mydriatic effect calculated = T calculated minutes	Percentage difference between T calculated and T observed
1	1000	21	18 8	11 70
2	500	20	20·0	0·00
3	200	24	23 8	0·84
4	40	50	50 4	0·99
5	8	232	231 7	0·13
Average				2 73

One further example of the application of the formula may be given in a case where the animal

Standardisation in the ordinary hæmocytometer chamber 0 1 mm deep—The vaccines were standardised before sterilisation in case the heating for half an hour at 60° C produced agglutination. The optically plane polished coverslip supplied with the apparatus is too thick for use with an oil immersion, or even with most types of 1/6th inch dry lenses Leith Murray in 1908 to remedy this defect suggested using a thin coverslip chosen from those supplied for ordinary microscopical work in the following manner "A series of slips is cleaned and applied successively to the cleaned and dried plate glass slip provided with the apparatus after breathing on the opposing face of each Pressure is applied to make them adhere, and the slips which show Newton's rings well distributed over the surface are selected for use" This ingenious method, however, is not satisfactory if scientific accuracy is demanded Many oil immersion lenses depress such a coverslip and consequently diminish the depth of the counting chamber, thus a No 2 coverslip of about 0 17 mm is too thick for an ordinary 1/12th achromatic oil immersion lens supplied by Leitz, Swift, or Beck with a free working distance of 0 17 mm, while even a No 1 coverslip of about 0 12 mm is too thick for an achromatic 1/12th supplied by Zeiss or Bausch and Lomb with a free working distance of 0 15 mm

The pressure of the lens upon the coverslip can easily be demonstrated by the to and fro movement of the bacteria in the counting chamber which occurs with slight alteration in the fine adjustment Even if the lens does not actually touch the cover slip, alterations in the fine adjustment may cause movement of the bacteria in the counting chamber from suction or adhesion between the two surfaces owing to the immersion oil. This suction effect may be very marked with thick oil and certain types of lens mount It can easily be demonstrated in another way by taking an ordinary microscope slide, placing a drop of oil in the middle, and pressing the lens down gently till it almost touches the glass If the lens is quickly raised the slide will be lifted with it This suction action can be diminished if very thin immersion oil is employed.

Another point may be alluded to Even if a thin coverslip of 0 15 mm. or less does give Newton's rings in some part when pressed down upon a moistened glass plate, it by no means follows that the surface is mathematically plane when a large portion forms the roof of a counting chamber The elasticity or want of rigidity of such a coverslip, when in position over the filled chamber may be easily appreciated by making a very gentle pressure upon its centre with the point of a pencil This will cause the fluid to bulge over the edge of the chamber No one would think of using an ordinary microscopical cover slip which is neither rigid nor optically plane for enumerating red blood corpuscles or leucocytes, why, then, should it be employed for the standardisation of bacterial vaccines when accuracy is of even more importance? Zeiss manufacture an optically plane cover glass for counting chambers of 0 18 mm thick, strengthened with a "cemented cylindrical glass cell." "The lower side of this cover glass is polished accurately plane" This slip gives Newton's rings without difficulty We have found, however, by actual experiment that it is too thick for all ordinary oil immersion lenses when used with a hæmocytometer chamber 0 1 mm deep In order to understand the reason of this it is necessary to discuss the free working distance of an oil immersion lens

Free working distance—Zeiss[5] has defined the free working distance "as the distance between upper surface of a cover glass 0 17 mm thick and the lower surface of the lens mount, the lens being sharply focussed for an object situated immediately below the cover glass" The free working distance of a Zeiss achromatic 1/12th oil immersion lens when oil is employed is stated to be 0 15 mm, thus the "actual distance" *between the metal* mount of the front lens and the object is 0 32 mm Fig 1 shows that a lens with a free working distance of 0 1 has an actual distance of 0 27 It is important to note, however, that these figures are approximate because the "metal mount of a front lens is necessarily subject to unavoidable slight variations" (Zeiss[5]) The free working distances of a 1/12th oil immersion achromatic objective supplied by other makers are as follows Ross, 0 15 mm, Swift, 0 17mm, Watson, 0 17 mm, Baker, 0 17 mm, Leitz, 0 17 mm, Reichert, 0 15 mm., Bausch and Lomb, 0 15 mm, Zeiss, 0 15 mm. The free working distance of many apochromatics is frequently much less than 0 15 but apart from their expensiveness they are hardly suitable for such work as the standardisation of vaccines owing to the greater care required in using them Leitz manufacture a 1/12th oil-immersion fluorite objective 1 32 N.A, and Watson a 1/12th with a free distance of 0 12 and 0 09 mm respectively

These figures indicate at first sight that the free working distance of the ordinary 1/12th immersion lens likely to be used in the laboratories with the exception of the special lenses made by Leitz and Watson is theoretically never less than 0 15 mm Unfortunately, we found by actual experience when working with coverslips of known thickness that the free working distance of many lenses is in reality very much less than stated in the catalogues Thus a well known firm tested one of their own new lenses with a reputed free working distance of 0 17 and found it only 0 10, while a lens by another maker stated to be 0 15 was only 0 08 The free

FIG 1

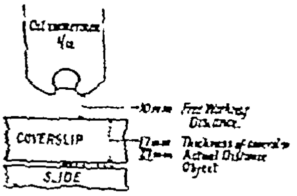

Oil immersion 1/12
·10 mm Free Working Distance.
COVERSLIP
·17 mm Thickness of coverslip
·27 mm Actual Distance Object
SLIDE

FIG 2

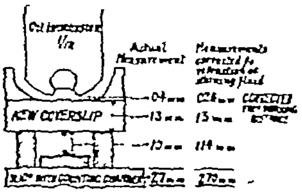
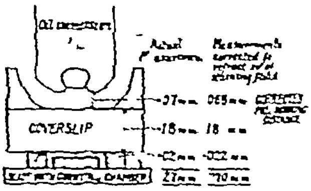


FIG 3



Diagrams illustrating free working distance of an oil immersion lens and two types of hæmocytometer Fig 1. Illustrating free working distance Fig 2. Showing ordinary 1 mm. hæmocytometer chamber with new 0 13 mm. coverslip Fig 3 Showing new 0·02 mm chamber with wide safety trench and 0·18 mm. coverslip recommended by authors.

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[5] Zeiss 1906 Catalogue thirty third edition p 15.

[6] Ibid.

IMPROVED METHODS OF STANDARDISING BACTERIAL VACCINES IN HÆMOCYTOMETER CHAMBERS[1]

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THE simplest scientific method of standardising bacterial vaccines is the direct enumeration of the bacteria in some form of hæmocytometer chamber It was first suggested in 1908 by Mallory and Homer Wright,[2] who employed a well 0 02 mm deep, an optically plane coverslip, a 1/6 inch dry lens, and no staining fluid, also by Leith Murray[3] (1908), who used a common Thoma-Zeiss hæmocytometer with a well 0 1 mm deep, an ordinary coverslip for microscopical work which, though specially chosen, is not optically plane, a 1 12th oil immersion lens, and a staining solution of weak Giemsa Owing to certain defects in these methods Glynn and Cox[4] in January, 1911, advised using the Helber chamber 0 02 mm deep with a special optically plane rigid coverslip 0 18 mm thick, and a diluting fluid of weak carbol thionin The Helber chamber was originally designed for the enumeration of blood plates, it and the cover slips are made by Zeiss Obviously as every laboratory worker possesses a Thoma-Zeiss hæmocytometer it is more economical to use this same apparatus for standardising vaccines But for reasons to be subsequently stated the Thoma-Zeiss chamber, which is 0 1 mm deep, is less suitable than the Helber chamber, which is only 0 02 mm deep Both these pieces of apparatus, however, give more accurate results than Wright's method of mixing measured volumes of bacterial emulsion and normal blood When standardising bacteria with a hæmocytometer chamber it is essential in order to diminish eye strain and increase accuracy first to stain the bacteria, and second to count them with an oil immersion lens The ordinary coverslips supplied with a Thoma-Zeiss chamber are too thick to permit the use of an oil immersion lens, and it has been necessary to devise a new coverslip suitable for use with most oil immersion lenses

Three points, therefore, have been considered (1) The most suitable staining fluid for diluting the bacterial emulsion in a hæmocytometer pipette, (2) the most suitable optically plane rigid coverslip for use with the Thoma Zeiss hæmocytometer chamber 0 1 mm deep and an oil immersion lens, and (3) the most suitable form of Helber chamber 0 02 mm deep and optically plane rigid coverslip for use with an oil immersion lens

Staining of the bacterial emulsion—After trying various methods we recommend a diluting fluid for the hæmocytometer pipettes of weak carbol thionin prepared as follows—Stock Solution A saturated thionin blue (Grubler) in absolute alcohol Stock Solution B 1 per cent of pure carbolic acid in clear tap water Before use take 1 part of Solution A to about 40 of B for most organisms, or 1 part of A to about 20 of B for streptococci The mixture will keep a considerable time, but should always be filtered before use, frequent filtration, however, may weaken the stain unless the filter paper is saturated with thionin It is important to keep the bacterial emulsions, stock solutions, counting chamber, and pipettes absolutely free from dust, particles of cotton wool, &c The most satisfactory method of preparing an absolutely dust free carbolic acid solution is to allow a large quantity to stand for a few days in a glass measuring cylinder, when the dust sinks to the bottom or rises to the top The capacity with which bacteria take up the carbol thionin stain varies somewhat with the type and sometimes the strain of the organism, or with the age of the culture Streptococci require stronger stain than most bacteria. If the proportion of thionin is too high the bacteria are stained almost instantaneously, and an abnormal number adhere to the under surface of the coverslip, agglutination also occurs

Agglutination is always present if too much thionin is employed. We have found by actual experiment that it does not depend upon the small quantity of alcohol or carbolic acid present in the solution, but upon the intensity of the staining Agglutination will also occur if the diluting pipette has been washed out with absolute alcohol and is not properly dried before use We are convinced that carbol thionin is superior to any other stain as methylene blue, fuchsin, or even the fashionable Giemsa It stains more intensely and is quite free from precipitate, further, the proportion of thionin can easily be adjusted to the staining capacity of the organism The great defect of the Giemsa solution is the tendency of the stain to precipitate even after filtration if the amount of Giemsa is strong enough to more than faintly colour the bacteria. We have been unable to remove the precipitate by substituting prolonged centrifugalisation for filtration

Brownian movement may be troublesome This, as can easily be demonstrated, is always more marked with *strong* emulsions, or when the bacteria are faintly stained, it ceases completely when the stain is strong enough to cause some agglutination, but agglutination is undesirable Brownian movement can be avoided in properly stained emulsions by not having more than an average of about half a dozen bacteria per square, a much larger number, even if motionless, is difficult to count The movement is more troublesome in counting chambers 0 1 mm than 0 02 mm deep

Bacteria adhering to the under surface of the coverslip—A certain proportion of the bacteria always adhere to the under surface of the cover slip and the number is increased by overstaining. In a series of over 100 observations made by the different observers it was found that the average number of staphylococci and colon bacilli adhering to the under surface of the coverslip was about 15 per cent. One point must be alluded to in the enumerating of bacilli like typhoid or colon—viz, they not infrequently stand at right angles to the coverslip or floor of the chamber, and consequently appear as round blue dots.

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[1] Abstract of portion of a paper entitled 'Observations upon the Standardisation of Bacterial Vaccines by the Wright, the Hæmocytometer and the Plate Culture Methods" Journal of Pathology and Bacteriology 1914 vol xviii pp 379-400

[2] Mallory and Homer Wright (1908): Pathological Technique Saunders fourth edition p 457

[3] Murray Leith: THE LANCET March 14th 1908, p 790

[4] Glynn E E and Cox G L.: Journal of Pathology and Bacteriology 1911 vol xv, p. 380

chamber or in the correct adjustment of the cover-slip is more serious

Settling of the bacteria in the counting chamber —One slight disadvantage of the chamber method is the difficulty of counting the bacteria when first introduced owing to their movement After a few minutes, however, the great majority settle at the bottom of the chamber and remain motionless, though some may continue in Brownian movement indefinitely Obviously the settling will take longer in a 0 1 mm than in a 0 02 mm chamber A large number of observations made upon the different strains of colon bacillus and staphylococcus indicated that whereas in a 0 02 mm. chamber the great majority of the bacteria had settled in 15 minutes, in a 0 1 mm. chamber a considerable number were still moving after half an hour A further series of observations showed that quite accurate accounts could be made with a 0 1 mm. chamber after the contents had settled for 15 minutes, provided that great care is taken to hunt for floating organisms Hunting for the floating bacteria takes a considerable time if many are present, far longer than in a 0 02 mm chamber Another advantage of the 0 02 mm. chamber is the greater facility with which the bacteria adhering to the under surface of the coverslip may be counted First, because only a slight turn of the fine adjustment is necessary to focus them, and second, because the outlines of the squares are still seen when the bacteria are focussed, and consequently there is no difficulty in ascertaining to which squares they belong

Summary of the advantages of the 0 02 mm chamber —Obviously it is more economical to standardise vaccines in the ordinary hæmocytometer counting chamber 0 1 mm. deep, but the 0 02 mm. chamber is preferable for the following reasons (1) The apparatus is suitable for all achromatic oil immersion lenses, even if the free working distance is as low as 0 09, (2) the cover slip being 0 18 mm thick is more durable, (3) almost all the bacteria settle at the bottom of the chamber in 15 minutes when accurate counts can be made, whereas in the 0 1 chamber a considerable number are still moving after half an hour, (4) bacteria adhering to the under surface of the cover slip and any still floating in the chamber are much more easily enumerated, (5) the optical definition of the bacteria is better owing to the smaller quantity of fluid, and (6) the difficulty of accurately adjusting the drop of emulsion in such a shallow chamber has been entirely removed by widening the safety trench for holding surplus fluid to 2 5 mm

The relative accuracy of the Wright and counting chamber methods for standardising vaccines —It is now 12 years since Wright[1] introduced his simple and ingenious method of standardising vaccines Though the method has been of great service to vaccine therapy we are convinced it suffers from two serious defects, first, it is usually very inaccurate, and second, it usually seriously underestimates the strength of the bacterial emulsion In order to ascertain whether the Wright or the chamber method gives the more accurate results, two observers independently standardised bacterial emulsions by each method, and the *percentage deviation from the arithmetic mean* of their counts was taken as a measure of the error in the method This is a more practical test of the accuracy than that obtained by two observers enumerating the bacteria in the same series of squares or microscopical fields Forty-four bacterial emulsions made from different strains of colon bacillus, staphylococcus and streptococcus were tested in duplicate in this manner We found that the average error was less than 5 per cent, with a minimum of 0 5 per cent and a maximum of 21 per cent for the chamber method, and more than 15 per cent, with a minimum of 1 1 per cent and a maximum of 54 per cent for Wright's

The error with a 0 1 mm chamber, though a little more than with a 0 02 mm., is also much less than in Wright's method In six bacterial emulsions of colon bacillus and staphylococcus standardised in a 0 02 mm and 0 1 mm. chambers and by Wright's method the average error was 3 1 per cent, 5 4 per cent, and 34 1 per cent respectively The average time occupied in counting these emulsions in the 0 02 mm chamber (64 squares) was 8 minutes, in the 0 1 mm chamber (64 squares) 10 minutes, with Wright's method (50 fields) 12½ minutes This further demonstrates the superiority of the hæmocytometer method, especially the 0 02 mm chamber

Wright's method usually underestimates the strength of the bacterial emulsions —This serious defect has been attributed to various causes In our opinion the chief are, first, a large number of isolated bacteria are usually left behind at the beginning of the smear, as we have shown elsewhere, second, small groups of bacteria mixed with blood platelets and leucocytes are drawn to the end of the film, where they are usually unnoticed unless specially looked for with a low power In both cases these bacteria almost certainly escape enumeration. It is no use trying to remedy this defect of unequal distribution of the bacteria and red cells by counting indiscriminately fields selected from all parts of the smear

A series of emulsions were standardised by the 0 02 mm chamber and Wright's method We found that the average percentage increase in 15 staphylococcus emulsions standardised by the 0 02 mm chamber over Wright's method was 76 per cent, with a maximum of 192 per cent, and in 12 emulsions of colon bacillus the average increase was 72 per cent, with a maximum of 228 per cent Additional figures are given elsewhere Rarely the chamber method gave a lower count than Wright's This is only to be expected on account of the unequal distribution of bacteria and red cells

Summary and Conclusions

1 The most scientific method of enumerating the bacteria for vaccines is in some form of hæmocytometer chamber

2 An optically plane and rigid coverslip must be used with such apparatus, for it is recognised as essential when counting blood and is still more essential when counting bacteria, where accuracy is of greater importance Owing to the small free working distance of oil immersion lenses most optically plane coverslips are too thick

3 Two types of hæmocytometer chamber may be employed (*a*) The ordinary chamber 0 1 mm deep, with an optically plane coverslip 0 13 mm thick. This is suitable for all oil immersion lenses with a free working distance of 0 17 mm and some of 0 15 mm (*b*) A chamber 0 02 mm deep, with a special safety trench 2 5 mm. wide and optically plane coverslip 0 18 mm. thick This is suitable for all achromatic oil immersion lenses, even if the free working distance is as low as 0 09

4 The 0 02 mm chamber is much superior for the following reasons (*a*) Almost all the bacteria

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[1] Wright The Lancet July 5th 1902, p 11.

working distance of a lens partly depends upon the refractive index of the medium—air, water, or oil—between its under surface and the object examined. The greater the refractive index, the greater its free working distance Thus, the free working distance of a 1/12th Zeiss oil immersion lens is much *less* than 0 15 mm if no oil is used, as the refractive index of oil is 1 515 but that of air only 1

Professor Wilberforce kindly ascertained that the refractive index of the watery carbol thionin solution we employ was exactly the same as that of water, and may be taken as 1 333, the refractive index of the immersion oil supplied by Zeiss is 1 515 The substitution of 0 1 mm of water for 0 1 mm of oil will diminish the free working distance of the oil immersion lens according to the fraction $\frac{0\ 1 \times 1\ 515}{1\ 333} = 0\ 1136$—i e, 0 1 mm. of carbol thionin *is equivalent to* 0 114 *mm of immersion oil*—and the lens must be brought 0 014 mm. nearer the object than it otherwise would have been if the chamber contained oil instead of water (Fig 2) After a large number of experiments we have found that cemented coverslips of 0 18 mm and 0 15 mm are too thick for a 0 1 mm well, while those of 0 10 mm are liable to warp after much use Warping of the coverslips can easily be demonstrated by observing the images of the window frame reflected from its surface, when it will be noted that the lines of the frame are no longer straight

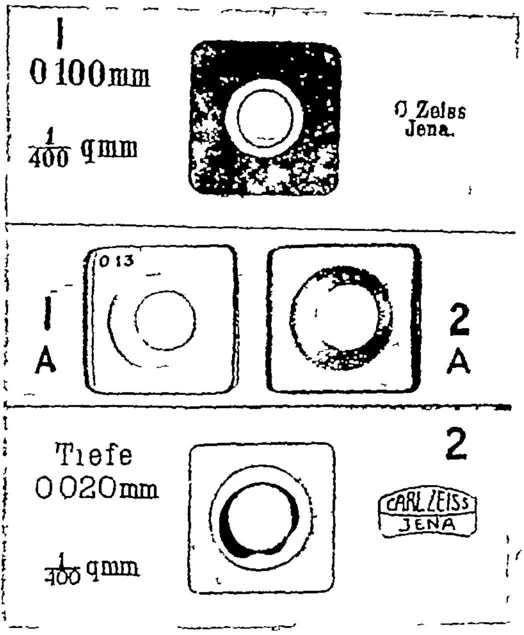
We have found, however, that a coverslip 0 13 mm thick is not only durable but also suitable for all achromatic oil immersion lenses *stated* to have a free working distance of 0 17 mm. and for those by most makers stated to have a free working distance of 0 15 mm The lens already alluded to with a reputed free working distance of 0 15 mm, but when *actually tested of only 0 08 mm.*, could not be used with a 0 1 mm chamber without *causing movement of the bacteria floating in the* fluid As the lens mount could not touch the coverslip, being 0 006 *mm* distant, the movement of the coverslip is explained by the immersion oil causing adhesion between it and the lens mount In order to make full allowance for the over estimation of the free working distance by some makers we have illustrated diagrammatically in Fig 2 a lens with a free working distance of 0 1 mm used with a hæmocytometer chamber 0 1 mm deep This lens has a corrected free working distance of 0 026, which is ample for ordinary purposes

Messrs Zeiss make such a coverslip, price 3*s*, which can be sterilised in formol or corrosive sublimate solution, but not with alcohol or xylol, for these substances dissolve the *cement* and cause warping We have found these coverslips still optically plane after several *months'* use, they are easily repaired if the cement is damaged.[7]

Standardisation with a hæmocytometer chamber 0 02 mm deep—The easiest and best method of eliminating the defect of the small free working distance of an oil immersion lens is to diminish the depth of the counting chamber instead of diminishing the thickness of the coverslip After experimenting with specially made counting chambers of various depths we have come to the conclusion that a 0 02 mm chamber with an optically plane cemented coverslip 0 18 mm thick as catalogued by Zeiss is the best, and suitable for all practical purposes This apparatus can be used with all achromatic oil immersion lenses, even with one by Watson N A 1 30, having a free working distance of 0 09 mm

Fig 3 shows that a lens with a free working distance of 0 1 mm used with such a counting chamber and coverslip has the corrected free working distance of 0 068 mm, which is ample The only disadvantage of the 0 02 counting chamber was the difficulty of spreading the drop, especially if the glass is slightly greasy We have completely remedied this defect by increasing the width of the trench from the usual 0 15 mm to 2 5 mm., for this provided a larger cistern for the overflow of surplus when the drop is a little too big (See Fig 4) If, however, the surplus of fluid is so great that it comes in contact with the opposite wall of the trench, then, as is well known, it spreads by capillary attraction everywhere under the coverslip, Newton's rings disappear, and *the depth of the* chamber is increased[8]

FIG 4



1 and 1A.—Ordinary 1 mm hæmocytometer chamber with new 0 13 coverslip suitable for all immersion lenses with a F W D of 0·17 mm and some of 0 15 mm 2 and 2A — New 0·02 mm chamber with wide safety trench and cover slip 0 18 mm thick suitable for all immersion lenses with a F W D *from* 0 17 mm *to* 0·09 mm. (*Note*—Too large a drop of methylene blue has been placed in 0·02 chamber and the excess is bulging *over* into the trench but owing to its extra width the fluid has not touched the opposite wall and so run under the coverslip by capillary attraction and increase the depth of chamber)

Calculation with a 0 02 mm chamber, the number of bacteria per square is multiplied by 20,000 instead of 4000 Bodley Scott[9] has recently recommended a counting chamber 0 01 mm deep and an optically plane coverslip, though he does not state how such a coverslip is obtained The disadvantage of such a counting chamber ten times shallower than the ordinary Thoma-Zeiss and twice as shallow as the Helber are two (1) The greater the difficulty in spreading the drop accurately, and (2) any error in the depth of the hour and the reading is taken, doubtful tubes being centrifugalised.

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[7] Zeiss now make a 3 5 mm achromatic oil immersion lens with a free working distance large enough to take a 0·1 mm chamber with a coverslip 0·18 mm thick.

[8] This apparatus will be catalogued by Zeiss under the name of the Helber-Glynn chamber, price 15*s*

[9] *Scott T Bodley and Scott* G Bodley: THE LANCET Sept 28th 1912, p 879

Before determining the anticomplementary power of a substance it is important that the re-agents used be accurately standardised. The usual method of estimating the anticomplementary power of a substance by exposing it to two units of complement we consider to be very inaccurate, for before any interference with hæmolysis can be observed one whole unit of complement will have to be absorbed. Thus small but, as we have shown, important anticomplementary phenomena are continually not observed by workers who use the usual method.

3. *Antigenic factor.*—To each of a series of 10 tubes containing 1 c.c. of normal saline, 2 units of complement and 100 c.mm. of inactivated syphilitic serum are added, then graduated quantities of the antigenic emulsion, thus: 100, 80, 60, 40, 20 c.mm., and 100, 80, 60, 40, 20 c.mm. of 1 in 10. The tubes after mixing are placed in the water-bath at 38° C. for one hour, and at the end of this time 2 units of amboceptor and 100 c.mm. of 10 per cent. red cells are added and the tubes incubated for a further half hour. Readings are then taken, doubtful tubes being centrifugalised. The value of the antigen is expressed in the least quantity of the antigenic emulsion which will completely inhibit the hæmolytic action of 2 units of complement.

Standardisation of Amboceptor and Complement.

Amboceptor, antisheep[2] or antihuman, may be obtained in the usual way from rabbits; a convenient stock dilution may be kept in the ice-chest for three months. Complement may be obtained by decapitation of a guinea-pig (not pregnant), the blood being collected in a Petri dish to clot and separate for 24 hours in the ice-chest. (No vivisection licence is required for humanely killing an animal.)

The serum obtained in this way will have a constant titre provided that the animal has been kept in a cage with an excess of oats and green food always present. The clear serum is diluted half and half with normal saline.

The red cells, either sheep or human, are washed three times in the centrifuge with 0·9 per cent. saline. On the last washing the centrifugalisation is continued until the volume of the deposited red cells is constant. A 10 per cent. emulsion of corpuscles is made by adding 1 c.c. of this deposit to 9 c.c. of saline. Before proceeding with the actual Wassermann reaction an estimation of the amboceptor and complement should *always* be performed. The usual method is to estimate each separately. This wastes much time. If the approximate titre of each is known a simultaneous estimation of the two may be made. (Table I.)

Table I.—*Simultaneous Estimation of Amboceptor and Complement.*

Approximate titre of amboceptor, 70 c.mm.—30 c.mm. of 1 in 1000.
Approximate titre of complement, 50 c.mm.—30 c.mm. of 50 per cent.
Series of 12 tubes containing 1 c.c. of normal saline.

Tube No.	Amboceptor (1 in 1000).	Complement 50%.	Red cell suspension 10%.	Result after ½ hour in water-bath at 38° C.
1	70 c.mm.	50 c.mm.	100 c.mm.	Complete hæmolysis.
2	„	40 „	„	„ „
3	„	30 „	„	„ „
4	„	20 „	„	Marked hæmolysis.
5	50 c.mm.	50	„	Complete hæmolysis.
6	„	40 „	„	„ „
7	„	30 „	„	Marked hæmolysis.
8	„	20 „	„	Slight hæmolysis.
9	30 c.mm.	50 „	„	Very marked hæmolysis.
10	„	40 „	„	Slight hæmolysis.
11	„	30 „	„	„ „
12	„	20 „	„	„ „

In the above table the unit of each is contained in tube 6.

Table II. gives a scheme for the Wassermann reaction in which every factor is absolutely controlled. Further, we would draw attention to the increased delicacy of the reaction by using large quantities of the serum, 500 c.mm. (cerebro-spinal fluid 1000 c.mm.). These large quantities can only be employed with accuracy when a non-anticomplementary antigen is used since the serum is nearly always anticomplementary in these quantities.

Table II.—*A Wassermann Reaction.*

Test (front row).					Control (back row).				
Tube No.	Normal saline.	Antigen emulsion 1 in 10.	Complement units.	Serum inactivated 55° C. ½ hour.	Tube No.	Normal saline.	Antigen.	Complement units.	Serum inactivated.
	c.c.	c.mm.		c.mm.		c.c.			c.mm.
1	1	100	1½	100 A*	1	1	*Nil.*	1½	100 A*
2	1	100	1½	500 A*	2	1	*Nil.*	1½	500 A*
3	1	100	1½	100 B*	3	1	*Nil.*	1½	100 B*
4	1	100	1½	500 B*	4	1	*Nil.*	1½	500 B*
And so on for other sera.									
Further Controls.									
10	1	100	1½	*Nil*	10	1	*Nil.*	1½	*Nil.*
11	1	100	1½	100 normal.	11	1	*Nil.*	1½	100 normal.
12	1	100	1½	100 syphilitic.	12	1	*Nil.*	1½	100 syphilitic.

* A, B, &c., sera to be tested.

Mixed, incubated 1 hour at 38° C. in water-bath. Then 2 units of amboceptor and 100 c.mm. of 10 per cent. red cell suspension added to each tube. Re-mix, return to water-bath for half an hour, read.

In using large quantities of serum (0·5 c.c.) it might be urged that: (1) such quantities would alone interfere with complement and so render a reading impossible or dubious; (2) zone phenomena might arise—that is to say, that with larger quantities a less powerful fixation would occur; and (3) since it is said that between normal and syphilitic sera there is no qualitative difference, but only a quantitative one with regard to the Wassermann reaction, fixation might possibly occur with large quantities of normal serum.

Now dealing with (1), there is no possibility of error arising from this source in perfectly controlled systems, using a non-anticomplementary antigen. Here with an anticomplementary serum the same degree of inhibition of hæmolysis occurs in the test and control tubes, whereas if the serum is also syphilitic the test tube shows more inhibition than the control, thus rendering the reading obvious and free from fallacy.

(2) Browning and McKenzie demonstrate that with their antigen larger quantities of serum may fix less complement than smaller ones. Using our antigen, however, we have never been able to obtain this result, but have always got more fixation with the larger quantities of serum than with the smaller. Though we have carefully experimentally endeavoured to provoke zone phenomena

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[2] Sheep hæmolytic serum may also be obtained from Messrs. Meister Lucius and Bruning.

in this way we have never been able to obtain them.

(3) Using even still larger quantities (1 c.c.) of normal sera and our purified antigen, we have never been able to demonstrate any true fixation. Thus, using a carefully controlled system, with a non-anticomplementary antigen, these large quantities of serum may be used with advantage without fear of error, especially as a smaller quantity—viz., 100 c.mm.—is simultaneously tested.

Any organ can be used for the purpose of extracting a good antigen, provided that the degree of autolysis which the organ has been allowed to undergo is the suitable one for that organ. It has been stated that the antigenic value of a phosphatid depends upon the tissue from which the phosphatid has been extracted. The observation that one organ has been found to give a better antigen than another is of no value, if the question of the degree of autolysis has not been considered. It must be remembered that different organs autolyse at different rates. Autolysis not only increases the antigenic value of the extract, but also the hæmolytic and anticomplementary properties. This fact has prevented other observers from obtaining a suitable antigen by this process; we have shown that purification of the phosphatid removes these complicating hæmolytic and anticomplementary factors.

The increased antigenic value of a phosphatid, extracted from a suitably autolysed tissue, is not due to the phosphatid forming an additive combination with cholesterin.

1. It is perfectly true that autolysis increases the amount of cholesterin, but this increase in the short time during which the tissue has been allowed to undergo autolysis (24–36 hours) at the room temperature is very slight.

2. We have experimentally demonstrated that our purified phosphatid does not contain cholesterin.

3. And that a phosphatid extracted from a fresh organ in the presence of a saturated alcoholic suspension of cholesterin does not possess antigenic properties.(*1)

With regard to extracts from congenital syphilitic organs, we have found that the antigenic value has no connexion with the spirochæte content, but depends upon the degree of autolysis of the organ.(*2) The antigenic properties of extracts of these organs are in no way superior to extracts from autolysed normal organs. These antigens are suitable for use, providing that their marked hæmolytic and anticomplementary properties are removed by purification.

All experiments relating to "the remarkable action of cholesterin in increasing the action of lecithin as *antigen*" (*3) are open to the criticism that an accurate quantitative analysis has never been performed. We have constructed an experiment (*4) exactly reproducing experiments of Browning and McKenzie (*5), and have shown that cholesterin produces identically the same effect whether added to a syphilitic serum and antigen mixture or to a non-syphilitic serum, which by itself would cause the same amount of complement inhibition as the syphilitic serum with lecithin antigen alone. That is to say, that the action of cholesterin is not specific to syphilis, but enhances anticomplementary properties whether pre-existing or brought about by a syphilitic serum and antigen mixture, and thus cholesterin may occasionally cause a normal serum to be diagnosed as positive. Thus our statement that "the use of cholesterin ...... is not only unnecessary but introduces a serious source of error" (*2) is not based on theoretical considerations, but on experimental work where the subject has been fully considered (*1).

Finally, "certain methods are admitted to yield too high a percentage of positives, and these to any logical mind must be completely disregarded so far as their employment for diagnostic purposes is concerned; it is obvious that any form of the test which is liable to return positive reactions in cases which are not syphilitic is useless for diagnosis, however valuable such a method may be as an indication for the continuance of treatment in known cases of syphilis" (*3). There has recently appeared an article (*6) by McIlroy and Watson, who examined by the method of Browning, Cruickshank, and McKenzie 100 cases of women mainly from the obstetrical out-patient department "not selected from the point of view of the Wassermann test."

The cases were from the respectable working-class; obvious cases of syphilis were not included. They found—

Positive to the reaction	43
Doubtful...	9
Negative...	48

Of these 48 negatives, 7 had children which gave a positive, thus making more than half of the population of the respectable working-class syphilitic. That these results are suspiciously high must be self-evident, and they make an impartial observer suspicious of a method that gives so many positive results.

In conclusion, the method of performing the Wassermann reaction that we bring forward in this paper is exceedingly simple, quick, and absolutely controlled. It will be noticed that no vivisection licence is required, a matter of considerable importance in many laboratories. The antigen has been used now in several thousands of cases and has consistently given excellent results.

References.—(*1) Thiele and Embleton: Zeitschrift für Immunitäts-forschung, Band xvi., Heft 4, 1913. (*2) Thiele and Embleton: THE LANCET, Feb. 21st, 1914, p. 526. (*3) Browning: THE LANCET, March 14th, 1914, p. 740. (*4) Thiele and Embleton: Zeitschrift für Immunitätsforschung, Band xvi., Heft 4, 1913, Tables II., IV., and XI. (*5) Browning and McKenzie: Recent Methods in the Diagnosis and Treatment of Syphilis, London, 1911. (*6) Significance of the Wassermann Reaction in Gynæcological Diagnosis, McIlroy, Watson and McIlroy, British Medical Association, Brighton, 1913, Gynæcological Section.

NOTES ON DIABETIC RETINITIS.

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THERE is much difference of opinion on the subject of diabetic retinitis. Some maintain that there is no such a thing; others that the retinitis which occurs is albuminuric and due to the association of diabetes with granular kidney; while others hold that there is a form which is perfectly characteristic and pathognomonic.

I have seen many cases of retinitis in diabetes, and I may say at once that I have failed to observe anything whatever characteristic in it—that is to say, nothing by which from the change in the retina diabetes could be diagnosed as granular kidney can. I have had cases shown me more than once which were said to be typical, but they did not convince me, and so far as my own experience goes I should say that it was impossible to diagnose diabetes from anything that can be seen in the retina.

I agree, too, with the statement that many cases of so-called diabetic retinitis are typically albuminuric, and are due to the association of diabetes with granular kidney, an association which is by no means rare. But this does not exhaust the subject.

There are two forms of albuminuric retinitis, which I have called the degenerative and the exsudative respectively.

The degenerative form is the familiar and well-recognised type characterised by the white glistening patches of degeneration of varying sizes, and grouped especially round about the yellow spot, but whether large or small equally characteristic and quite pathognomonic, for they occur with no other disease.

In the exsudative form there is exsudation involving the disc and extending from the disc outwards in any direction; the patches of exsudation may be of larger or smaller size, but if small never present the bright glistening appearance characteristic of the other form, but are of a dull yellowish colour, and a woolly or fluffy character, with no sharply defined margins. There is nothing in this form to distinguish it from the neuro-retinitis of other affections—e.g., that which occurs with cerebral tumour. This form may occur in acute nephritis as well as chronic. It may disappear entirely as the nephritis recovers, while the degenerative patches are persistent and practically never disappear, probably because the renal lesions are permanent.

The exsudative form is in all cases, I believe, of toxic origin, and might therefore arise in the course of diabetes, just as it does in the course of acute nephritis, and this, in my opinion, is the fact, for I have certainly seen cases of this kind in which there was no evidence of granular kidney.

The view I am expressing would reconcile and explain the different opinions held. The degenerative form would be characteristic of granular kidney, whether associated with diabetes or not. The exsudative form would be of toxic origin and indistinguishable from that which is seen in other toxic states, and be due to some poison produced in diabetes which attacks the optic nerve and retina just as it sometimes does the peripheral nerves. What the poison is we know no more in diabetes than we do in nephritis.

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THE THERAPEUTIC VALUE OF THE POTATO.

BY HEATON C. HOWARD, L.R.C.P. LOND., M.R.C.S. ENG.

IN considering generally the results of the treatment I am about to describe, there are two facts which stand out most prominently, and which emphasise in a marked degree the peculiar properties of the raw potato juice. The first is the prompt relief from pain, acute or subacute, which is shown to have occurred, and the second is the rapid absorption of the fluid in cases of synovitis. These results, so unexpected when the investigation was commenced, have been so constant and so thoroughly tested in the many cases under my care that I now feel justified in bringing them before the medical profession hoping that the treatment, if carried out as recommended, will meet with similar success at the hands of other practitioners.

My investigations of the therapeutic uses of the potato, though carried on for some years, are not yet completed. The initial difficulty of ascertaining the kind of complaint the potato would relieve and of deciding upon the part of the plant to be used and then of the method of making the preparation will be appreciated.

Preparations.—It seems on investigation of the juice of the potato that there is no alkaloid in it and that the chief ingredient is potash salts, which are present in large quantity. The basis of all the preparations is the liquid extract; "extractum solani liquidum" is the name given to it. It is made as follows:—The raw potatoes are put into a hydraulic press and the liquid is squeezed out. About half the weight of the potato comes away as juice. The starch and the nitrogenous matter are removed, leaving the juice with the salts only in it. It is then concentrated down by heat and some glycerine added in order to preserve it, until it is made five times the strength of the juice, therefore ten times the strength of the potato itself. The ointment is made the same strength as the extract, and is prepared chiefly with lard. A liniment is made by taking equal parts of the extract and lin. saponis co., or 2 of extract and 1 of soap liniment. The plaster is made as ordinary plaster and is of the strength 10 to 1. The ampullæ contain the pure extract, which is five times the strength of the juice and properly sterilised. I have as yet not had much experience in the hypodermic use of the remedy. All these preparations are made by Messrs. Baiss Brothers and Stevenson, of Grange-road, Bermondsey, and are sold at a moderate price.

Pain.—In the following notes for purposes of description pain is divided into two large sections, active and passive, thus:—

PAIN.

Active.	*Passive.*
Severe.	Severe.
Moderate.	Moderate.
Slight.	Slight.

Active pain is felt when the body is quite still, as in acute gout of the toe, neuralgia, pain after injury, headache, &c., and the exact character can be further described by prefixing adjectives such as tearing, gnawing, stabbing, shooting, &c.

Passive pain is that felt on movement of a part or limb, as in rheumatism and gouty joints after the active pain has gone, also in subacute rheumatism, fibrositis, &c. Other further descriptive adjectives can be added.

Synovitis.

The action of the liquid extract on acute synovitis (with effusion) of the knee-joint, whether traumatic or gouty, is speedily to relieve the pain, which does not recur, and to cause absorption of the fluid in four, five, or six days. After the fluid has disappeared the slightly thickened synovial membrane can usually be felt for a day or two. One or two days' application of the ointment will remove it. At the end of a week the patient can get up, using the knee as little as possible. The knee should have a flannel bandage put on, and in about 14 or 16 days from commencement of treatment the patient will be able to resume his work. If he gets about too soon the fluid is liable to return. This mode of treatment is simple, speedy in its result, and appears trustworthy in its action.

the origin of this particular growth seems only explicable on the "cell-rest" theory of Cohnheim. The patient's wife told me that he had had a cough all his life. The discharge from the sinus in the antrum merely aggravated the symptoms, and cannot be considered to have any bearings on the etiology. I sent one of the enlarged cervical glands to Dr. Eastes's laboratory, where a very beautiful section was made revealing the features of a typical, rather large round-celled sarcoma. Sir William Osler states that the usual duration of primary lung sarcoma is from six to eights months and that sarcoma is rarer than carcinoma. This particular case appears to be unique in its slowness of development

Briton Ferry, Glam.

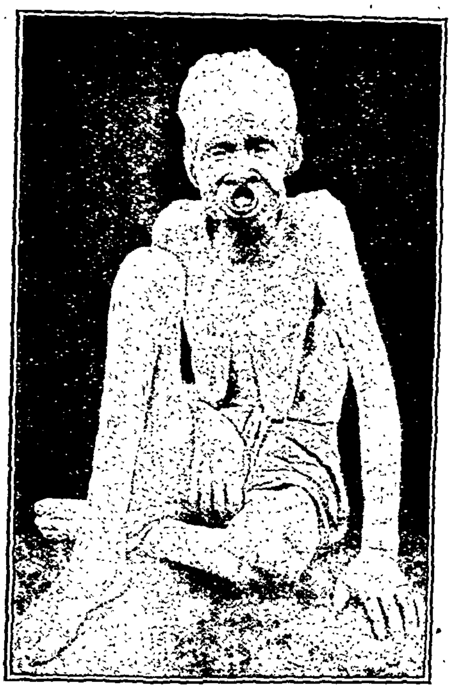
THE LIFE-SPAN OF NEGROES.

By HUGH S. STANNUS, M.D. LOND., D.T.M. & H. CANTAB.,
MEDICAL OFFICER, NYASALAND ADMINISTRATION.

IN an annotation in THE LANCET of Nov. 29th, 1913, under the heading "Mortality Among African Negroes," there are some references to observations made by Dr. R. Mouchet in the Congo published in the *Archiv für Schiffs- und Tropen-Hygiene*. Your annotator asks the question: "At what age does a negro in tropical Africa die?" and appears content to accept Dr. Mouchet's observations as the answer to that question. I, unfortunately, have not got the original article to refer to here, but as a medical man with some nine years' experience of another part of tropical Africa, I write to put down a few observations of my own on natives of Nyasaland, in order to prevent readers of your annotation going away with the idea that all the conditions mentioned in the above article are true for the whole of tropical Africa. Dr. Mouchet is of opinion that natives die far younger than Europeans. He says a grey-haired native is rare; "cataract, tumours, atheroma, and kidney disease are hardly ever found."

In Nyasaland (the natives are all of Bantu stock) white-haired natives are to be commonly seen in any village, and search among them reveals quite a fair proportion of cases of senile cataract. It is true that it is impossible in the absence of official birth registration to ascertain the exact ages of these individuals, but in some the approximate age can be deduced from relative facts and dates. A well-known Yao chief, Chemposa, whose age must be approximately 60–65, is a grey-haired man, but still quite active, and in his village there are many who appear older than he.

That natives may live to a very old age is, I think, borne out by the photograph of a white-haired old woman met with near Lake Amaramba, the subject of a double cataract, whose pulse had slowed down, owing to her not having moved for many years, to 40 per minute. Her son and daughter were grey-haired old people, and her grandson, a man of middle age, had a son who might have had children. May I suggest that Dr. Mouchet's observations were possibly limited to certain classes of natives, and that he had not in Léopoldville opportunities for seeing the old people who remain in their villages? The same thing, I think, probably accounts for his statistics as to the cause of death. In 37 out of 100 necropsies he found tuberculosis as the cause of death, but these figures cannot surely be true for the whole population of the country. Judging by this country, it is the over-civilised, over-clothed males of young adult age who travel and live in townships that are most likely to come to the post-mortem table, and it is exactly among this class of native that tuberculosis is seen. I agree with Dr. Mouchet that atheroma and kidney disease are comparatively rare among natives, but judging by my own clinical experience I am inclined to the opinion that malignant growths are not so uncommon as is generally supposed. That natives may die younger than Europeans may be true, but that none or few reach old age I look upon as one of the many myths about natives which have been believed in the past and are very difficult to eradicate.



Zomba, Nyasaland.

LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY, LIMITED.—The annual general meeting of this society was held at 32, Craven-street, Strand, London, W.C., on March 25th. Mr. C. M. Fegen took the chair in the absence of Dr. G. A. Heron, the President. The chairman, in presenting the annual report, which was referred to in THE LANCET of March 21st (p. 842), pointed out that, with the passing of the National Insurance Act, the work of the society had increased, and would materially increase in the future. He referred with pleasure to the financial statement at the end of the report, which showed that the society was in an excellent position having regard to the number of members. The society had always been solvent, but its position was strengthened owing to the establishment of the insurance scheme. The members were asked to pay an addition to their usual subscription, and that addition had provided a great deal of protection which they did not have before from the society. Dr. W. Knowsley Sibley criticised the conduct of the council in the action against St. John's Hospital for Diseases of the Skin, and the chairman and the financial secretary replied, maintaining that his criticisms were founded on misconceptions as to the facts of the case. The report and balance-sheet were then adopted, and Dr. Heron was appointed president of the society for the ensuing year. The vice-presidents, the treasurer, the retiring members of council, the secretaries, and the auditors were re-elected, and the meeting terminated with a vote of thanks to the chairman.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Laryngeal Tuberculosis.—Tonsils and Adenoids in Children.

A MEETING of this society was held on March 30th, Sir **DAVID FERRIER**, the President, being in the chair.

Sir **STCLAIR THOMSON** read a paper on Three Years' Sanatorium Experience of Laryngeal Tuberculosis. He said that the outlook for patients suffering from tuberculosis of the larynx is less gloomy than it was 32 years ago, but that it is still a serious complication. The following conclusions were advanced: 1. The larynx is frequently involved in pulmonary tuberculosis. Even in the selected cases sent to a sanatorium it is met with in 25·6 per cent. 2. A considerable number of cases (102 out of 795) are sent to a sanatorium without their showing active tuberculosis. These cases, if included in statistics, would largely help to invalidate conclusions. 3. In patients of the middle class laryngeal tuberculosis is met with just as frequently in females (28·3 per cent.) as in males (24 per cent.). 4. Laryngeal tuberculosis occurs much more frequently (13·7) in the early favourable cases of phthisis than is generally recognised. 5. In the more decided cases this proportion is doubled (27·1 per cent.), and in the advanced cases it is trebled (40·8 per cent.). 6. The expectation of life amongst consumptives is markedly decreased by the complication of laryngeal tuberculosis. 7. As a factor in prognosis, the laryngeal condition deserves much more regard than it has hitherto obtained. 8. Laryngeal tuberculosis may not infrequently be present, although the patient makes no complaint of the throat and although the voice is unaltered. Hence—9. The larynx should be carefully inspected in every case of pulmonary tuberculosis. 10. Arrest of laryngeal tuberculosis can be effected in a sanatorium in 20·7 per cent. of all cases. 11. Improvement in the lung and the larynx frequently, but not invariably, progress *pari passu* in a sanatorium. 12. In certain cases the larynx improves while the lung retrogresses. The converse takes place rarely. 13. Limited and slight laryngeal lesions, particularly in mild and moderately severe cases of phthisis, may become arrested *spontaneously* with sanatorium treatment. 14. The galvano-cautery is the best weapon we have at present for local treatment. It was only indicated in 20·22 per cent. of all cases, and it completed the cure in 41·66 per cent. of the cases in which it was employed. 15. These satisfactory results have not, so far as the author knew, been secured by any methods outside a sanatorium. 16. Sanatorium treatment is at present the first and most valuable method we have for arresting laryngeal tuberculosis. 17. Local measures are much more promising under sanatorium conditions. 18. At present the diagnosis of tuberculosis is too long delayed, or the patient is sent to a sanatorium much too late to effect a cure. Hence—19. With our present methods of therapeutic resources we must, for progress, urge the importance of early diagnosis and then prompt sanatorium treatment.

Dr. **F. DE HAVILLAND HALL** said that in the past he had been pleased by the beneficent effects of lactic acid of gradually increasing strengths. No doubt the results would have been still better if sanatorium treatment had been employed as well.

Dr. **T. D. ACLAND** remarked that he was glad to hear Sir StClair Thomson's opinion of the effect of tuberculin. The author had said that he had not seen any benefit from it, but he (Dr. Acland) was quite certain that he had seen harm result.

Dr. **P. HORTON-SMITH HARTLEY** asked which cases were the most suitable for galvano-cautery, and what treatment was used for those with definite ulceration. He spoke of the difficulty which the physician experienced in detecting cases early enough for the most favourable prognosis without swelling the numbers of the patients at the sanatorium who could not be classed definitely as tuberculous.

Dr. **S. VERE PEARSON** was also anxious to have formulated the indications for the use of the galvano-cautery. He referred to the question of punching out or removing the epiglottis. He had seen cases where only the epiglottis was affected. Should the epiglottis be removed under those circumstances? In cases of doubtful diagnosis he thought that the patients should be given the benefit of the doubt, which to-day meant sending them to a sanatorium. He also spoke of the possibility of treatment by nascent iodine. By this method sodium iodide was given internally, and either the larynx sprayed with hydrogen peroxide or ozone inhaled. In this way nascent iodine was set free.

Dr. **N. D. BARDSWELL** said that at the King Edward VII. Sanatorium the cases were subjected to the following examination: first, the sputum was examined by all modern methods for bacilli; secondly, the complement-fixation test was employed; thirdly, the opsonic index was estimated both at rest and after exercise; and fourthly, if these tests were negative the subcutaneous tuberculin test was used. If the results of the last three procedures were negative the patient was probably not tuberculous. A choice had often to be made between the general clinical picture and the laboratory tests, and the whole question of diagnosis was still unsettled. Although at present the cases which could not be shown to be actively tuberculous were excluded from statistics to disarm criticism, it was probable that in the future some of them might be shown to be examples of latent tuberculosis. He would go farther than Sir StClair Thomson and say that the larynges of all patients suffering from pulmonary tuberculosis should be examined, not once, but periodically. With regard to local treatment, the galvano-cautery gave the best results, but was of very limited application. He had seen ill effects from its use. It might do harm if applied to active lesions when the general condition of the patient was unfavourable and the pulmonary disease was not quiescent.

Dr. **H. TILLEY**, speaking of active treatment, said that he never interfered with a laryngeal lesion if there were active signs in the chest, and the only lesion in the larynx suitable for local treatment was a limited one. The galvano-cautery was only applicable for a small percentage of cases. Rest was so essential that everything should be done to prevent coughing. Few methods gave more relief in this respect than the inhalation of vapours such as those containing creasote. He had seen good results with the use of nascent iodine in chronic lesions of the lupoid form. He had not used lactic acid for the last five years.

Dr. **G. WILLIAM HILL** pointed out that the paper dealt with statistics of a very limited group of cases—namely, those of patients who obtained admission to a sanatorium, and questioned whether the earlier statistics could be regarded as vitiated if this fact were taken into account. He spoke of the difficulties of determining the presence of active disease in the lung.

Mr. **E. B. WAGGETT** said he would be interested to hear a comparison between the results of private cases and those in sanatoriums. His experience was that tuberculomata were benefited by the galvano-cautery whilst the pseudo-œdematous form of laryngeal tuberculosis did badly.

Dr. **W. CAMAC WILKINSON** said that from a consideration of the statistics one must be impressed by the hopelessness of the treatment of laryngeal tuberculosis by ordinary methods. He had given up the use of lactic acid in 1897 because he found that tuberculin gave much better results than other methods. It was not necessary to take selected cases, but he had obtained good results with tuberculin, even in those which had been rejected. He was convinced that tuberculin, given in large doses and in no other way, would in future prove to furnish far better results than any other method, including the galvano-cautery. The results were infinitely better than those mentioned in the paper. The question was a difficult one, as all such statistics lacked relativity.

Mr. **H. W. CARSON** spoke of the value of rest and of continuous inhalation for reducing cough. There was a stage when the lung condition was quiescent but where no improvement continued in the laryngeal condition. In these cases the galvano-cautery did good service. He had found that only in those patients who could respond to tuberculin were good results obtained.

Sir **STCLAIR THOMSON**, in reply, said that there was very little call in sanatoriums for symptomatic treatment. One could be more certain of what one was doing with the galvano-cautery than with lactic acid. Its use was to start Nature's process of healing by fibrosis. It was indicated for localised indolent lesions, and where the general condition was favourable and the signs were not those of active tuberculosis. The presence of tubercle bacilli was not necessarily a contraindication.

Mr. T. B. Layton read a paper entitled "Tonsils and Adenoids in Children: a Plea for Fewer Operations," which will appear in full in a later issue.

HUNTERIAN SOCIETY.

The Causes and Treatment of High Blood Pressure.

A MEETING of this society was held on March 25th, Mr. W. J. M. Ettles, the President, being in the chair.

The annual discussion of the society was opened by Dr. F. de Havilland Hall, who read a paper on the above subject. He pointed out that blood pressure normally varied with the age and sex of the individual. A ready method of remembering the average blood pressure was to place 1 before the age of the person, and this would give in millimetres of mercury the pressure appropriate to the age in question, but over 40 the figures were too high. In women the pressure was usually 10 mm. below that of a man of corresponding age. A wide range of variation in pressure was met with in individuals. Dr. Hall quoted with approval the custom of certain American life insurance companies, who require a record of the systolic pressure whenever the age of the proposer is 45 years or over, and fix a limit of about 150 mm. at and over which no life is accepted on normal terms. The time of day and the condition of the nervous system, he said, influence blood pressure. A strong, healthy man has normally a blood pressure 5 to 15 mm. above that of a weakly individual. Active muscular exertion causes an increase of blood pressure, as does also the ingestion of a large amount of liquid, and especially beer. The onset of acute fever and severe pain are accompanied by increased blood pressure. Great stress was laid on the toxæmia of gastro-intestinal origin due to over-eating as a very important cause of increased blood pressure. The constant strain to which the arteries were thereby exposed led to arterio-sclerosis, and that which at first was only a temporary condition, the pre-sclerotic stage of Hachard, became a permanent state of high tension. Kidney disease was stated to be one of the most certain causes of increased blood pressure, and a repeated and constant pressure of over 200 mm. would suggest the presence of some form of nephritis. Gout, lead-poisoning, malaria, syphilis, and oral sepsis were mentioned as causes of increased blood pressure. Alcohol, either directly or by its effect on the gastro-intestinal tract, was a cause of high pressure; tea and coffee had also some action in raising the pressure. Tobacco caused an increase of pressure, but the habitual smoker had usually low pressure. Finally, mental strain and worry, especially if combined with deficient exercise and too rich living, were stated to be potent causes of high blood pressure. Before entering upon the question of treatment Dr. Hall insisted upon the importance of recognising that so far from high tension being the enemy which was to be met and overcome, it was often the patient's great ally, and was the means whereby the functional activity of the kidneys was maintained and life preserved. He laid stress upon the disastrous effects resulting from the injudicious employment of measures to reduce high pressure; and also upon the danger of a stimulating plan of treatment in arterio-sclerotics with high pressure. Among the measures capable of reducing high pressure rest, he said, takes a prominent position, and in patients with a pressure of 200 mm. and upwards, especially if combined with any signs of heart failure, a period of absolute rest should be enjoined. Many cases, however, of high pressure occur in people who take too little exercise, and for them suitable exercise, such as riding, cycling, walking, and golf, should be prescribed. The methods of Schott and Oertel were alluded to. Massage was recommended in cases in which sufficient exercise could not be taken. The condition of the skin required careful attention; warm baths or Turkish baths might be ordered in suitable cases. The electric light bath and the D'Arsonval current of high frequency often gave good results. If obesity were present the Bergonié system might be warmly recommended. In many cases the Nauheim treatment gave excellent results. Diet was all-important; the quantity as well as the quality of food required careful supervision. Substances rich in nitrogen, such as butcher's meat, should be avoided. Soured milk was useful in dyspeptic cases. Tea and coffee should be taken with great moderation. Alcohol was almost always prejudicial in cases of high pressure. An abundant supply of pure water, preferably distilled, to drink was indicated. Tobacco should be indulged in with the greatest moderation, and if there were anginal symptoms it should not be allowed. Drugs played a secondary part in treatment. Calomel, blue pill, and the saline aperients were most useful. Iodides given in small doses and for a considerable period of time had a very beneficial effect. In patients giving a positive Wassermann reaction mercury should be administered, preferably by inunction. Salvarsan was not recommended. In cases of high pressure at the menopause attended with obesity small doses of thyroid extract, together with a combination of bromide and iodide of potassium, would be found most useful. If the iodides were badly borne sodium nitrite in doses of 1 to 2 grains in chocolate tablets might be given. The hippurate of lithium in doses of 1 to 2 grains given twice daily would be found to have a good effect. The more powerful and more quickly acting vaso-dilators, such as amyl nitrite, nitroglycerine, and erythrol tetranitrate, should be reserved for emergencies—e.g., anginal or dyspnœal attacks—rather than for regular use. Blood-letting was a remedy which was of the greatest possible service in certain cases of high blood pressure. Nature itself seemed to indicate the appropriate remedy in many cases by the onset of copious epistaxis.

Dr. W. Langdon Brown called attention to the difficulty in getting a correct record of the blood pressure in nervous subjects, in whom the mere attempt to make the observation raised it temporarily, and also to the drop in the pressure which occurred as old age advanced. Men of over 80 usually had a pressure of about 140 mm. Other factors in producing high pressure were over-action of certain ductless glands, such as the pituitary and suprarenal, and the putrefactive diamines formed in the bowel, which had been shown to be definitely pressor in action. The great and abiding difficulty which beset treatment was that the pressure requisite for any given degree of arterio-sclerosis was not known. What was known was that the rise of pressure was a conservative measure and must not be antagonised without reference to the cause of the rise. But just as hyperpyrexia might have to be treated, whatever the cause of the fever, so hyperpiesis might have to be treated as an emergency. Then, and then only, was the time for nitrites. Amyl nitrite was best for immediate lowering of pressure, as in anginal attacks; nitroglycerine would only lower pressure for 40 minutes, while erythrol tetranitrate in ½-grain doses could do so for six hours. The chief drawback to its use was the severe headache it sometimes caused. Iodides did not lower pressure by vaso-dilatation, but by eliminating toxins, and were therefore not included in this condemnation. Sulphates acted not only as aperients, but by combining with putrefactive substances had an antitoxic action as well. The most important thing was to detect these cases in the presclerotic stage, before organic changes had occurred, and then to treat them by putting them in the way of physiological righteousness rather than by depressor drugs.

Dr. S. Russell Wells emphasised the importance of recording the diastolic as well as the systolic arterial pressure. In cases of aortic regurgitation, for instance, the systolic pressure as recorded by the Riva-Rocci instrument might be very high and the diastolic pressure very low, so that the continuous strain to which the arterial wall was exposed was not nearly so great as it was in cases of arterio-sclerosis with much lower systolic and higher diastolic pressures. He referred to some experiments which he had made with specially constructed rubber tubes, showing that these tubes could stand a very high systolic pressure, provided that the diastolic pressure was small, while a high diastolic with a comparatively low systolic produced aneurysmal dilatations. He then detailed some experiments and observations made by Professor Leonard Hill and himself which led them to suppose that the character of the blood stream at the threshold of any capillary area materially depended upon the state of the wall of the artery supplying that area. If the arteries going to a part had hard and more or less rigid walls the blood pressures would approach those in the aorta and show high systolic and low diastolic readings; while if the arteries were soft and distensible the blood stream would be broken down to something more approaching a continuous flow, the systolic pressure being much lower and the diastolic higher than in the previous case. Since all the arteries and to a greater extent the arterioles were contractile and under the influence of the nervous system and with an increased tone or contraction their walls became harder and less labile, it might well be that the organism could with the same heart-force vary the pressure at the threshold of any capillary area between an intermittent pressure with a high systolic beat and an almost continuous one with a lower systolic pressure. In the one case there would be a hammerlike percussive wave beating open the capillaries, and in the other a more continuous pressing in of the blood at a lower tension. It was suggested that the throbbing felt and the capillary pulse observed in an acutely inflamed area might be due to an increased tone of the walls of the afferent artery which lessened their resilience; hot fomentations relieved this throbbing by relaxing the contraction of the vessel walls. The observations of Leonard Hill and Martin Flack on blood and secretory pressures in secreting salivary glands were alluded to, and it was pointed out that under certain conditions a temporary rigidity of the arteries of the arm might give a raised systolic reading by causing the full systolic crest of the aortic pressure to be conducted down to the armlet without there really being any rise of the systolic pressure over the body generally. Dr. Langdon Brown uttered a word of caution against too lightly attempting to lower even a very high systolic pressure in cases of arteriosclerosis without regard to the patient's general condition, and instanced the case of a patient of his own who for the last four years had shown systolic readings, taken with the Riva-Rocci instrument, of 300 mm. of mercury, whose general condition became notably worse when these readings fell to 250, and improved again when they returned to their former level.

Dr. O. K. WILLIAMSON said that, as regards diagnosis by means of a sphygmomanometer, cases were met with in which, owing to arterial thickening associated with spasm at the site of compression, the instrument yielded a high reading when the actual blood pressure was certainly not above normal. For instance, a case of hemiplegia more or less sudden in onset might be met with in which such a condition of the arterial wall was present, and in which the instrument yielded a high reading but in which the blood pressure was actually low, and in which the symptoms were due to spasm of a branch of the middle cerebral artery. If in blind obedience to the instrument depressant treatment were adopted the condition might easily pass into one of cerebral thrombosis, whereas by using the finger as well as the sphygmomanometer such a grave error could be avoided and the correct treatment adopted—viz., the use of a vaso-dilator combined with a cardiac stimulant. Hence the vital importance of using the finger as well as the instrument in the examination of the pulse. In regard to treatment naturally cases in which the pressure was temporarily raised yielded better results than did those in which the condition was persistent, and in which the arterial changes were more widespread. It was often impossible to tell from one examination which of these two classes was being dealt with, for in a case in which there were extensive changes involving especially the splanchnic arteries the arteries accessible to superficial examination might not reveal obvious disease. In cases in which there was no special symptom which called for treatment, although he agreed with Dr. Hall and Dr. Langdon Brown that it was undesirable to make a routine practice of reducing the pressure, still it seemed to him advisable to try cautiously the effect of reducing the pressure, inasmuch as the continuance of the condition was, other things being equal, in itself harmful. Great caution was, however, necessary in such cases, and the effect of such treatment on the patient's general health and symptoms should be noted, as many of these patients would not bear reduction in their blood pressure. Treatment was also called for in cases in which high blood pressure was associated with marked local spasm of arteries and consequent interference with function in areas which these supplied; it then became, especially in the case of the heart or brain, an urgent matter. In regard to treatment by rest, whilst rest in bed was in many cases invaluable, he would add a word of caution against overdoing it. He had seen cases which had been treated by rest in bed for several weeks without showing any appreciable fall in pressure, but when the patients had been allowed to get up and walk about they had quickly experienced a fall. As regards drugs, it was of great importance to secure a regular free action of the bowels by means of saline aperients, and an occasional dose of calomel was of great value. He had obtained good results from small doses of iodide of potassium, and in cases in which this was ill borne, from iodipin, and especially from sajodin, the last-named being given in tablet form in doses of 7½ grains. Of the vaso-dilators he had found erythrol tetranitrate the most useful. He had found guipsine serviceable in some cases; it was given in pill form in 5-grm. doses, and in amounts varying from 6 to 25 pills in the 24 hours.

Dr. LIONEL C. E. CALTHROP (Woodhall Spa) said that many cases of high blood pressure were sent to Woodhall Spa for treatment owing to the fact that it was the only mineral water in Great Britain which contained potassium iodide, the value of which in this condition was now established. The water also contained a certain quantity of bromide of potassium, constituting a useful adjunct to the iodides in irritable states. The action of this water on the bowels and kidneys assisted its beneficial effect. He thought with Dr. de Havilland Hall that though in some cases Nauheim baths were suitable, yet in others the ordinary hot mineral baths or the electric light baths, which were more eliminative in character, afforded greater relief. Diet and drink were important factors, also rest and moderate exercise, such as golf. Owing to its special features he thought this spa admirably adapted for the treatment of these cases.

Dr. LESLIE C. THORNE THORNE said that his investigations of blood pressure in cases of cardiac disease, including a large number of patients undergoing the Nauheim treatment, had convinced him that the record of minimum blood pressure was almost as important as that of the maximum, as there existed two very distinct classes of cases in which hypertension was present, and these two classes could only be differentiated by a comparison of the ratios of the maximum and the minimum blood pressures. In the first class both the maximum and the minimum pressures were raised, but the ratio of the two pressures was altered, there being a greater difference between them than in a normal case. The normal difference between the maximum and the minimum pressures was about 50 mm. Hg, but in a case of this kind there might be a difference of over 100 mm. Hg between the two readings; for example, the minimum pressure might be 120 mm. Hg and the maximum 250 mm. Hg. A difference in ratio of this kind, he believed, indicated definite vessel degeneration. In the second class, both the maximum and the minimum pressures were raised, but the ratio between the two was unaltered; for example, the maximum pressure might be 150 mm. Hg and the minimum 100 mm. Hg. He was of opinion that readings of this kind indicated a raised pressure due solely to hypercontractility of the arteries and capillaries—a presclerotic condition. In the first class, suitable treatment might lower the pressure to a certain extent, and would undoubtedly relieve dangerous symptoms, but the decrease in pressure would not be maintained, and if drugs were pressed to try to maintain it the patient would be rendered worse rather than better. In the second class, suitable treatment—notably, Nauheim baths and dietary—would, by improving nutrition and increasing metabolism, bring the pressure down to normal, and this condition might, with care, be maintained for years. He was convinced that many of the symptoms accompanying hypertension were due to cardiac failure and consequent dilatation, and he found that if this dilatation was treated and cured dangerous and painful symptoms were relieved. He had treated a number of cases of hypertension due to chronic nephritis with Nauheim baths, and had obtained very satisfactory results, but it was necessary in this class of case to maintain the baths at a temperature higher than usual, ranging from 93° to 95° F., and to give the still baths and not the carbonated. The fact that many medical men were under the erroneous impression that a Nauheim bath was necessarily a carbonated bath, and therefore started a course with CO_2 baths, was responsible for many failures where such methods were tried.

LIVERPOOL MEDICAL INSTITUTION.

Pathological Specimens of Tuberculosis.—The Rôle of Tuberculosis.—Pulmonary Tuberculosis in Children.

A pathological meeting of this society was held on March 26th, Professor R. J. M. Buchanan, Vice-President, being in the chair. The meeting was devoted to tuberculosis, and an extensive exhibition of specimens was shown of tubercle as it affects the human body, as it occurs naturally among animals, and the lesions which are produced experimentally in animals.

Mr. C. Thurstan Holland showed a complete series of radiographs of lesions in all parts of the body.

Dr. Edgar Stevenson, Mr. R. E. Harcourt, and Professor Buchanan exhibited specimens and illustrations of Tuberculosis of the Eye.

Mr. K. W. Monsarrat, Professor E. E. Glynn, Dr. W. Hanna, and Dr. Nathan Raw showed lesions of both man and animal, while Dr. Raw also showed cultures of human, bovine, and avian tubercle bacilli.

Professor H. Briggs exhibited specimens of five cases of Tuberculosis of the Uterus and Uterine Appendages.

The exhibition of local material was enhanced by the loan of a series of specimens of human and animal tuberculosis prepared by Professor S. Delépine by his special arsenious jelly method.

Dr. A. Stanley Griffith (Cambridge) lent specimens demonstrating the experimental lesions produced in the larger animals.

Dr. Eastwood and Dr. F. Griffith lent a complete series of cultures of the various types of bacilli, a series of rabbits' lungs showing the "rabbit test" of virulence, and also specimens of lesions in larger animals, natural and experimental.

Dr. Raw read a note on the Rôle of Tuberculin in Tuberculosis, and confined himself to the pathological effects of tuberculin when injected into the human body. He gave his methods of dosage and his reasons for using opposite strains of tuberculin in his "bovine" and "human" cases. His conclusion after extensive experience was that tuberculin was good in localised tuberculosis, but not if there were secondary infections.—Dr. T. R. Bradshaw thought that tuberculin would never revolutionise tuberculosis.—Dr. G. A. Crace-Calvert found that patients receiving tuberculin showed distinct improvement in many ways—improvements which were not so visible in patients not so treated.—Professor Buchanan thought that the multiplicity of tuberculins on the market led to confusion.—Dr. Raw replied.

Dr. S. W. McLellan read a paper on the Incidence of Pulmonary Tuberculosis in children. He pointed out the danger of error arising in statistics from the personal factor of the collector, and how this might be controlled. The methods of investigation were considered, and also the fallacies of the various specific tests. The question of glandular and pulmonary disease was gone into, and how the former predominated. He considered that pulmonary tuberculosis in children was by no means so common as was generally supposed, and suggested various means whereby the diagnosis might be checked. He analysed 162 cases which had been personally investigated at the Liverpool Chest Hospital, all of which had been previously diagnosed as phthisis, and traced their after-history, pointing out that cases of chronic fibroid pneumonia, or bronchiectasis, frequently gave all the so-called classical signs of phthisis, but that the process of these diseases was very chronic and no tubercle bacilli were ever found in the sputum.—Dr. C. Rundle discussed the paper, saying that in his opinion anatomical diagnosis was better than clinical.—Dr. J. R. Logan had used Moro's test with success. In his opinion tuberculosis was common in children and the majority recovered.—Dr. C. J. Macalister, Dr. N. P. Marsh, Dr. H. Armstrong, Dr. W. B. Warrington, and Professor Buchanan agreed that pulmonary tuberculosis was rare in children.—Dr. McLellan replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Obstetrics.

Exhibition of Specimens and Reports of Cases.—Malaria as a Complication of the Puerperium.—The Use of Pituitary Extract in Labour.

A meeting of this section was held on March 6th, Dr. M. J. Gibson, the President, being in the chair.

Dr. Alfred J. Smith showed a specimen of Fibromyoma presenting unusual features. The patient consulted him for painful tumour in the lower abdomen. On opening the abdomen difficulty was experienced owing to adhesions between the tumour and the abdominal walls, and it was necessary to open higher up. It was then found that there was a coil of small intestine attached to the top of the tumour. Peculiar peritoneal folds were found hanging from the tumour simulating intestine.

The President reported a case of Combined Intra- and Extra-Uterine Pregnancy. The patient, aged 36, married 14 years, had had seven children and two abortions. The youngest child was now three years old. She aborted at the fourth month in September, 1912, and again at the sixth month in August, 1913. On Nov. 26th she stated that she had not menstruated since Sept. 17th. Pain, not severe, in her right side low in the abdomen and extending to her back had begun about ten days previously. No bleeding. Examination revealed an enlarged, softened uterus, acutely anteflexed. To the right of it was a very tender, mobile, non-pulsatile tumour of the size of a small hen's egg. The patient came into hospital three days afterwards. She had had very severe pain in the interval. Periodical attacks of acute pelvic pain continued. A tubal pregnancy complicating an intra-uterine pregnancy was diagnosed. On opening the abdomen free blood was found in the pelvis with clotted blood in Douglas's pouch, an enlarged tube, and a pregnant uterus. The tube was removed, and the patient made an uninterrupted recovery for two weeks, when she expelled the other ovum. She left the hospital ten days later. Whether the tubal pregnancy was due to the second ovum becoming impregnated after the first, and consequently finding its passage to the uterus impeded by the decidual reaction in the tube, was an interesting question.

The President also reported a case of Early Tubal Pregnancy and one of Unruptured Interstitial Tubal Pregnancy.—Dr. E. Hastings Tweedy wished to know what was done with the tube in the case of interstitial pregnancy. He presumed the tube was broken in order to clear out the ovum.—The President, in replying, said that as regarded the unruptured interstitial pregnancy he did not interfere with the tube at all; the incision was made low down, and the ovum turned out of its capsule. He did not believe that he closed the interstitial portion of the tube when suturing the capsule. With regard to the combined intra- and extra-uterine pregnancy, there was no doubt whatever about the tubal pregnancy, as the microscopical examination proved the presence of a recent ovum.

Dr. Bethel A. Solomons read a note on Malaria as a Complication of the Puerperium, in which he commented on the scarcity of cases to be found in the literature. The chief case which had come under his notice was that of an Indian official's wife with a history of an attack of malaria two years previously. The confinement was complicated, and there was an extensive laceration of the perineum and vagina. The diagnosis between sepsis and malaria was extremely difficult. The absence of growth after lochia and blood had been cultured, and the presence of the plasmodium malariæ in the blood clinched the diagnosis. The patient recovered after a stormy puerperium.—Dr. Tweedy said he had seen two or three cases of malaria in his practice, and he also saw one of Dr. Solomons' cases, in which he suggested malaria as a possible cause of the temperature. He emphasised the importance of taking uterine cultures early. With a temperature like that in the case cited by Dr. Solomons, if the culture was negative no time should be wasted in getting a specimen of the blood, and he advised that a good quantity of blood should be taken. He was convinced that the case was not one of pure malaria, but that some septic infection was associated with it.—Dr. Solomons, in reply, said that with reference to Dr. Tweedy's suggestion that the malaria was not the only cause of the temperature, he considered that the vaginal condition possibly aided in keeping up the temperature for a longer period than in an ordinary case of malaria.—Replying further to questions by Dr. STEVENSON, Dr. V. J. MCALLISTER, and the PRESIDENT, he said that Dr. R. J. Rowlette had examined the blood, but the variety of parasite was not stated. It would be interesting to know if the baby, which was a particularly fine specimen with no abnormality, was immune. The mother had been healthy during the whole pregnancy.

Dr. D. G. MADILL and Dr. R. M. ALLAN communicated a paper on the Use of Pituitary Extract in Labour, in which they reported the results of 147 cases. Referring to its effect on the uterus, they found that the contractions resulting from the drug retained their physiological character, and they regarded this as the fundamental principle governing its use in labour cases. They had never observed a tonic contraction. The interval between pains was diminished by about one half, and the effect of the drug lasted 50 minutes. There was an earlier detachment of the placenta. Regarding the effect on the fœtus, they often noticed an effect on the fœtal heart following the injection, but the child was born healthy. They reported four cases of fœtal death which might be due to the injection of the drug. It was tried unaided in one case to induce premature labour, and in two cases in conjunction with Champetier de Ribes' bag, all being successful. They considered the second stage, with the head well through the brim, as the best time for its administration, and in most of their cases the drug was given at this time. They had good results with it in post-partum hæmorrhage in combination with ergot. Its use was contraindicated in heart lesions, but probably not in nephritis. It was a valuable adjunct in cases of placenta prævia where version had been performed. They had six instances of post-partum atony of the uterus of a slight degree.—Professor A. C. SMITH said his only experience of pituitrin was in gynæcology. He was at present using it in cases of infantile uterus and the menorrhagia of young girls. Young rats who were fed on pituitrin extract grew to great size, and their genital organs were hypertrophied, and it was for this reason that he was using it. He also mentioned its utility in connexion with intestinal stasis after laparotomy. Pituitary extract had an action on the mammary gland.—Mr. SPENCER SHEILL had given the drug intramuscularly in about 27 cases; it took eight and a half minutes to act. Was the difference between the three and a half minutes experienced by the writers of the paper and his eight and a half minutes accounted for by the difference in the site of injection? He considered the drug less effective after scopolamine morphina.—Dr. TWEEDY recommended the use of pituitrin where curetting failed to stop hæmorrhage, and suggested using it before resorting to larger operations. He disapproved of its employment in contracted pelvis, and mentioned a case of rupture of the uterus, following quickly upon the administration of pituitary extract, brought under his notice by a doctor in America. He had found half of the contents of the 1 c.c. phials sometimes produced extremely good labour contractions. He always injected half and gave the remainder if it was not effective. He did not consider that cases delivered by forceps in the Rotunda Hospital could be compared with the cases where pituitary extract was given.—Dr. SOLOMONS said that most authorities agreed that whilst the drug was useful in cases of active abortion it was useless as an abortifacient. He was surprised that there were no lacerated cervices or ruptured uteri in any of the cases, as De Lee, in the "Year Book of Obstetrics," commented on these results of the drug. Where contracted pelvis was suspected pelvimetry should be done before administering pituitrin. He had given pituitary extract with excellent effect in cases of amenorrhœa with chlorosis.—Dr. MCALLISTER said undoubtedly these preparations increased the uterine contractions, but he did not consider that the contractions preserved their physiological character, the interval between the pains becoming too short. He considered the drug at its best where there was slight obstruction. The general opinion was that it was most useful and safest for the child during the expulsion stage. He was not sure that the results from pituitrin in the third stage were as satisfactory as those from ergotin. He had found the injection of pituitrin into the uterus preceding Cæsarean section very useful. Pituitrin markedly increased excretion of urine. In cases of retention of urine after operation his experience in the Coombe Hospital showed that it was useless.—Dr. HENRY JELLETT thanked Dr. Madill and Dr. Allan for the amount of work they had performed and for the valuable results brought forward. It had been found that the use of pituitary extract in 140 cases had not been followed by any bad results. As to its increasing fœtal mortality the results brought forward were strikingly directed to prove the contrary. In a large number of cases in which forceps were applied the necessity arose out of a delay in the second stage; if pituitary extract avoided this morbidity should be lower. In ante-partum hæmorrhage he emphasised the fact that delay after the hæmorrhage was checked was beneficial to the patient though not to the child. It was unwise to hasten delivery until the woman had recovered somewhat, then pituitary extract might be of value.—The PRESIDENT said he had seen two cases in which the administration of pituitary extract during the first stage had been followed by extensive laceration of the lower uterine segment. In a case of placenta prævia it was impossible to turn the child owing to the effect of the extract. He considered the extract contra-indicated in the first stage unless contractions were feeble, the stage prolonged, and the cervix neither diseased nor friable. In the second stage with uterine inertia it was excellent; after the third stage it should be combined with intramuscular injection of ergot. He had seen much trouble result from the injudicious use of the extract. It should be used not freely but with great care, and not at all in obstruction. —Dr. ALLAN, in replying to questions, said no change was noticed in the mammary gland. In the first cases the drug was given intramuscularly, but latterly subcutaneously. When given by the former method the pains came on quicker, but by the latter the pains were more gradual and at longer intervals. They had no experience of it with scopolamine morphine. The drug was never given in post-partum hæmorrhage alone, it was always combined with ergot; neither had it been administered in cases of eclampsia. In five cases the drug had failed to be of any use. In the year previous to the use of the drug there were 106 forceps cases at the Rotunda Hospital, and during the past year when it was given there were only 56 cases. No opportunity was afforded of trying the drug in a case of accidental hæmorrhage. Syringes were sterilised by boiling, and afterwards kept in sterilised water. There was no experience in any of the cases of cervical tears. It was agreed that the best results were obtained in the expulsion period. It was not considered that the drug had any advantage over ergot in cases of Cæsarean section, and the latter was always given. The drug should be used with caution, and the fœtal heart should be carefully watched.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 20th, Mr. A. Ernest Maylard, the President, being in the chair.—Dr. Alexander MacLennan read a paper on the Simplified Operation for the Cure of Hernia in Infants. He said that while the radical cure of hernia in the adult possessed a serious morbidity and some mortality, the operation in infants practically possessed neither. In the majority of text-books herniotomy in infants was advised only in cases of irreducible or strangulated hernia, or in cases where truss treatment, properly and continuously applied, had failed to retain the hernia. But truss treatment had many disadvantages, and there was no case known where an actual obliteration of the sac had followed the wearing of a truss, while in many cases in spite of apparent cure the hernia had reappeared later. Indeed, it was practically certain that no one in later life developed a hernia who had not had since infancy a sac ready formed. That the early operation was absolutely safe had been proved by the wholesale radical treatment of hernia in infants attending the Royal Hospital for Sick Children out-patient department. The credit for the initiative in doing hernias in out-patients belonged to Dr. J. H. Nicoll, and the operation which he (Dr. MacLennan) performed was so simple that the dangers associated with the radical operation had vanished. The cases selected were infants not over 2 years, in fair general health, with mothers of average intelligence, able and willing to give a little more attention than usual to the child. If phimosis was present the child was circumcised at least one month before the proposed radical operation; though in exceptional circumstances the circumcision and radical cure might be done at the same sitting. Preparatory to operation food was withheld for three hours, but the bowels were not interfered with. Chloroform was the anæsthetic employed. An incision three-quarters of an inch long was made over the internal ring, and the sac when reached and freed was treated as in Macewen's operation. No deep sutures were used. The superficial wound was closed by one or two silkworm sutures, and dressed by a roll of gauze made to cover little more than the wound and retained in position by a piece of adhesive rubber plaster. Elaborate dressings were quite unnecessary, and only annoyed the infant. After a week the child was brought again to the dispensary to have the stitches removed. Done rapidly through a small incision, with the minimum of manipulation, dissection, and stitching, and without violence to the anatomy, this operation entailed little tax on the vitality of the child, and, indeed, caused less distress than a simple circumcision.—Dr. T. P. Grant (for himself and Dr. Matthew J. Stewart of Leeds) read a short note on Myeloid Tumours of Tendon Sheaths, with report of a case. As such tumours occurred with much greater frequency in the hands than elsewhere, it was supposed that slight and frequently *repeated trauma might be of some etiological importance.* The chief diagnostic points were that the tumour was small and slowly growing, painless in the earlier stages, and, unless it attained a considerable size, interfered but little with the movement of the tendon. It was freely movable on the bone, and the skin was moved equally freely over it. In the great majority of cases these tumours were of very low malignancy, and the method of treatment in the first instance should be by local removal only. The case reported was that of a female, aged 54, who had a tumour about the size and shape of a haricot bean on the radial aspect of the second phalanx of the left ring finger. Eight months before this appeared she had received a stab from a knitting needle exactly at that spot. The tumour was excised, and on microscopic examination was found to be largely fibro-sarcomatous in structure, containing, scattered throughout it, giant cells which stamped the growth as myeloid. It showed evidence of degenerative change apparently of a fatty nature.—Dr. Archibald Young described a case of Fracture of the Carpal Scaphoid and showed the patient and X ray photographs. The case was remarkable in that the bone was divided by a vertical break into a right and a left half, and one of these was again divided horizontally into a dorsal and a palmar fragment. The injury which caused the fracture had apparently been so trifling as to have escaped the patient's notice at the time. Dr. Young, with Dr. J. Shaw Dunn, also showed a large Sacro-coccygeal Teratoma removed from an infant, aged 11 months, with relative photographs, radiograms, and microscopic sections. These latter showed tissues derived from all three primitive layers —epiblast, mesoblast, and hypoblast.

North of England Obstetrical and Gynæcological Society.—A meeting of this society was held in Sheffield on March 20th, Dr. J. H. Willett (Liverpool), the President, being in the chair.—Dr. D. Dougal (Manchester) described a specimen of Allantoido-angiopagous Twins. One twin was a typical anencephalic monster, the other belonged to the rarer group of amorphous fœtuses. Both twins communicated with one another through the umbilical vessels near the edge of the common placenta.—Dr. H. Clifford (Manchester) showed a specimen and gave details of a case of Ectopic Pregnancy occurring in the stump three months after ovariotomy. In the meantime the other ovary, which at the first operation was apparently healthy, had become cystic, the combined swellings giving rather the impression of an ordinary pregnancy on examination without an anæsthetic.—Mr. Miles H. Phillips (Sheffield) reported a case of Double Ovarian Tumour, in which acute abdominal pain during the third week after an ovariotomy was due to torsion of the pedicle of a second ovarian cyst. The patient was 68 years old and very feeble. At the first operation a huge ovarian cyst, containing 30 pints of fluid, which had extended deeply into the left broad ligament, was removed with the uterus. The second cyst, measuring 5 by 4 by 4 inches, was not seen, apparently on account of its long pedicle, of over 5 inches, and the Trendelenburg position. The second operation was easy, and the patient made a good recovery.—Dr. Arnold W. W. Lea (Manchester) related a case of a patient with a large Ovarian Cystoma causing severe symptoms.—Mr. D. Gray Newton (Sheffield) showed a case of Ovarian Tumour accompanied by ascites and pleural effusion, clinically pointing to malignancy but pathologically proving a cysto-adenoma.—Dr. R. Favell (Sheffield) exhibited a large Fibromyoma of the Uterus undergoing sarcomatous transformation in parts. The patient was aged 47 years, and had noticed the swelling increase in size rapidly for 12 months.—Dr. W. E. Fothergill (Manchester) in Prolapse with Hypertrophy of the Cervix had adopted a further modification in the technique of anterior colporrhaphy combined with amputation of the cervix. Instead of removing a portion of the anterior vaginal wall as one piece and the cervix as a separate piece he now removed a triangular portion of the anterior vaginal wall together with the cervix in one piece. This method gave very neat immediate and very satisfactory remote results.—Mr. W. W. King (Sheffield) showed three specimens of Blighted Ova of a few weeks gestation which had been passed by three different patients shortly after the delivery of full-time children. He regarded them as examples of superfœtation, but he especially emphasised their medico-legal importance.

Ulster Medical Society.—A meeting of this society was held in the Anatomical Laboratory of the Queen's University of Belfast on March 26th, Mr. A. B. Mitchell, the President, being in the chair.—Professor J. Symington showed and explained the following exhibits: (1) A model of the Abdomen and Pelvis made by Miss Rea from a series of horizontal sections; (2) a series of specimens of Tubal Pregnancy; (3) a case of V-shaped Palate, with irregularity in the position of the incisors, cleft palate, defective nasal septum, and hypertrophied inferior and middle turbinals; (4) specimens to illustrate Differences between the Sternal and Axillary Borders of the Mammary Gland; (5) Cowper's Glands exposed *in situ;* (6) Accessory Sphincters of the Bladder; (7) series of sections of the Vagina.—Mr. P. T. Crymble exhibited: (1) Reconstruction of the Intestine and Urinary Bladder of a man aged 50 years; (2) reconstruction of the Stomach and Intestine of a girl, aged 20 years, showing visceroptosis; (3) horizontal sections of an Abdomen distended with Gas; (4) an Abdomen in which the jejuno-ileum, cæcum, and ascending colon possess a common mesentery; (5) Dilatation of the Colon, associated with a kink at the splenic flexure; (6) a Posterior Dissection of the Abdomen which exposes the anterior relations of the kidneys.—Dr. H. P. Malcolm showed: (1) Section through a Dislocated Shoulder; (2) Bilateral Fusion of the Inferior Turbinal with the Floor of the Nose; (3) specimen of Bilateral Accessory Renal Arteries.—Dr. R. J. McConnell exhibited: (1) Specimens illustrating the Anatomy of the Gall-bladder; (2) Dislocation of the Ulnar Nerve; (3) specimen of Retracted Nipple.—Dr. J. E. MacIlwaine showed a beautiful specimen of Auriculo-ventricular Bundle in a Bullock's Heart, demonstrated by injection of Indian ink, and he communicated a short paper showing a method of demonstrating the auriculo-ventricular bundle.—Mr. Crymble read a paper on Anatomical Factors in Abdominal Percussion.—Dr. Malcolm read a communication on the Topographical Anatomy of the Spleen.—Dr. McConnell read a short paper on the Anatomy of the Gall-bladder and Bile-ducts, and he also showed lantern slides of an Intussuscepted Appendix.

Birmingham and Midland Hospital for Women.—In their annual report the board of management state that the number of new out-patients last year was 4633, an increase of 160, and the total number of cases treated, new and old, was 21,502. In-patients numbered 1272, an increase of 167, and of the total number 152 were paying patients. The committee acknowledge with pleasure the success of the Gertrude Myers Home at Cleeve Prior. During the year over 100 patients had been admitted, the average stay being three weeks. No cost of management had fallen upon the hospital funds, its upkeep being provided entirely by patients and subscribers. The statement of accounts showed an adverse balance of £2525. At the Maternity Hospital 532 patients were admitted as compared with 537 the previous year. The need for accommodation for pupil midwives had arisen, and premises in Corporation-street had been taken and fitted up for 25 pupils at a cost of £1175.

Reviews and Notices of Books.

The Sensory and Motor Disorders of the Heart: their Nature and Treatment.

By ALEXANDER MORISON, M.D. Edin., F.R.C.P. Edin. Senior Physician to the Great Northern Hospital; Physician in Charge of Heart Cases to the Mount Vernon Hospital for Consumption and Diseases of the Chest. London: Baillière, Tindall, and Cox. 1914. Pp. 261. Price 7*s.* 6*d.*

THE title of the work now before us sufficiently indicates its contents, and Dr. Morison has succeeded is setting forth some interesting facts and suggestions as to the nature and treatment of sensory and motor disorders of the heart.

The more modern investigations in regard to diseases of heart have been largely based upon mechanical methods of examination, and much useful knowledge has thus been gained; also ideas on the nature of cardiac sensibility and motion have had to undergo considerable change, owing to the result of the researches which have been carried out on the anatomy and physiology of the heart. Dr. Morison states that the clinical methods he has chiefly employed are those of inspection, palpation, percussion, auscultation, and pathological investigation, but the graphic method has also been used to illustrate some points. He does not emphasise the value of the tracings obtained by the electrocardiograph. Dr. Morison considers at length the nervous mechanism of the heart and the share which it takes in relation to the sensibility and movement of the heart. In the chapter on the nerve control of cardiac action he gives an instructive account of the researches which have been made by various observers. He points out that there is no doubt that the heart contains within itself the mechanism and incentives to sinu-auriculo-ventricular action, and also remarks that it seems reasonable to believe that stimulus production in cardiac muscle may be provoked or checked by the nervous system, that the conduction of muscular movement from one part to another may also be influenced by it, and that the tone of muscle may certainly be augmented or depressed by the action of the nerves supplying the muscle.

The portion of the book devoted to the sensory disorders of the heart will be found to afford interesting reading. Dr. Morison's lectures on cardiac pain, which have already appeared in our columns, form the basis of his teaching. The observations on the clinical history of cardiac pain have evidently been carefully thought out, and are founded on practical considerations. The classifying the conditions which may bring about cardiac pain is by no means easy. The terms "false" and "true" convey little meaning, and the degrees of severity or fatality denoted by such words as "gravior" and "mitior" are not much more enlightening. But we do not think that the use of the terms "vaso-motor," "arterial," or "coronary" can be dismissed so easily. He suggests a classification which endeavours to give a local habitation and a name to phenomena which cannot yet be explained with scientific precision. Although this may be a step in the right direction, yet the plan which he has evolved is too elaborate, and it will be necessary to render it less cumbersome before it will be generally adopted. The diagnosis of cardiac pain is expressed in terms which are rather involved, and careful reading is required before the author's meaning can be perceived, when his reasoning is found to be sound.

In discussing the disorders of cardiac motion an elaborate classification is also adopted, scientifically correct perhaps, but too complicated for practical purposes.

The chapters on treatment are generally in accordance with modern views, and Dr. Morison ventures to hope that some mechanical impediments to the action of the heart which are beyond the power of the physician to deal with may, by the combined efforts of the physician and surgeon, be more successfully treated now and in the future than has hitherto been possible.

This book is an interesting study of cardiac disease, expressing not only the present state of knowledge on the subject, but also original views which are well worthy of consideration.

Psychanalysis, its Theories and Practical Application.

By A. A. BRILL, Ph.B., M.D., Chief of the Neurological Department of the Bronx Hospital, New York, &c. London and Philadelphia: W. B. Saunders Company. 1913. Pp. 337.

Dr. Brill's name is known to English psychiatrists as the translator of several of the more important works of Professor Sigmund Freud, of Vienna. He has now written a book the main object of which is to present the practical application of Freud's theories in one volume, in the hope thereby to remove certain erroneous conceptions about psychanalysis, and at the same time to stimulate interest in Freud's own contributions to the subject.

The book is written from a frankly Freudian standpoint, as is natural in one who has been instrumental in popularising Freud's doctrines, and it is more explanatory and expository than critical. Much of the material of the book is purely illustrative, and much is merely reminiscent of the teacher's views. There is throughout a tacit assumption that the reader is in sympathy with the author's interpretation of the phenomena of various cases and of his material as a whole, for little serious attempt has been made to persuade the critical reader of the correctness of the explanations. For instance, it is stated that the "almost universal" masturbation of infants serves "to prepare the genitals for their future function." Again, it is said there is no accidental forgetting, and that there is always a purpose in forgetting. The typical symptoms of neurasthenia are stated to be "headache, spinal irritation [whatever that may mean], and dyspepsia with flatulence, and constipation." These are always due to "somatic sexual injuries." Once more, "all great actions and accomplishments, heroic or commercial, are generally done for the purpose of pleasing some woman."

It is really impossible to take these and other of the author's generalisations seriously. Yet the book is full of them, so that if Dr. Brill meets with an unsympathetic reader we are afraid he is not likely to convince or even to impress. A book of this sort has a tendency to move in certain circles only. Those who can follow Freud's doctrines in their entirety will approve of the aptness of much of Dr. Brill's illustrations; those who are sceptical are likely to remain so. The book would not have been impoverished if one or two stories, intended to illuminate, had been omitted. As Dr. Brill holds that "mistakes in printing" are due to direct or indirect association with something repressed, and illustrates the point by an allusion to the "wicked Bible" of 1631, it may be pointed out that there is a mistake in printing in the very passage in which he makes this reference.

Die Morphologie der Missbildungen des Menschen und der Tiere.

Herausgegeben von Dr. ERNST SCHWALBE, O.Ö. Professor der Patholog. Anatomie, Rostock. III. Theil, XI. Lieferung. 1. Abteilung, 5 und 6 Kapitel. *Die Missbildungen des Kopfes.* Mit 65 Abbildungen im Text. Jena: Gustav Fischer. 1913. Pp. 205-270. Price 5 marks.

UNDER the title of Malformations of the Head, dealt with in this part of what is now an extensive handbook, the following three groups of malformations are differentiated by E. Schwalbe and H. Josephy. All three groups are morphologically characterised as bilateral symmetrical malformations in which the median placed parts of the head either are wanting or at least are very imperfectly developed. I. Cyclopean and arrhinencephalous forms, in which the malformation affects the anterior parts of the brain, eyes, and nose. II. Otocephalous forms, in which the ear and mouth are malformed. The combination of the forms I. and II. is by no means rare. III. Triocephalous forms, a small group which has certain relations to II. The most striking visible character of the cyclops is that it has, or appears to have, only a single centrally placed eye, but its duplex constituent is usually readily distinguishable. It occurs at the root of the nose.

To Group I. about 40 pages are given. First, cyclopean characters in man and animals are described, then the morphological characters of the brain and eye are described, and illustrations given of cylopean forms in man, the goat, and pig. The "proboscis," the homologue of the nose—a double organ—is described and well illustrated. The absence of the rhinencephalus—a phenomenon described by Kendrat as arrhencephalic—is described, and the close relationship between this and the cyclopean form pointed out and illustrated. The causes of these two conditions are discussed as they occur in fishes, birds, and other animals. Otocephalic and tricocephalic forms are dealt with by H. Josephy in about 20 pages.

The part before us gives a compact descriptive account of the subjects with which it deals. The number, excellence, and variety of the illustrations will prove most useful even to those who do not wish to dip deeply into the descriptive text, which, however, is singularly clear and expressive.

Map Scheme of the Sensory Distribution of the Fifth Nerve (Trigeminus) with its Ganglia and Connections.

By L. HEMINGTON PEGLER, M.D. Edin., M.R.C.S. Eng., Senior Surgeon, Metropolitan Ear, Nose, and Throat Hospital, &c. Printed in 15 colours, and mounted on rollers for hanging up (size 4 × 5 feet), or folded in cloth cover (size 8⅓ × 11 inches). London: Baillière, Tindall, and Cox. Price 21*s.* net.

Dr. Pegler's map of the sensory distribution of the fifth, or trigeminal, nerve is very well done. There are no fewer than 315 named nerves and branches in the map, which is intended to aid the student in his work, both reading and dissection, on the complex trigeminal, and also to assist the clinician to understand the numerous referred pains or other symptoms which arise as a sequel to disease in such organs as, say, the nose, ears, eyes, or teeth. An immense amount of labour has been devoted to ensuring accuracy in the map, and professed anatomists and others have contributed to Dr. Pegler's scheme, so that it may be said to have the imprimatur of anatomist as well as of surgeon. There is a useful inset to the map containing a representation of the central connexions of the fifth nerve. Accompanying it is a booklet containing a series of analytical tables indispensable to the useful study of the map.

The map should at once take its place as a valuable addition to the teaching material of anatomical schools and medical and surgical clinics; its large size and its clear and distinctive printing enhance its usefulness.

Butterworth's Workmen's Compensation Cases.

Vol. VI. (New Series.) Edited by His Honour Judge RUEGG, K.C., and DOUGLAS KNOCKER, Esq. London: Butterworth and Co. 1913. Pp. 1193. Price 7*s.* 6*d.* net.

THIS annual issue gives full reports of the decision upon appeal of points of law arising under the Workmen's Compensation Act, and contains much that might upon occasions be found useful by medical men called upon to give evidence in arbitrations as to workmen's compensation, as well as by medical referees and others. It must be remembered, however, that it contains decisions of questions of law only, and that from reading reports of cases appealed upon medical men can only acquire a general knowledge of the points which are material to the establishment of a claim. Their evidence goes to prove the facts. The county court judge sitting as arbitrator comes to a decision as to the facts and applies the law, after which the Court of Appeal may be asked to decide whether he has rightly directed himself as to the law, and (as a general rule) whether there was evidence to support the award. Many of the cases under the Workmen's Compensation Act recorded in the present volume have already been referred to in THE LANCET, but of those of medical interest not thus commented upon may be noted Simpson *v.* Byrne, an Irish case, in which an arbitrator was held to be justified in terminating an award where a workgirl suffered from the wasting of the muscles of her arm, alleged to be due to an accident, but where medical evidence showed that her refusal to use her arm was the real cause of its condition. Another appeal heard in the Court of Session, Scotland (O'Neill *v.* John Brown & Co., Limited), arose out of the refusal of a workman in receipt of compensation to submit to the removal of the painful stumps of two toes. Two medical men advised that it would be useless for him to do so, and three recommended the operation, which the sheriff substitute found to be reasonably certain to effect its object, holding as the result of this that the workman's incapacity was due to his refusal and not to the accident. The court here again held that there was evidence to support the finding.

It must not be supposed that the rather alarming bulk of the volume under review (over 1000 pages) is due entirely to the elucidation of the law of workmen's compensation by courts of appeal. In it are now included cases under the National Insurance Act and others relating to general insurance other than marine. Under the former heading will be found recorded the learned judgments delivered by the Court of Appeal in Heard *v.* Pickthorne, the case in which an Approved Society refused to accept from its members, for the purpose of sickness benefit, the certificates of medical men not upon the panel.

Die Chronischen Erkrankungen der Hinteren Harnröhre.

Von Dr. ERICH WOSSIDLO, Berlin. Mit 82 meist farbigen Abbildungen auf 19 Tafeln. Leipzig: Dr. Werner Klinkhardt. 1913. Pp. 155. Price, paper, 10 marks; bound, 11 marks.

THIS is a careful study of the affections of the posterior urethra. It is now fully recognised that the posterior urethra is sufficiently different from the anterior portion of the tube to justify a separate consideration as regards diagnosis, prognosis, and treatment.

In this work the author has described the anatomy of the part, the modes of investigation of the urine and other secretions concerned in the examination of this part of the urethra, the use of the endoscope and of other instruments. Then follow chapters on urethritis posterior in its various forms and of other diseases of the posterior urethra; then comes an account of the methods of operative manipulation; and, lastly, there are chapters on prostatitis and prostatic hypertrophy. The book is evidently the product of one well acquainted practically with the treatment of the diseases of the posterior urethra, and he has produced a work which should prove useful to those who wish to practise genito-urinary surgery. Not the least valuable part of the book is the series of coloured illustrations of the pathological and normal conditions described.

Controlled Natural Selection and Value Marking.

By J. C. MOTTRAM, M.B. Lond. London, New York Bombay, and Calcutta: Longmans, Green, and Co. 1914. *Pp.* vii.–130. Price 3*s.* 6*d.* net.

IN this volume Dr. Mottram propounds, but does not attempt to prove, a corollary to the theory of natural selection. He starts from the fact that when individuals are united into societies, those societies which are organised and differentiated in such a way as to have the advantage over competing societies will be likely to survive, and thus their advantageous methods of organisation or differentiation will be perpetuated. He then argues that individuals of different classes within each society have different values, and thus that any arrangement which ensures that the less valuable are killed rather than the more valuable will be of advantage to the society. It is under circumstances such as these that natural selection will be "controlled." The author claims that on his theory the origin of secondary sexual characters can be explained more easily than on the theory of sexual selection, which he regards as a weak spot in the Darwinian hypothesis. It cannot be said, however, that his explanation is of a very satisfactory kind. It may be stated briefly as follows. The female is more valuable than the male, because one male can fertilise many females; therefore the advantage that secondary sexual characters bring is that the male is sacrificed on behalf of the female. "Males and females are associated together during life, and especially during the breeding season, when the difference in colour is greatest and when their difference in value is highest. Therefore, according to the theory, the conspicuous colour of the male serves to control natural selection in such a way that the less valuable male will be killed in preference to the more valuable female." This sounds apparently reasonable enough, but the author regards the courtship display, or, as he prefers to call it, the "precopulatory display," of the male as evidence in favour of the correctness of his view. It is here that his explanation becomes very difficult to follow. Although we can conceive that it might be advantageous that the male rather than the female should be killed during copulation, it is hardly conceivable that an elaborate device for destroying the male just before copulation should, if effective, lead to anything but the extermination of the species.

Altogether it may be said that Dr. Mottram's reasoning about natural selection is unconvincing, because he starts from premises to many of which we cannot assent. For example, he asserts that a species completely fills and perfectly fits its environment; that "it is impossible to conceive of two species occupying the same environment, because we cannot conceive of two species, which being different in structure are yet similar in function," and that the colour of an animal if not protective must be purposely conspicuous, as it cannot be indifferent.

Die Wassermannsche Reaktion, mit besonderer Berücksichtigung ihrer klinischen Verwertbarkeit. (*The Wassermann Reaction, with Special Reference to its Clinical Value.*)

By Dr. HARALD BOAS, Privat-docent at the University of Copenhagen, &c. With a Preface by Professor WASSERMANN. Second enlarged and improved edition. Berlin: S. Karger. 1914. Pp. 242. Price, paper, 7.60 marks; bound, 8.80 marks.

THE Wassermann reaction has now become so firmly established as a method of clinical diagnosis that a separate monograph may fairly be devoted to a consideration of its technique and of the comparative value of the modifications introduced by subsequent experimenters. Dr. Harald Boas's work will therefore meet with a warm welcome from both clinicians and laboratory workers.

The first chapter is devoted to a historical retrospect of the discovery of the test, first set forth in a brief article by Wassermann, Neisser, and Bruck in 1906, and of the early criticisms and trials to which it was subjected before obtaining general acceptance. In the second chapter the technique is put out in detail, the preparation of the antigen, amboceptor, complement, and so forth being explained, as well as the method of performing the test and the necessary controls. Various modifications are also discussed, but Dr. Boas adheres very closely to the original procedure so far as his own recommendations go, though he prefers an alcoholic extract of human heart to the original extract of syphilitic organs in salt solution. The different precipitation reactions which have been used as substitutes for the Wassermann test are also discussed in detail. The third chapter deals with experiments which have been made to ascertain the presence or absence of the reaction in diseases other than syphilis, from which it appears that the test may be positive in a certain percentage of cases of scarlet fever, but that this is a transitory phenomenon and of little practical importance. The reaction may also be positive in febrile malaria, in nodular leprosy, in framboesia, and in patients who have recently had an anæsthetic. Such exceptions to the rule that a positive Wassermann reaction indicates syphilitic infection are of little weight. In syphilis itself the reaction may not appear until just before the roseolar eruption, so that a negative result in patients suffering from a chancre is of no value in excluding syphilis. In the secondary stage the reaction is constant in the serum if the patient has not been treated for the disease, but the cerebro-spinal fluid does not generally exhibit it apart from involvement of the nervous system. In tertiary syphilis the reaction is constantly present in the serum if the patients have not been treated with specific remedies, and in cases of disease of the central nervous system the cerebro-spinal fluid may give a positive reaction, but does not always do so. In untreated cases of tabes dorsalis the reaction is constantly present in the serum, less constantly in the cerebro-spinal fluid, while in dementia paralytica the serum constantly reacts positively, and the cerebro-spinal fluid also, in over 90 per cent. of cases. On the other hand, the test is of little value for the recognition of congenital infection. The relationship of the phenomenon to specific treatment by mercury and salvarsan is somewhat complicated, for the reaction may disappear as a result of such procedures, or if previously absent or weak may become positive or more marked, the appearance of a positive reaction after a dose of salvarsan being analogous to the exanthem which sometimes follows this procedure. Other points noted are that a positive reaction persisting after treatment threatens a relapse, and that so long as the test remains positive the patient must be regarded as syphilitic. An exhaustive bibliography extends over 80 pages.

The book constitutes an excellent and authoritative account of the important phenomenon with which it deals, and deserves careful study by all who are called on to carry out the procedure in the laboratory or to estimate the clinical importance of its presence or absence as bearing on the vital problems of diagnosis and prognosis.

A Text-book on Gonorrhœa and its Complications.

By Dr. GEORGES LUYS, late Assistant to the Urological Clinic, Hôpital Lariboisière, Paris; Prizeman of the Faculté de Médecine, Paris. Translated and edited by ARTHUR FOERSTER, M.R.C.S. Eng., L.R.C.P. Lond., late Resident Medical Officer, London Lock Hospital. With *200 illustrations and 3 coloured plates. London:* Baillière, Tindall, and Cox. 1913. Pp. 384. Price 15*s.* net.

THE times have changed greatly since all that was known about gonorrhœa was contained in a few pages of the ordinary text-books of surgery. Then this disease was regarded as little more than a local affection of the urethra, occasionally giving rise to a troublesome form of rheumatism or a severe conjunctivitis. Now we look upon the urethritis as probably the least important of the manifestations due to the gonococcus, for we have recognised that this micro-organism is responsible for many much more serious diseases. The fact that a large volume like that before us, containing nearly 400 pages, has been written dealing only with gonorrhœa and its complications is surely adequate proof that this disease is being estimated at its real value. Especially important is the fact that the gonococcus is the cause of many of those conditions in women which cause sterility and chronic invalidism.

It is impossible to overrate the importance of early and thorough treatment of gonorrhœa, and therefore medical men have need for more instruction in this matter than is contained in the ordinary works on surgery. They cannot have a more suitable book than this, which contains a very full and satisfactory account of the disease in its various manifestations. It describes the treatment that should be adopted and mentions the precautions that are necessary. The author is well qualified to speak on this subject, and he has succeeded in writing a book which should prove of great service to those who have to treat this protean disease. The translation has been excellently done, and the additional notes which have been made by the translator are apposite and judicious.

The Practice of Urology; a Surgical Treatise on Genito-urinary Disease, including Syphilis.

By CHARLES H. CHETWOOD, M.D., LL.D., Professor of Genito-urinary Surgery, New York Polyclinic. Illustrated. London: Baillière, Tindall, and Cox. 1913. Pp. 816. Price 21*s.* net.

THE increasing number of works devoted to the surgery of the genito-urinary system is a clear indication of the broadening of the interest taken in this group of diseases. The establishment of genito-urinary clinics has also done much to draw the attention of the student and the practitioner to the subject, though up to the present in this country few of these special clinics exist.

Dr. Chetwood has succeeded in putting before the medical public in the present work a very readable treatise on this important branch of surgery, though the title does not accurately describe the contents of the volume; for, in the first place, it contains several subjects which are not correctly included under the name of urology, though doubtlessly they are always treated by "urogenital surgeons"; and in the second place, no reference is made to the diseases of the urinary apparatus of the female, though so far as the title goes these should be included. However, this is more a question of name than of anything else, and in many cases urological surgical practice is confined to the male sex.

The book is well written, the descriptions are clear, and much attention is paid to the anatomy of the parts dealt with. The illustrations are numerous, there are more than 300 of them, and in addition a number of excellent coloured plates. The figures are good, and many of them are original; we may mention that Fig. 248 appears to be inverted. The book should have a wide popularity, for it contains all that a student will need, and yet it is not burdened by superfluous verbiage.

The Psychoneuroses and their Treatment by Psychotherapy.

By Professor J. DEJERINE, Professor of the Clinic for Nervous Diseases of the Faculty of Medicine of the University of Paris; and Dr. E. GAUCKLER, formerly Interne of the Hospitals of Paris. Authorised translation by SMITH ELY JELLIFFE, M.D., Ph.D., Adjunct Professor of Diseases of the Mind and Nervous System, Post-graduate School and Hospital, New York. London and Philadelphia: J. B. Lippincott Company. 1913. Pp. 395. Price 18*s.* net.

THOSE who are unfamiliar with the original of the book under review may readily appreciate the general position of its authors as regards psychotherapy by some words used by the translator in his introduction. The fundamental postulate of Dubois's well-known work on the psychoneuroses is an appeal to the intelligence of the individual. It is conceded; nevertheless, even by his most ardent supporters, that he has not laid sufficient emphasis upon the instinctive, or, more widely speaking, the emotional side of the human machine in its psychical situations. In this book of Professor Dejerine and Dr. Gauckler is found just that emphasis lacking in the work of Dubois. The translator is amply justified in saying that their book provides us, in the best manner at present available, with that side of the human being not a little neglected by other authors. Professor Dejerine considers that psychotherapy depends wholly and exclusively upon the beneficial influence of one person on another. If he is to effect any result, the physician must be to his neurotic patient *un peu un ami.* In these words is the kernel of the authors' teaching.

No one who reads the book can fail to recognise how many neuropathic and psychopathic patients can be treated and cured without these more elaborate and detailed psycho-analyses of which so much is heard nowadays. Reasoning by itself is insufficient, but let the appeal be tinged with an emotional or personal element and its momentum at once is augmented and its curative value enhanced. The book consists of three parts—the first, which is analytical, is devoted to the study of functional manifestations; the second is concerned with a synthetic study of the mechanism of the psychoneuroses; the third part is therapeutic.

The practitioner may well be confused, if not overwhelmed, at the thought of the present-day output of psychotherapeutic literature, but if he is in doubt what to read and what to ignore let him not hesitate over the work of Professor Dejerine and Dr. Gauckler; we are confident he will at once find himself in sympathy with its point of view and soon prove its worth in his clinical experience.

Lehrbuch der Orthopaedie.

By Dr. VON ABERLE, Vienna; Dr. BADE, Hanover; Dr. VON BAEYER, Munich; Professor BIESALSKI, Berlin; Dr. GAUGELE, Zwickau; Professor LANGE, Munich; Professor LUDLOFF, Breslau; Dr. PREISER, Hamburg; Professor RIEDINGER, Würzburg; Dr. ROSENFELD, Nürnberg; and Professor SPITZY, Vienna. Edited by Professor LANGE. Jena: Gustav Fischer. 1914. Pp. 790, with 586 illustrations. Price 18 marks.

IN his introduction Professor Lange claims that the advances in orthopædics in the eight years that have elapsed since the publication of the last edition of Hoffa's text-book justify the compilation of a new volume. But quite apart from this the present volume justifies itself. Orthopædics, being very largely a matter of mechanics, lends itself to endless variations of method, works dealing with it are almost necessarily personal, and each such personal description must be of value to others. Professor Lange's own section of the book, dealing with the history of orthopædics, the cause of deformities, diagnosis, methods of treatment, the use of bandages, plaster, apparatus, massage, gymnastics and physical methods, &c., is for this reason the most interesting of the several articles, and may be recommended to all those engaged in this specialty.

Some space is devoted to statistics of deformities taken from the census of cripples in Germany organised by Biesalski in 1907, from Rosenfeld's Bavarian statistics, and from the clinics of the various authors. These show that in Germany, as in England, a large proportion of cripples are affected with tuberculous disease of the bones or joints, and that the next important cause of crippling is infantile paralysis. But the third cause comes somewhat as a surprise; it is scoliosis which appears to be far more frequent, at least in its more severe forms, in Germany than in this country.

Malformations, disturbances of growth, and processes of softening of the bones are dealt with by Professor Riedinger in an article full of valuable information, the section on rickets being especially good. Professor Ludloff on inflammatory diseases is less satisfactory; too much is attempted in the space available, and the result would have been better if more attention had been devoted to details of diagnosis and treatment of the tuberculous affections. Dr. Gaugele's account of congenital dislocation of the hip is most admirable and complete, and with one reservation the same may be said of Professor Biesalski's long section on diseases of the nervous system. Spastic paralyses obtain very full recognition, the newer methods of Förster, Stoffel, and Spitzy all receiving description; but of anterior poliomyelitis a much less complete account it given, and the methods of treatment of the paralysis in the early stage, the most important methods of all, are passed over very briefly.

Professor Spitzy writes on deformities of the spine, on the whole a full and up-to-date account. It is unfortunate that the term *habituelle Scoliose* should be used in Germany to mean what we should call static scoliosis, and to include both postural and fixed curves, and that by *statische Scoliose* should be indicated a scoliosis due to tilting of the pelvis. But these are differences of international nomenclature which it is difficult to remedy. Professor Spitzy's illustrations of Abbott's method of treatment scarcely give a real representation of the technique. The remaining articles are by Dr. v. Baeyer, on spondylitis; Dr. Rosenfeld, on deformities of the upper extremity; Dr. Bade, on deformities of the lower extremity; and the late Dr. Preiser, on deformities of the feet.

Handbuch der Vergleichenden Physiologie.

Bearbeitet von HANS WINTERSTEIN in Rostock. 39. Lieferung. Band III., Physiologie der Atmung. Zweite Hälfte. Seiten 641-756. Band IV.: Physiologie der Reizaufnahme. Seiten 977-997. Schluss, Titel, und Inhaltsverzeichniss. 1913. 40. Lieferung. Band III.: Physiologie des Energiewechsels. Zweite Hälfte. Seiten 787-946. Jena: Gustav Fischer. 1914. Price 5 marks each Lieferung.

IT is at times rather difficult to follow the arrangement on which the several parts of this work are issued. For example, in the part No. 39 before us we have the index and list of contents of Vol. IV., pp. 977-997, while the text itself deals with the Physiology of Respiration, by E. Babák, of Prague. The subject of respiration in fishes is continued and fully dealt with, as well as the respiratory processes in the embryo, including what is called the provisional respiratory mechanisms, and respiration in those fishes which produce their young alive—i.e., viviparous fishes. The special respiratory arrangements and their mechanisms in elasmobranchs, teleosteans, and dipnoi are then treated in detail. In the "literature" over 200 references are quoted.

The remainder of the text, about 50 pages, is devoted to respiration of the amphibians. After a general introduction the methods of investigation are described, then the means for the renewal of the respiratory medium on the respiratory surfaces — gills or skin, as the case may be. Attention is directed to the importance of the movements of the buccal and pharyngeal cavities. The ventilation of the lungs in urodela and anura is fully expounded, but to follow the exposition the reader must have an intimate knowledge of the anatomy of the muscular apparatus of the mechanism itself. The nervous mechanisms and their actions are then considered, and the text finishes with an account of the relation of the brain and spinal cord to the respiratory movements. This part will prove a valuable source of reference for students of the comparative physiology of respiration.

In No. 40 E. Godlewski, of Cracow, continues his review of the physiology of reproduction. Beginning with the question of in-breeding, the author next considers the processes that accompany impregnation and their morphological course. First the morphological changes are set forth in detail and illustrated by a large number of figures, especially from the classical observations on echinoderms and certain sea worms. The observations of Loeb on artificial parthenogenesis are described, as are the methods of producing artificial parthenogenesis employed by Delage, Shearer, and Lloyd.

The hypotheses of these several authors are stated and criticised, and the author comes to the conclusion that so far as the echinoderms are concerned, the theory of Loeb is the only one that unifies the results obtained and appears to be well based on facts. The results observed in worms, molluscs, insects, and vertebrates are then considered. The next subject dealt with is crossing and heterogeneous impregnation. Then follows an account of the action of frog's sperm exposed to radium in the development of the frog's egg. Polyspermia, which was first discovered in the selachians, but which occurs in many other animals, is next considered. It can also be produced artificially, according to O. and R. Hertwig. The consideration of the large and complex subject of heredity is then begun. First the significance of the different characters of living matter is considered. The results of chemical factors on the germ plasma are illustrated by the effects of alcohol in guinea-pigs, as shown by Ch. Stockard and D. M. Craig. Changes of cutaneous pigmentation as an acquired property are described as they occur in salamandra maculata, and this part closes with the author's account of heredity in the vegetable kingdom, which will be continued in a subsequent part.

New Inventions.

AN IMPROVED APPARATUS FOR THE INDUCTION OF ARTIFICIAL PNEUMOTHORAX.

GENERALLY speaking, the apparatus for the induction of pneumothorax is cumbrous, but I have tried to design one which shall be portable and handy.

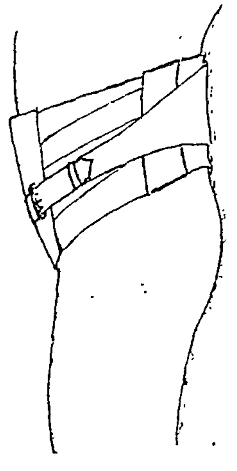
My manometer is a U-shaped glass tube which is held by aluminium clips to the inside of the door of a box. This door is entirely covered with thick felt, which serves to protect the manometer from jars and also makes the box practically air-tight. The felt is red, and the water in the manometer is coloured blue with Fehling's solution. In the back right-hand corner of the box are two pieces of wood cut to receive a graduated glass cylinder containing nitrogen, held in place by two leather straps. At the opposite corner, an inch from the door, is a vertical brass rod, on which slides, like a ring of a retort-stand, the stage for the water-bottle, which is connected with the graduated cylinder by a double syphon. Rising from the back of the stage is an upright holding the bottle by two straps, so that it cannot be upset. When the apparatus is out of use the stage with the bottle is inside the box, in contact with the left side of it, and secured to it by a third strap. The apparatus therefore requires no packing when it is carried about, except that it is well to wrap a mass of crumpled tissue-paper loosely round the gas-filters to prevent them from knocking against each other or the manometer. But the manometer, lying flat on the door of the box, is much less liable to injury than when (as in the form of apparatus commonly used) it is held in wooden supports which keep it about half an inch away from the door. When using the apparatus it is only necessary to unfasten the third strap, then the stage, with the bottle attached to it, can be made to swing round, coming entirely outside the box, so that, when necessary, the bottle can be raised until its bottom is higher than the top of the graduated cylinder. In my apparatus, not intended for hospital work, the graduated cylinder is of 500 c.c. capacity, instead of 1000 as is customary. The water-bottle is of corresponding size, and this makes the apparatus more handy and portable. The needle which I use is Saugman's, with a modification which is, I think, of practical importance. When there is reason to suppose that the lumen of the needle is obstructed with blood the stylet may be used to clean it. But with an ordinary Saugman's needle this involves some risk, because when the tap is opened to admit the stylet communication is made with the external air. In the needle made for me by Messrs. Allen and Hanbury this risk is entirely obviated. As in Potain's aspirator, the stylet passes through an air-tight stuffing-box, but in my modification it is made to screw in with an indiarubber washer.

Messrs. Brady and Martin, of Newcastle-on-Tyne, are prepared to supply apparatus made on my design.

Newcastle-on-Tyne. FREDERIC C. COLEY, M.D. Durh.

A NEW ABDOMINAL BELT FOR MEN.

THE "Isomar" surgical belt is a new abdominal support for men for use in cases where such support is desirable. The front of the belt is made of stout or fine drill, or for those who suffer with heat of cellular material, and is stiffened by three pairs of narrow vertical whalebones. It is designed to follow the direction of the fibres of the rectus abdominis muscle, while the sides, which are formed of several overlapping layers of broad elastic, follow the direction of those of the external oblique. The back is curved slightly into the waist, thus admitting of some spring above and below. Attached to the lower part of the inner surface of the belt in front is a metal plate consisting of two triangular sections with rounded corners, jointed vertically down the middle. The plate is padded with rubber to give it the necessary spring, and the whole is protected with chamois leather. This pad is most useful in cases of enteroptosis, weak abdominal walls after operation, and especially when there is a hernia, since by pressing the internal organs upwards and backwards it relieves the hernia from the downward pressure upon it. It is held firmly in place between the iliac crests and the umbilicus and pubic arch by the cinch formed of the broad but tapering bands extending from the ends of the belt on either side. One of these bands passes through the other and the ends are brought round to the front, reversed through a double cinch in front of the bottom of the pad on each side, and buckled, as shown in the illustration. There are no laces or retaining bands. The broad bandage grips the pelvis firmly and gives a decided feeling of comfort and support. The usual fault of such belts is either that they tend to ride upwards unless strapped down in some way, or that they fail to adapt themselves to the changing posture of the wearer. Having this point in mind we have had this belt practically tested for several days, and we are able to state that it fits comfortably, gives a strong feeling of support, causes no constriction anywhere, adjusts itself easily to the various movements of the body, and does not ride up, but maintains the position in which it was put on.



It is manufactured by Messrs. Morison and Stephens, 26, South Molton-street, London, W.

The Value of Albulactin in Augmenting the Colloid Element in Cow's Milk.

While the action of reversible colloids in preventing irreversible colloids from coagulation has been understood only in recent years, it has long been known that certain substances prevent the casein of milk—an irreversible colloid—from coagulating in large, thick curds when used for infant-feeding.

Recent investigations have shown that the reason why human milk forms soft, highly-comminuted flakes in the infant's stomach is because it contains much reversible or protective colloid in the shape of milk-albumin. Cow's milk contains very little of this substance, hence the large, tough curds it forms in the infant's stomach.

More than this, the problem of artificial infant-feeding is further complicated by the fact that by far the largest proportion of proteid in human milk exists as milk-albumin, while there is relatively little in cow's milk. Dr. Still's analysis proves this strikingly.

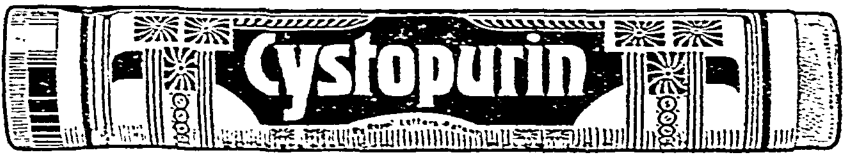
Dr. G. F. STILL'S Analysis is:

	HUMAN MILK (2% Proteid)	COW'S MILK (4% Proteid)
Casein	0·6	3·25
Milk-albumin	1·4	0·75

When cow's milk is diluted to make the total proteids agree in quantity, the child gets 1·6 per cent. of casein and only 0·37 per cent. of milk-albumin, or nearly three times more casein than it ought and only a quarter of the milk-albumin.

If the milk is further reduced to make the casein proportion correct, the milk-albumin is reduced to about one-tenth of what it ought to be. The solution of the infant-feeding problem, therefore, resolves itself logically into the addition of sufficient milk-albumin to supply the necessary protective colloid and to furnish enough easily-digested proteid. This is best done by Albulactin, which is simply pure, sterile, soluble milk-albumin, and is being extensively used by the Profession.

Samples and literature on application to A. Wulfing & Co., 12, Chenies Street, London, W.C.



A Reliable and Effective Drug in

Gonorrhœa and Septic Diseases of the Bladder.

THIS is a ***new drug,*** consisting of a double salt of Hexamethylene-tetramine with Sodium Acetate and water of crystallisation.

A Surgeon, writing in *The Lancet*, Aug. 2, 1913, says: "**Cystopurin can be employed freely, safely, and effectively in all affections of the urinary tract,** whether of toxic or bacterial origin. It has the particularly satisfactory result of clearing away septic conditions associated with tuberculosis of the kidneys."

From *The Lancet*, Aug. 23rd, 1913.

"Cystopurin has been spoken of very favourably in the treatment of tuberculosis of the urinary tract. . . . The presence of sodium acetate in the molecule appears to secure a specific effect, whether the urine is ammoniacal, alkaline or neutral. The diuretic action of the compound is an obvious advantage."

Cystopurin diminishes the amount and thickness of the discharge in Gonorrhoea, it relieves the pain and promotes free diuresis, and if used sufficiently early, the disease is localised to the anterior urethra, complications are prevented, and the duration of the attack is shortened.

In all diseases wherein the urine is septic, turbid and evil-smelling, Cystopurin has proved of the greatest clinical value after the failure of other urinary antiseptics.

The action of Cystopurin does not, however, depend upon any assumed liberation of Formic Aldehyde in the urine, but is due to the specific effect of Hexamethylene-tetramine which is hurried to the bladder, before it becomes decomposed, by the diuretic action of the Sodium Acetate.

Dr. Loose *(Deutsch. Med. Woch.*, 1907, No. 2) says: "Cystopurin is a chemical substance able to influence the lymph stream in the areas with which it comes in contact, and is one which cures by a process similar to that seen in artificial hyperæmia."

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ADVANCE

IN

Iodine Therapy.

Activity of IODÉOL.

In the comparative study of the properties of *IODÉOL*, one is at once struck by the fact that whereas ordinary isotonic solutions of colloidal metals contain *only 0·20 gm. of metal per litre*, *IODÉOL* contains the same quantity *in each cubic centimetre*. One ccm. of *IODÉOL* is therefore *one thousand times as active* as the same quantity of the ordinary solutions of metallic colloids. The indications for the therapeutic employment of a colloid such as *IODÉOL* are therefore numerous.

IODÉOL is specific for ***Pneumococcal Disease; Simple Pneumonia, Infective Pneumonia, Broncho-Pneumonia, Pulmonary Congestion*** both in man and animals. It acts as a diaphylactic, germicide, and lymphagogue, liquefies the exudations, modifies the character of the expectoration, relieves cough and dyspnœa, and brings about defervescence within 48 to 72 hours. Mortality barely reaches 3°/₀.

Drs. HERY, BLANC, PHILOUZE
(Therapeutic Society).
Drs. MIETTE, BRUNET, BOURGEOIS
(Int. Cong. Path., Paris).

Intra-muscular Injections of IODÉOL are painless; they should be administered in the gluteal region at the seat of election, a needle one and a fifth inches long and one thirty-sixth of an inch in diameter being employed.

CAPSULES containing doses of 4 grains of electro-chemical colloidal Iodine perfectly tolerated. Ten times more active than iodides, yet never producing iodism.

LIQUID for EXTERNAL use containing colloidal 50°/₀ Iodine (should never be injected). Used in the same way as tincture of iodine, but ten times more active. Never causes burns or irritation, does not colour the skin, and is absorbed extremely rapidly.

OVULES. Each containing 22 grains colloidal Iodine.
ANTISEPTIC without **IRRITATION.**

IODARGOL

The specific of GONORRHŒA, Acute or Chronic. Painless Injections.

The Treatment of Syphilis.

At the International Congress of Medicine Ehrlich stated that the biochemical action of SALVARSAN on spirochœtes is not direct but indirect, a third factor found in the body fluids being necessary.

This is emphasized by the well-known experiment of LEVADITI: "*If living treponemas be placed in a solution of Arseno-benzol (Ehrlich's 606), they continue to live in it. But if a trace of extract of liver be added to the mixture the treponemas are destroyed.*"

"If 606 has to be taken up and transformed ***by the liver*** in order to become toxic to the treponema, there is no better mode of absorption of the drug than ***by way of the intestine,*** since all the ***veins of the intestines*** join the ***portal vein.*** If this be the case no route could be more indirect and more unsatisfactory for active treatment than one that is not intestinal or not intravenous (i.e., pre-hepatic), since some of the drug must necessarily become fixed everywhere before its passage through the liver has activated it."—Dr. SABOURAUD, *La Clinique* (13/4/13).

As a result of numerous clinical experiments Dr. BAGROV, of Moscow, has arrived at the same conclusions, and extols the ***rectal method*** of administration of 606.

The rectal method of administration of 606 may be recommended to medical men who do not wish to employ intravenous injections. It yields ***excellent results,*** absolutely comparable with those obtained by the intravenous method, and is ***free from all risk.***

In order to render the employment of suppositories containing 606 practicable, it was necessary to find some excipient that does not alter the active principle, even if kept for a long time, and that facilitates its absorption by the intestinal mucous membrane.

This requirement has been realized in our

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each of which contains 0·10 grm. (1 gr. 5) of Arseno-benzol (Ehrlich's 606).

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THE LANCET.

LONDON: SATURDAY, APRIL 11, 1914.

Uterine Hæmorrhage.

THE subject of uterine hæmorrhage is one of great interest and importance. We are not acquainted with the exact nature or meaning of menstruation and we are still ignorant to a large extent of the factors which initiate and control it, facts which render any addition to our knowledge of this function a distinct gain. Mr. H. BECKWITH WHITEHOUSE is to be congratulated on having made this problem the subject of his Hunterian Lecture, which was published in full in THE LANCET[1]; he has certainly added something to our knowledge both of the physiology and pathology of hæmorrhage from the uterus. It is only of recent years that the exact relation of menstruation to the changes associated with the phenomenon of rut in the lower animals has been determined, though the researches of HEAPE and others have shown that menstruation may be regarded as analogous to the procestrum of the primates, which reaches its highest stage of development in the human female.

A question which has always excited attention is the cause of the non-coagulability of the menstrual blood. This has been attributed on the one hand to the absence from it of fibrinogen and of fibrin, and on the other hand to its containing an excess of antithrombin. Mr. WHITEHOUSE points out that in a considerable number of women clots actually are passed, but as a general rule the menstrual blood does not clot. He, however, produces evidence to show that the menstrual blood does clot in the uterus when the endometrium is healthy, and attributes its fluid character in the vagina to the fact that in this canal the clot is dissolved by a fibrinolytic enzyme or similar substance which has the power of digesting fibrin and breaking down blood clot. His experiments certainly seem to show that there is a specific fibrinolysin in the fluid portion of the menstrual blood, and that it acts in a quantitive manner, since it will not produce the resolution of an unlimited amount of thrombus. He has further shown that this property is not due to any of the normal constituents of the menstrual blood, such as mucin, calcium salts, lactic or butyric acids. This thrombolysin is believed to be a product of the glands of the body of the uterus, and is poured out by them into the cavity of the uterus, more especially at the time of menstruation. Experiments have shown that both the tissues of the endometrium and the menstrual blood have the property of diminishing the coagulation period of normal blood. This power is attributed to the presence in them of a considerable amount of a substance called thrombokinase. In the normal coagulation of the blood thrombokinase, which is present in varying amount in the tissues, promotes the union of the thrombogen and calcium salts of the blood plasma and produces thrombin, and this in its turn acting upon the fibrinogen converts it into fibrin. Any excess of thrombin is inactivated by a hypothetical body termed antithrombin, and the presence of this body in excess, as we have seen, is one of the reasons assigned for the failure of the menstrual blood to clot. The power of the stroma cells of the endometrium to produce thrombokinase is regarded as a provision of nature to facilitate clotting and to prevent hæmorrhage. The fact that even in well-marked cases of hæmophilia hæmorrhage very rarely occurs during menstruation is regarded as a clinical argument in favour of these views.

What is the machinery which controls normal menstrual hæmorrhage? Mr. WHITEHOUSE suggests that three factors may be concerned, the effect of uterine contractions, the action of a hormone or hormones producing capillary dilatation in utero, and the biochemical function of the endometrium. The experiments of C. J. BOND and some undertaken by the lecturer seem to show that the uterine secretion, in rabbits at any rate, is under the control of the ovaries both in regard to its amount and physiological action, and further suggest that the secretion of the uterus, stimulated and controlled by an ovarian hormone, is partly absorbed and produces the dilatation of the vessels which is characteristic of the late stages of the procestrum. If we accept these views, the presence of clots in menstrual blood may be due to a deficiency of thrombolysin in the uterine secretion, or occur because the amount of blood is too large or its escape too rapid for the thrombolysin to act. That the normal balance between the thrombotic and thrombolytic properties of the endometrium is easily upset is shown by the fact that some 50 per cent. of all women pass clots from time to time. If now, in the light of these observations, we consider the causes of excessive pathological bleeding from the uterus of endometrial origin, obviously it may be due to diminished power of the secretion to produce clotting of the blood or an excessive secretion from the uterine glands producing marked resolution of the clots. A clinical example of the latter would be the excessive hæmorrhage often met with in glandular hypertrophy of the endometrium. The fact that uterine hæmorrhage is not infrequently accompanied by some hypertrophy of the ovaries is well known to all gynæcologists. If this is associated with an increased internal secretion from the ovary and also from the uterine glands, which in its turn is absorbed and produces vaso-dilatation in the uterus, then one method of arresting uterine hæmorrhage would appear to be reducing the ovarian secretion.

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[1] THE LANCET, March 28th, p. 877, and April 4th, p. 951.

The functional hæmorrhage of puberty Mr. WHITEHOUSE seeks to explain by excessive action of the hormones with maldevelopment of the endometrium and therefore delayed coagulation, while the functional hæmorrhage of the menopause is said to be due to a disturbance of the normal balance in that the ovarian secretion is still producing its vaso-dilator effects at a time when the endometrium has undergone atrophy and the musculature of the uterus fibrosis.

In considering the incidence of excessive uterine hæmorrhage in relation to organic disease of the internal sexual organs attention is called to the fact that uterine displacements cannot be regarded as a cause of excessive bleeding. Of late years the condition termed fibrosis of the uterus and chronic metritis has taken a prominent place among the factors supposed to produce severe uterine bleeding. The work which has recently been published upon this subject by BRIGGS and HENDRY would seem to prove that it is extremely doubtful if there is any causal relationship at all between the condition of so-called fibrosis uteri and severe hæmorrhage. We need not follow the lecturer in his analysis of the relation between various pelvic diseases and uterine hæmorrhage, since the conclusions he comes to are identical in the main with those of most other observers. At the same time we think that until there is more certain evidence of the exact relationship of the ovaries to hæmorrhage from the uterus his recommendation of partial oöphorectomy when bleeding, the result of excessive thrombolysis associated with hypertrophy of the endometrium, is not relieved by curettage requires very careful consideration. There is much in the lecture to interest everyone, and if the views put forward are confirmed by other observers they will do much towards placing our treatment of these conditions upon a more certain and scientific basis.

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A New History of Medicine.[1]

"WHETHER I am likely to perform a task worth the trouble in writing a history of the Roman people from the very beginnings of the city I do not know, nor if I did would I venture to say. ...... The subject is one of unbounded labour, for it goes back more than 700 years, and having started from very small beginnings has grown to such magnitude that it begins to weary from its very greatness." In these words one of the greatest of historians began his chronicle of the deeds of the Roman people, and the words may well serve as a motto for any historian of to-day. The doubts expressed by LIVY in his opening sentence have not been endorsed by the countless readers of his history, but everyone who writes history to-day, and who aims at making his record comprehensive and authoritative, whether the subject be world-wide, national, or periodic, must feel a similar doubt. The historian of medicine is placed in as anxious a position as that to which LIVY calls attention. The first beginnings of medicine seem trivial and even childish, and the subject, instead of going back only 700 years, reaches back for something like 3000 years, or even further. The history of nations and peoples deals with the relations of one towards another, with wide questions of economics, politics, tribal migrations, the arts, the sciences, wars, and incidentally with epidemics, such as the Black Death. But the history of medicine looked at from one point of view is primarily only concerned with the two great problems affecting humanity—namely, birth and death—although these two connote innumerable others. For it is nowadays almost a commonplace to observe that medicine has to deal not with bodies alone, but with men and women whose psychical and physical sides are inextricably bound up one with the other. As PLATO said long ago: "Just as you ought not to attempt to cure the eyes without the head, or the head without the eyes, so neither ought you to attempt to cure the body without the soul."

The history of medicine is indeed to a great extent the history of human thought, and involves the consideration of primitive religion and the dawn of natural philosophy, the problems of agriculture and the discovery of plants good for food and the reverse; and institution of efforts to avert epidemics. When we add to these and other allied topics the great and mainly unsolved problem of how the human body works, of its defensive mechanism against disease organisms, of the life history of these organisms themselves, of the influence on the body of climate, environment, and employment, we may well say that "the subject from very small beginnings has grown to such magnitude that it begins to weary from its very greatness," and it is becoming obvious that the history of medicine will have soon to be treated after the fashion of the Cambridge Histories—that is to say, in periods by specialists. Nevertheless, a handbook dealing with the matter as a whole is still a necessity for the commencement of the study, and such a handbook now lies before us in the shape of an admirable "Introduction to the History of Medicine," by Dr. FIELDING H. GARRISON, the principal assistant librarian of the Surgeon-General's Office, Washington, D.C. A careful study of Dr. GARRISON'S book warrants us in saying that it is the best general history of medicine at present to be found in the English tongue, and we say this in no disparagement of Dr. WITHINGTON'S admirable "History of Medicine from the Earliest Times," for the latter appeared as long ago as 1894, and did not pretend to deal with modern medicine after the time of BICHAT.

Dr. GARRISON commences with a survey of Egyptian, Sumerian, and Oriental medicine; then he passes to Greek medicine, divided into three stages—the pre-Hippocratic, the classic from 460 to 146 B.C., and the Græco-Roman period

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[1] An Introduction to the History of Medicine, with Medical Chronology, Bibliographic Data, and Test Questions. By Fielding H. Garrison, A.B., M.D., Principal Assistant Librarian, Surgeon-General's Office, Washington, D.C. London and Philadelphia: W. B. Saunders Company. 1914. Pp. 763. *Price 25s. net.*

(146 B.C. to 476 A.D.); then the Byzantine to 732 A.D.; next come the Mohammedan and Jewish periods to 1096 A.D., the mediæval period to 1438 A.D., and the Renaissance and Reformation period to 1600 A.D. The chapters which follow deal with the seventeenth, eighteenth, nineteenth, and twentieth centuries as periods in themselves. One valuable, and we think new, feature of Dr. GARRISON's book is the sketch at the end of each period of the cultural and social aspects of medicine during that period; there are in addition two most valuable appendices dealing with medical chronology and medical bibliography respectively. The work is crammed with dates and bibliographical references, and the latter we are glad to see are very fully given, a point which is frequently overlooked. But Dr. GARRISON being a librarian is naturally only too well acquainted with the slovenly manner in which references are often given, and has spared no pains to make his own accurate and easy to find. In a work of this size, which deals with so long a period and with so many dates, it is inevitable that there should be slips. Despite those which we have observed we have no hesitation in saying that Dr. GARRISON has given to the medical profession, and especially to those members of it who wish to study the history of their craft, a most valuable and informing work, and we have nothing but congratulations to offer him on the way in which he has accomplished the task he has set himself.

Annotations.

"Ne quid nimis."

THEOLOGY FOR MEDICAL MEN.

A FEW centuries ago the principal lights of the medical profession were clerics. With the recent growth of psychological science, and especially with its excursus into the fields of therapy, has grown up a rather voluminous literature from the theological side to re-establish the claims of religious belief and practice as at least a very powerful auxiliary in the healing certainly of the mind, and to a great extent of the body also. But a further indication of the *rapprochement* between the two professions of theology and medicine, which in the latter half of the nineteenth century, and even further back, were becoming more and more estranged, is to be found in the recent appearance of two distinctly theological works from the pens of medical men. The first bears the somewhat cryptic title, "The Interregnum."[1] It consists of 12 essays on religious doubt. By the interregnum the author explains that he means that stage in a man's mental development when the old beliefs and sanctions of childhood are lost and he has not yet had time to form new views of his own. This period is characterised by diffidence, for, as the author explains in the introduction, the unsettled one finds experts disagreeing and feels himself incompetent to decide, and is naturally chary of allowing himself to be persuaded by any elaborate argument, feeling that there may be another side of the argument which he has not yet heard. The object of the author is first to show that it is a natural, right, reasonable, and desirable thing for one who would follow the good to associate sympathetically with Christians as a Christian during the interregnum, even when the balance of evidence may seem to him against Christianity; and secondly, not to prove the truth of Christianity, but to show that the case has not been finally closed against it by any of the rival systems in vogue. How far the author is successful in attaining either of his objects obviously must be settled by each individual reader for himself; suffice it to say that the argument is clearly presented and shows it to be the work of one who has made theology a systematic study, and who has from his medical training an adequate knowledge of the tangential points of both medical and theological science. The other book, "Forgiveness and Suffering,"[2] is a careful consideration of the current interpretations of the Christian doctrine of the Atonement and the problem caused by the presence of pain and evil in a world asserted to be created and controlled by a beneficent yet omnipotent and omniscient Being. In this case also the author, Dr. Douglas White, in virtue of his medical training, is apt to detect where the shoe of Christian dogma pinches the foot of scientific data. It would be out of place in THE LANCET to discuss the theology presented in either of these books. We can, however, conscientiously applaud such obviously sincere attempts on the part of excellently equipped members of the medical profession to extend a hand to earnest doubters struggling in the slough of despond. To those who have finally adopted a mechanistic conception of life, and indeed to all but theists, the books make no pretence of appealing.

EMPIRICAL REMEDIES.

WE publish this week an article on the therapeutic value of the potato, recognising that it is a contribution which differs in some ways from those generally published in THE LANCET. The personal experience of one man with a new therapeutic measure, unless reinforced by scientific reasoning, requires, we consider, more support than the statement that it has succeeded in a certain number of cases. Where the investigator is not a qualified medical man there can be no doubt that no account of a new treatment should be published until it has been fully tested by medical men; and where the suggested treatment is obviously at variance with known physiological or accepted medical doctrine the medical profession is right not to waste time in experimenting. This attitude is, of course, called narrow-minded or short-sighted by the charlatan and by a good number of people who ought to know better, but it is one from which we could never depart in the case of unqualified people. The idea of the treatment may be good, but it must be vouched for by trained intelligence, or a delay most inimical to the interests of the patient might be incurred by valueless trials. But where a medical man invites medical coöperation by asserting that over a considerable period of time he has tried particular therapeutic measures in particular pathological conditions, and has obtained successes to which he wishes to draw the attention of his brother practitioners, the matter is different. Hence the appearance in our columns of Mr. Howard's plea for potato juice in the form of a dressing and liniment in various common and painful conditions. The circumstances in which he recommends the drug are, it will be seen, not those where any serious harm could result to the patient if a certain amount of time in the early stages of the condition were employed in experiment, while a year ago reference was made in these columns to the statements concerning the anodyne and sedative properties of the potato. It will be seen, also, that many of the cases which he quotes are of exactly the kind where the symptoms spontaneously abate, making it difficult for the observer to see how much is due to the remedy and how much is due to nature.

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[1] The Interregnum. By R. A. P. Hill, B.A., M.D. Camb. Cambridge: At the University Press. 1913. Pp. 150. Price 4s. 6d. net.

[2] Forgiveness and Suffering: A Study of Christian Belief. By Douglas White, M.D., Trinity College, Cambridge. Cambridge: At the University Press. 1913. Pp. 135. Price 3s. net.

RECURRENCE OF DUODENAL ULCER AFTER OPERATION.

IN the *Boston Medical and Surgical Journal* of Jan. 29th Dr. William J. Mayo has published an important paper on recurrence of ulcer of the duodenum after operation. Gastro-jejunostomy was the method of choice in the majority of his cases. The greater the obstruction, within limits, the better were the results. The converse also held true: cases with slight or no obstruction gave the highest number of failures. Dr. Mayo divides the failures into two groups. In the first the operation does not relieve the stomach of its acid irritating secretions, and the ulcer is inadequately protected during the healing period. This occurs most frequently in cases of no or slight obstruction. The pylorus is open, and much of the food passes through it instead of through the gastro-jejunostomy. In such cases attempts have been made to close the pylorus by infolding with buried silk sutures, but the general experience is that permanent blockage is not produced, and the sutures are eventually passed into the lumen of the stomach with restoration of the channel. For some time a method devised in Germany has been practised at the Mayo clinic. A strip is cut from the gastro-hepatic or gastro-colic omentum, left attached at one end, and drawn twice about the stomach just above the pylorus or, if the ulcer is sufficiently far from the pylorus, the strip is passed about the duodenum above the ulcer. The site of blocking is diminished in size by the application of several interrupted sutures of fine silk to take the strain during healing. As far as can be ascertained the blockage has remained permanent since this procedure has been followed, but sufficient time has not elapsed to show its exact value. However, it is certain that living tissue drawn about the pylorus is more permanent than devices in which foreign bodies, such as thread, are used. In one case a patient was re-operated on after a year, and a strip of living tissue was found in place and covered with adhesions and the pylorus securely blocked. Another method, adopted by von Eiselsberg, is to divide the pyloric end of the stomach and close both ends, but it has a definite, though small, mortality. In duodenal ulcer without obstruction, when the conditions are favourable, Dr. Mayo excises the ulcer. In his early cases he excised the ulcer alone, but a considerable number relapsed within a year. He therefore found some drainage operation, either gastro-jejunostomy or a plastic operation on the pylorus, necessary. Following this, if the pyloric obstruction is slight the ulcer is infolded, as suggested by Sir Berkeley Moynihan, and the pylorus is blocked by living tissue. If the obstruction is marked only gastro-jejunostomy is necessary, though infolding of the ulcer is advisable. When there is a history of hæmorrhages the regional blood-vessels are caught by sutures and tied. In the second group of failures recurrence of the ulcer was only apparent. The trouble was due to improper suturing of the gastro-jejunostomy, at the site of which a new ulcer forms in consequence of heavy silk or linen sutures hanging in the suture line. The length of time these sutures will hang is remarkable; in one case it was 22 months. Eight cases of this kind were re-operated on in the Mayo clinic, in five of which the original operation had been done there. In two there were intercommunicating fistulæ between the stomach, jejunum, and transverse colon. In both of these cases there was fæculent material in the stomach. The finding of colon contents in the stomach after a gastro-jejunostomy is an indication of perforation of a gastro-jejunal ulcer into the transverse colon. In five of the cases heavy strands of silk or linen were hanging in the wound. In two of the cases the condition of the tissues was such that after removal of the suture it was thought wise to cut away the gastro-jejunostomy, completely restoring the wall of the stomach and jejunum by suture and then doing a plastic operation on the pylorus. This procedure proved so difficult that in later cases the gastro-jejunostomy was reopened in the suture line and the suture extracted. The opening was then enlarged by a plastic operation, using interrupted sutures. Such experiences teach that very fine silk should be used for gastro-jejunostomy, that the bite should be as near the margin of the incision as possible, and that, if it is necessary to reinforce a weak suture line, interrupted fine silk sutures are advisable or such sutures should be used for part or the whole of the outer row. It has been Dr. Mayo's practice for a long time to use catgut for the inner row, but it is not this which gives trouble.

SPLENECTOMY AND INCREASED RESISTANCE TO THE TUBERCLE BACILLUS.

OBSERVATIONS directed to show evidence of any power of aiding the body defences against organisms must receive careful consideration. In relation to the tubercle bacillus especially are they of value. Some striking experiments upon the results following removal of the spleen in mice and rats, which appear to demonstrate an increase in the power of resistance to the tubercle bacillus, have been recorded by Lewis (Paul A.) and Margot (A. G.) in the *Journal of Experimental Medicine* (1914, Vol. XIX., p. 187). Into the peritoneal cavity in 21 albino mice was injected a culture of bovine tubercle bacilli; the quantity varied from 1 to 5 mgr. in different animals. Within a time varying from a few hours to a few days all these animals died, and post-mortem examination showed extensive infection of many organs. A similar proceeding applied in 13 mice of similar weight, from which, however, the spleen had been removed, but which had fully recovered from the effects of the operation, showed that a marked lessening of the effects of the inoculations had occurred. Four of the animals were still living at the time of writing, and the rest survived a longer time than did the non-splenectomised animals. Further, the range of infection was more limited in the body. Similar results were gained in rats. In order to test the strength of the possible *objection* that the mechanical effect of the removed spleen altered in some way the character of the peritoneal inoculation, a second series of *animals* was inoculated into the pleural cavity. Ten controls all died; of the ten splenectomised animals, two survived, and the rest, again, lived for a much longer time. In this series, too, the range of infection was limited. Similar experiments upon guinea-pigs and dogs were not successful, and the same results were not gained. The writers cite these observations as being some of the few striking instances of the power of increasing resistance to organisms. Such experiments should stimulate others upon similar lines and suggest a line of research of considerable practical value.

A NEW ROMAN OCULIST'S SEAL.

A LONGER interval has elapsed than has occurred for many years since the discovery of a Roman oculist's seal. A new seal is now reported as having been found in France, at Beaumont, in the Puy-de-Dôme. It bears an inscription in eight lines, half of which are the *quadruple* repetition of the owner's name, a new one in the category of Roman oculists. The text runs as follows: "Aulus Uritius Hermodorus: Melinum Opobalsamum ad Aspritudines. Diasmyrnes lenementum Thurinum ad (Suppurationes). Crocodes ad Caligines." The name Hermodorus, or Hermodoros, suggests Greek nationality, genuine or assumed, for the oculist, and it is interesting to note that three of the collyria are merely Latin renderings of Greek titles, opobalsamum being ὀποβάλσαμον, diasmyrnes διασμύρνης, and *crocodes* κροκώδης. Opobalsamum, sometimes on these signets written opobalsamatum and diaopobalsamum, was balm; it is enumerated as a remedy upon these seals, and not heretofore as a cure for *aspritudines* or the palpebral granulations of ophthalmia. Here the word is qualified by the word melinum, which has appeared previously upon several of these signets and has given rise to some discussion. One explanation is that it refers to the yellow colour of the remedy. In fact, Galen says distinctly that the "emplastra melina" were *thus* named because of their "colour," which may have been *produced* by oxide of copper. Sir James Y. Simpson was the first to discuss the *precise meaning*, or meanings, of melinum, when noting in his "Archæological Essays," 1872, the discovery of an oculist's seal at Bath. This bore an inscription reading "Chrysomælinum ad claritatem," meaning *obviously* that the collyrium was of a golden yellow colour. *In* another seal the *balm* is qualified as "cloron" (χλωρός, green). Subsequently *another* seal discovered at Cirencester again brought the word into prominence; it read "Melinum ad omnem dolorem." Sir James Simpson cited several instances in which Galen uses the term "melinum" as indicating the colour of collyria, and proceeded to make up a specimen collyrium, using the ingredients prescribed by Galen *to* produce what he had termed "collyrium melinum delicatum." The result was a composition of yellow colour. The same effect would also be arrived at by the collyria Galen terms "*melines*," which have saffron as an ingredient.[1] There is, however, good reason for thinking that in some cases the name "melinum" had quite a different derivation and meaning. Pliny says when writing of alum: "The best is that which is called melinum from the isle of Melos. It represses the granulations in the eyes (oculorum scabritias extenuat)." In another passage he states that the Melos alum is the most efficacious. *It* is true that up to the present no oculist seal yet recovered has certified melinum as a special remedy for scabrities, save the Cirencester seal with its inclusive recommendation "*ad* omnem dolorem." It is certain that Melos alum in classical times had a geographical title, that of melinum, just as we speak of gum arabic *or cognac*. *Moreover*, the connexion of the Melian melinum with collyria viridea is distinctly confirmed by Dioscorides, who says of melinum, "Emplastris viridibus efficacitur inseritur." This agrees with both Andromachus and Galen, the first of whom gives 14 and the second 11 emplastra melina. A third possible derivation of melinum is μήλινος, "pertaining to quinces." Pliny refers to melinum (oleum) quince oil, and melinum (unguentum) quince ointment. Thurinum (sometimes Turinum) is derived from thus (sometimes tus), θύος, incense. This term was used occasionally for dialibanum, the Latin equivalent of διαλιβάνων. Many classic writers affirm its efficacy for ocular diseases. Floridus Macer relates its virtues in the following panegyric:—

> "Thus calidum siccumque gradu dixere secundo,
> Lumina clarificat, lacrymo si solvitur ovi
> Contritum vel femineo cum lacte tepenti."

Many oculist seals speak of women's milk as entering into their collyria. The word *following* Thurinum is effaced, but was probably "ad suppurationes." A seal whereupon Turinum provides a cure for suppurationes is that of an oculist, M. J. Satyros, which is in the British Museum. The final sentence, "crocodes ad caligines," refers to saffron, a medicament mentioned almost as frequently as myrrh upon these relics, and held to possess the property of improving obscure vision. A special kind of crocodes named "crocodes of Mars" was a bicarbonate of iron. Some of the crocodes specified by oculists on the seals are specified as crocodes Paccianum. The title was derived from the name of the famous Augustan physician, Paccius Antiochus. Curious details as to his attainments and career are to be found in Scribonius Largus (De Compo. Med., c. xiii.). So great was his reputation that both medical men (including Galen) and quacks applied the term paccianum to their various special preparations. Diasmyrnes, or myrrh, is the most favourite remedy mentioned upon relics of this kind. Galen and Scribonius Largus give many collyria containing myrrh. The best specimens came from Arabia and Syria, probably, as the name suggests, from Smyrna. It was an article of commerce, the price of which could be artificially raised by cornering it, and was therefore included in Diocletian's great edict, "De pretiis rerum venalium," which fixed a maximum price for articles of *public necessity*. The occurrence of this ingredient upon the oculist stamps was fully treated of in THE LANCET of August 10th, 1907. Lenementum (or lenimentum) implied a soothing remedy. Ancient medical authors applied the term "lene" to many remedies. Aetius says: "Leniora medicamenta semper sunt inflammatis partibus accomodatiora; verum debiliora quam ut, depulsa inflammatione, ad perfectam sanitatem perducere queant."

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[1] Galen specially mentions three melina—M. Atarachum, M. Lucil, and M. Delicatum.

THE CULTIVATION OF MALARIAL PLASMODIA IN VITRO.

All attempts to obtain cultures of malarial parasites outside the living body had failed up to 1911, when Dr. Charles C. Bass, of the Tulane School of Tropical Medicine, New Orleans, succeeded in cultivating plasmodium vivax, P. falciparum, and P. malariæ *in vitro*. His technique was described at the time, but has been improved and modified since then as a result of further researches made, in conjunction with Dr. F. M. Johns, in the Panama Canal Zone during 1912. Dr. Bass in 1913 summarised the present state of our knowledge respecting the cultivation of malarial parasites in a paper which he read before a meeting of the American Society of Tropical Medicine at Washington, D.C., and which has recently been published in the current number of the *American Journal of Tropical Diseases and Preventive Medicine* (Vol. I., No. 8). In this communication details of Dr. Bass's technique are set out, and it is interesting to note that his work has been repeated and confirmed by various experts in England and Germany as well as in America. By using this technique, or some slight modification of it, the cultivation *in vitro* of two other red blood-cell parasites—namely, piroplasma canis and P. bigeminum—has been found possible. The malarial plasmodia have only been successfully cultivated in the presence of red blood cells. In these cultures the asexual parasites grow, segment, and form rosettes which burst and give rise to merozoites, many of which enter new red blood cells in precisely the same way as they do in the living human body. From his observations of the parasites *in vitro* Dr. Bass believes that *in vivo* the plasmodia can pass from cell to cell solely when a cell is in direct contact with another one containing a segmenting parasite, and then only when the opening for the exit of the merozoites occurs opposite to the cell to be infected. It appears that the substance of malarial plasmodia differs in consistency from that of the red blood cells, and in consequence the former cannot pass through the smallest capillaries as can the more yielding fluid-like red blood cells. As a result of this unyielding consistency malarial parasites, after they attain sufficient size, lodge in the capillaries of the body, particularly in those parts where the blood current is weakest and where slight obstruction is produced by the protrusion inwards of nuclei of endothelial cells. When this lodgment occurs other red blood cells are forced against them, and if the opening in the infected cell occurs in a favourable position one or more merozoites pass directly into the other cell. If, however, the opening is on the side of the infected cell in the direction of the current the merozoites are poured out free into the blood stream and are killed at once. When the segmented parasite has become broken up sufficiently it can pass on through the capillary into the circulation, where the remaining merozoites are almost instantly destroyed. The débris and pigment are "phagocytised" by the mononuclear cells of the blood and the endothelial cells of the vessels, and finally are either destroyed or stored in the spleen or other tissues of the body. A very heavy infection may result in plugging sufficient of the brain capillaries to produce "cerebral malaria" or coma similar to that occurring in the case described by Captain A. G. Tresidder, I.M.S., in The Lancet of March 28th (p. 891). It has been suggested that quinine has no direct destructive effect on malarial plasmodia, the action of the drug being, perhaps, to render the red blood cell protecting the parasite more permeable to the all-sufficient influence of the serum. If this be true it appears to Dr. Bass that quinine would only affect the parasites in the circulation and not those lodged in the capillaries; these would not be reached by the quinine until they had segmented. The effect of quinine is defeated by influences such as diet and exertion, which increase the dextrose content of the blood, whereby the permeability of the red blood cells seems to be decreased. The size of the capillaries and the amount of blood pressure have an important influence upon the stage at which malarial parasites recede into the peripheral circulation. It is possible, in Dr. Bass's opinion, that these conditions may after all be material factors in the production of cerebral blocking and its consequences in malaria.

A SALIVARY CENTRE IN THE MEDULLA.

It was thought at one time that the secretion of saliva was a purely reflex affair. This view was at a later date disproved, and it was shown that whilst the mechanism was to some extent a reflex act, yet its processes were intimately controlled by central influences; but even then the range of this central control and its extraordinary powers of influencing not only the quantity but also the quality of the saliva were not realised until the work of Pawlow was published. With these observations in view the probability now arose that there might exist some definite anatomical basis for this central control in the form of a special collection of cells in the bulb constituting something in the nature of a nucleus, and in the dog such a collection of cells fulfilling this controlling action was discovered in the bulb. The final possibility to be expected was that in man an analogous structure might be found, though the unusual character of lesion which it was anticipated would induce loss of salivary control—namely, one particular to a relatively small area in the bulb—offered practical difficulties. A case, however, has been reported by Feiling in *Brain* (1913, XXXVI., 255), the pathological examination of which appears strongly to suggest that something in the nature of a salivary nucleus does exist in man. The patient, a man, had a fractured base, and died 71 days afterwards. There was found, post mortem, local injury of the trunks of the vagus, glosso-pharyngeal, spinal accessory, and hypoglossal nerves near their exit from the skull. The paralysis during life involved the left side of the tongue, left sternomastoid and upper part of the trapezius, loss of taste at the back of the tongue left side, left palate, aphonic speech, left vocal cord immobile, and absolute loss of the power of swallowing. There was continuous dribbling of saliva. In the bulb, on microscopical examination, there was found degeneration of the cells of origin in the above nerves. In addition, however, there were scattered degenerated cells in the grey matter of the upper part of the medulla, just dorsal to the inferior olive, extending from the level of entry of the cochlear fibres below to the termination of the inferior olive above. Though these cells cannot be said to constitute a definite nucleus, it is suggested that they are specially concerned in salivation, and that they represent the cells of origin to secretory fibres which pass out with the glossopharyngeal, and which later, by means of the tympanic branch, become distributed to the parotid.

SUDDEN DEATH FOLLOWING PYELOGRAPHY.

THE practice of taking skiagrams of the pelvis of the kidney and the ureter after the injection into them of some fluid opaque to the X rays is becoming so common that it is of importance to note any cases in which harmful results have followed or have appeared to follow this method of diagnosis. Dr. E. O. Smith, of Cincinnati, Ohio, has recorded a case in the Transactions of the American Urological Association, 1913, in which sudden death followed closely on pyelography. The patient was a woman aged 64 years; she was poorly nourished, but she was able to walk into the cystoscopic room without assistance. The bladder was normal, and both ureters were catheterised without difficulty, and some urine was collected from each kidney, and in neither specimen was there pus or blood. It was decided to take a skiagram of the pelvis of the right kidney two days later, and for this purpose 20 cubic centimetres of a 10 per cent. solution of collargol were injected through a ureteral catheter by means of a small hand syringe. But little force was used and the injection was stopped as soon as the patient complained of pain. A skiagram was then taken. Only some six or eight minutes elapsed between the introduction of the cystoscope and its removal, and five minutes later the patient was dead. At the necropsy several serious lesions were found to be present. There were extensive pleuritic adhesions, and tuberculous nodules in each lung, and there was old disease of the mitral valves. There was much pus with many gall-stones in the gall-bladder, and an abscess beneath the liver communicated with the gall-bladder. Both kidneys showed an acute interstitial nephritis superimposed on a chronic nephritis; and the right kidney contained collargol in the uriniferous tubules and between the tubules. It is clear from the necropsy that this patient had several other lesions which must have had much influence in determining the fatal issue, but it is also clear that the collargol had damaged the kidney. It is generally agreed that hydrostatic pressure is the best means of injecting collargol into a ureter.

A NEW PHYSIOLOGICAL HÆMOSTATIC.

ATTENTION is drawn in a recent number of *Il Morgagni*[1] to the use of the fibrin ferment of the blood as a valuable hæmostatic. This substance is to be found in all the cells of the organism and extracts of all fresh organs contain it. As prepared by Zanoni it exists as a fine powder, of a colour varying from light to dark yellow, slightly unctuous to the touch, and with an odour like that of goose fat. It is slightly hygroscopic and but little changed by light and air, sparingly soluble in water and chloroform, and less still in 95 per cent. alcohol. Aqueous solutions are not limpid, are markedly opalescent, and leave an insoluble residue; they cannot be filtered since most of the ferment remains on the filter. They must therefore be used as they are. This substance, which Zanoni has named "coaguline," reduces the time required for the formation of blood clot from 15 minutes to 1 minute. In other words, the blood coagulates almost immediately in the presence of coaguline, and this power is retained for at least five to six months when it is preserved in the form of powder; after this it gradually diminishes. Certain preparations, however, have remained strongly active even after a year or more. The coagulating power of coaguline resists heat to a certain extent, for even after heating the powder or solution to 95° C. in a water bath its activity is still manifest, although somewhat weakened. This necessitates the time and temperature for sterilisation being reduced to a minimum. Coaguline promises to be of use in checking superficial hæmorrhages and in bleeding from viscera, especially the liver, from the nose, mouth, uterus, and from hæmorrhoids. To ensure a full hæmostatic action it is not enough to apply the powder or solution to the bleeding surface since the blood would wash it away before it had time to complete its coagulating action; it must be kept *in situ* for a short time with a pledget of cotton or gauze and with slight pressure. The solution can be injected into cavities and operation wounds, but for hypodermic use a solution having an insoluble sediment is not suitable. To obviate this the author found that by incorporating the coaguline with sugar an opalescent solution could be obtained with water which could be sterilised by heating.

PROVISION OF INSTITUTIONS FOR THE TREATMENT OF TUBERCULOSIS.

WE have received from the Local Government Board a copy of a memorandum on provision of new residential institutions for the treatment of pulmonary tuberculosis which has been sent to the councils of counties and county boroughs. The memorandum has been prepared with the view of affording local authorities and others further assistance in the provision of special residential institutions in connexion with permanent schemes for the treatment of pulmonary tuberculosis. Attention has wisely been drawn to the fact that the planning of the institution will depend on the stage of disease of the tuberculous patients proposed to be admitted to it. A classification of cases of pulmonary tuberculosis is set out arranged from the standpoint of accommodation in residential institutions. Group A contains those cases in which permanent improvement or recovery may usually be anticipated; Group B, cases in which only temporary, though possibly prolonged, improvement may be anticipated; Group C, advanced cases requiring continuous medical care and nursing; Group D, cases requiring special observation: (1) patients admitted for the purpose of diagnosis; (2) patients needing to be watched before the best form of continued treatment can be determined. This is a good practical classification, and we also endorse the further statement that the term "sanatorium" should be used to indicate an institution mainly devoted to the reception of patients in Group A, the term "hospital" to indicate an institution provided for the reception of patients in Groups B, C, and D, and the term "combined institution" to indicate an institution devoted to the reception of patients in all four groups. If admissions to a sanatorium were strictly confined to patients suffering from pulmonary tuberculosis who are afebrile and able to take a certain amount of exercise, the results obtained would be more satisfactory than is at present the case. The types of buildings which are suggested are on the whole satifactory, but we do not like the plan of placing the consulting-room, laboratory, and dispensary in the same building and on the opposite side of a passage to the kitchen and scullery. The memorandum bears the names of Dr. A. Newsholme, medical officer to the Board, and Mr. Brook Kitchin, architect to the Board. Much care and thought have evidently been given to its preparation.

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[1] Il Morgagni, Anno lvi., No. 17, March 22nd, 1914, Milano.

HOSPITAL MORBIDITY STATISTICS.

IN a leading article on Jan. 31st of this year we referred to the subject of hospital statistics, and pointed out some of the difficulties which would be encountered in rendering them suitable for satisfactory collection and study. We also mentioned that in an article in the *Hospital* a proposal had been made that a bureau might be formed under the supervision of a statistical committee nominated by the authorities of the different hospitals concerned. In connexion with this subject we have received a pamphlet on hospital morbidity statistics by Dr. C. F. Bolduan, assistant to the general medical officer of the Department of Health of the city of New York. He points out that in the United States practically the only vital statistics available for the guidance of public health administrators are those collected and published by the various boards of health—namely, statistics concerning births, deaths, and marriages; but no general data are available concerning the occurrence and distribution of non-fatal cases of disease, except for a comparatively small group of diseases. He has therefore devised a system of "book-keeping" for hospitals whereby various hospitals might be induced to record all their cases according to a uniform nomenclature. The basis of this system is a "discharge certificate," giving, in addition to the patient's name, age, occupation, date of discharge, and admission to the hospital, and so on, the diagnosis arrived at, and any complications which arise. The certificate is well drawn out, and would afford information useful for statistical purposes. A central bureau would have to be established, and all the certificates examined by a trained medical registrar, who would have them arranged according to a standard nomenclature. Dr. Bolduan gives a number of specimen tables to show the utility of such certificates. He also describes the plan adopted for compiling mortality statistics in New York city. His description is rather difficult to follow, but it is carried out by a "tabulating machine." If a system of this kind could be adopted by a collaboration of the hospitals the results would probably be valuable, but it would involve considerable expense, and the appointment of trained men as statisticians would be necessary.

THE PROTECTIVE ACTION OF THE ADRENAL GLANDS.

THE internal secretion of the adrenal glands possesses many powerful properties. They appear to be part and parcel of the sympathetic nervous controlling system; they influence the quality of tone to a marked degree; they are able to induce metabolic changes, as shown by ability to increase the sugar metabolism and to lower the sugar tolerance of the individual. They are, finally, intimately related to the other glands of internal secretion. Now all these qualities, by their very variety and also by the fact that there is never demanded, from one or other or all, isolated and outstanding activity, had for long eluded detection; their massed effect is pooled, as it were, over many general activities, but this very condition suggests that they are concerned in the regulation of general states of the body. Such general states may be well represented by the responses to emotion, especially fear and hate, and as these conditions have their original causes in the elemental need for the preservation of the individual, it would be expected that protective mechanisms, if present, would, under these circumstances, be most powerfully evoked. It would be anticipated, too, that the adrenals would take some part, though the obscurity of their objective effects has prevented our realising exactly what they do. W. B. Cannon, in the *American Journal of Physiology* (1914, XXXIII., 356), reviews the evidence, which goes to support strongly the view already anticipated, that the adrenal secretion can be brought into rapid and valuable action upon lines calculated to strengthen the individual against possible harm, and is similarly brought into play with the major forms of emotion. Its action consists of a shifting of the blood from the visceral parts to the skeletal; an enhanced force of the heart beat; an immobilisation of the viscera; and, in particular, an increase of sugar-supply to those structures most needing it. The shifting of the blood favours the fuller action of the skeletal elements upon which repulse of injury depends; this is gained at the temporary sacrifice of the viscera, which are immobilised; the more powerful cardiac action is effected by the peculiar action of the adrenal secretion upon the coronary arteries, for these are the only vessels which dilate instead of contract with the action of adrenal. Lastly, the increased ability of the tissues to metabolise sugar increases their power, and in the skeletal tissues this is, again, just what is wanted. The whole gamut of changes afford the spectacle of a most intimate and closely organised arrangement for the rapid focusing of added power to those structures most valuable for the immediate end in view—namely, the protection of the individual.

MUSEUM OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

FOUR years ago the Council of the Royal College of Surgeons of England sanctioned a scheme which is likely to improve the utility of the museum to medical men. The pathological collection—the largest of its kind in the world—has always been divided into two sections, one illustrating the general principles underlying the processes of healing and of disease, the other illustrating the injuries and diseases of the individual systems or regions of the body. In the scheme sanctioned by the Council the section of general pathology has been greatly extended, and now occupies special cases which fill the floor space of one of the chief rooms of the museum. The great task of reorganising this department of the museum has been carried out by the pathological curator, Mr. S. G. Shattock, assisted by Mr. Cecil Beadles. The scheme is now far enough advanced to give visitors to the museum an opportunity of observing the masterly way in which it is being carried out. The sections illustrating the various forms of tumour formation—benign and malignant—are particularly instructive and fully representative of our present standard of knowledge. In the forthcoming series of museum demonstrations, which commence in the theatre of the College on Friday, April 17th, at 5 o'clock, Mr. Shattock will give an account of the sections of this collection which exemplify tumours arising in connexion with bone, the various forms of papillomata and adenomata, and the many varieties of sarcomata. The dates and subjects of these demonstrations will appear in our Diary of the Week. They are open to all students of medicine and medical men. Professor Arthur Keith, who shares the responsibility of these museum demonstrations with Mr. Shattock, has selected the following subjects: Difficulties in the diagnosis of sex, the normal and pathological anatomy of the colon, and adhesions, bands, and mesenteries of the peritoneum.

INTRA-ABDOMINAL MALIGNANT DISEASE.

MALIGNANT disease in the abdomen is one of the commoner causes of the death of middle-aged and old people, perhaps, too, a cause operating with increasing frequency. Yet, as every medical practitioner knows, it is as a rule extremely hard to diagnose in its early stages. In so many cases it is latent, in so many others it simulates some other disorder, that it but rarely comes under observation in time for effective surgical interference, for at the present time the only hope of cure lies in operation. Professor R. Schmidt, of Innsbruck, has written a lengthy essay[1] upon the subject, dividing it into three parts. The first part gives a general account of the methods of examining patients suspected of having malignant growths within the abdomen. He has been accustomed to lay some weight on the presence or absence of Ehrlich's diazo-reaction here. This reaction is almost always positive and well marked in peritoneal tuberculosis, enteric fever, and streptococcal parametritis; it is sometimes positive and often not well marked in various forms of tuberculosis and in cholangitis, and also in malignant disease complicated by secondary infection with B. coli or streptococci. No diazo-reaction is found in the urine of patients with cirrhosis of the liver, myeloid leukæmia, cardiac or hepatic ascites, gastro-enteritis, or gastro-intestinal ulceration. The second part, occupying 100 pages, deals with the various special forms of malignant disease under discussion and the special means by which they may be diagnosed in each case; cancer and sarcoma of the stomach, intestine, liver, gall-bladder, pancreas, and kidney are those chiefly considered. The third part, just half the volume, is filled with numerous illustrative case histories, often completed by the records of obductions. The book is full of valuable matter, prolix, often calling out for condensation. It forms rather heavy going for the casual reader, but is a mine of information for anyone seeking instruction on specific points that fall within its compass. The translator has adhered too closely to the German idiom of his original.

THE King has sanctioned the following promotions in and appointment to the Order of the Hospital of St. John of Jerusalem in England: Colonel Charles Robert Tyrrell (from Esquire) and Mr. Richard Henry Grimbly (from Honorary Associate) to be Knights of Grace; Major Sir Edward Scott Worthington, M.V.O., R.A.M.C., to be an Esquire.

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[1] Diagnosis of the Malignant Tumours of the Abdominal Viscera. By Professor R. Schmidt. Authorised English version by J. Burke, of Buffalo, N.Y. 4to, Pp. xiv. + 372. London: W. Heinemann. 1913. Price 17s. 6d net.

THE MORTALITY ON THE RAND: SOME OF ITS CAUSES.

BY B. G. BROCK, L.R.C.P. & S. EDIN., D.P.H.

So much has been said and done from the therapeutic side in the hope of reducing the appalling death-rate on the Witwatersrand goldfields, without to any appreciable extent improving matters, that the time has come when an examination of the underlying causes of this mortality may be made with profit, inasmuch as should it be possible to bring these clearly into the light they may automatically reveal the trend of the measures which should be taken to remove them, or at least reduce their evil influence to a minimum.

The diseases chiefly responsible for the abnormal mortality are pneumonia and tuberculosis; the following remarks therefore apply more especially to these. Elsewhere[1] it has been shown that 80 per cent. of the natives coming to work on these fields suffer from a constitutional "taint" which renders them peculiarly susceptible to contract both pneumonia and tuberculosis in a virulent form. In that paper it was stated that in 7660 natives examined 68·5 per cent. had enlarged epitrochlear glands. In a further examination of 132 consecutive cases of natives returning home and certified as suffering from the diseases under which they are grouped by various medical officers, the percentages having enlarged, indurated, freely movable epitrochlear glands are found to be—

91	cases of	tuberculosis	=	100 per cent.
31	„	"debility"	=	87 „
10	„	pneumonia	=	90 „

showing clearly that these diseases found a very favourable soil in persons having this gland enlarged.

In an examination of 191 white persons (105 males and 86 females) of South African birth the condition was found in 30 per cent. of males and 10 per cent. of females.[2] In a paper read before the International Congress of Medicine, London, 1913, Mrs. Fuchs von Wolfring records that she examined 44 cases of tuberculosis, using Carl Spengler's methods of blood staining, and found spirochætæ in 100 per cent. of them.

Carl Spengler has been directing his attention to this question for over 20 years, and has now arrived at the conviction that numberless tuberculosis cases develop in the hereditary syphilitic constitutions. Those organisms already damaged by the syphilitic poisons are predisposed to tuberculosis. ("Tuberculose-Therapie nach Dr. Carl Spengler, mit besonderer Berücksichtigung des I-K," von Dr. Bonohr, Assistent von Dr. C. Spengler, published in the *Beiträge zur Klinik der Tuberculose.* Band xvi. H. 4. 1910.[3])

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[1] THE LANCET, May 11th, 1912, p. 1270.

[2] The marked difference in the percentage of the sexes suggested the question, Are the seats of election for "latent syphilis" different in man and women? My own experience of over 23 years in South Africa suggests that in woman the uterus may be such a "seat," on account of the great frequency of various forms of "metritis" in otherwise apparently healthy women. In the books of an institution I was privileged to examine, excluding all cases resulting from accident and childbirth, out of a total of 42 cases there were 6 cases of abortion, 2 of "curetting," 5 of retroflexion, 1 of perimetritis, and 13 of endometritis, or 64 per cent. of the cases that may be considered as resulting from pathological conditions of the body of the uterus. In the Epitome in the British Medical Journal of August 4th, 1912, under the heading "Uterine Sclerosis," Swedey is noted as saying that uterine sclerosis is not rare in young women, that the condition is often mistaken for metritis or fibroids, and that Richalet has proved this. The figures given are those supplied by me in evidence before the Tuberculosis Commission on May 1st, 1912.

[3] For the translation of an extract from this paper, and a number of extracts from the works of Carl Spengler on the same subject, and for directing my attention to them, I am indebted to Miss K. Ives.

For a good many years there have been repeated warnings from medical men in South Africa of the increasing spread of syphilis among the white population, as the result of careless relations with the black races. Further, it is a generally accepted view that South African born natives are more susceptible to pneumonia and tuberculosis than are those from other countries, and that they succumb to these diseases much more quickly than do the latter. It may therefore be presumed that a constitutional "taint" is so widely prevalent in both races that it is unnecessary to consider them separately in this respect, and that the mining population as a whole is badly prepared constitutionally to withstand an attack of either pneumonia or tuberculosis and is abnormally susceptible to both diseases.

Altitude.

In the case of natives coming from the coast or other place of low altitude to the Rand great changes occur in the blood. The normal number of red cells per cubic millimetre at sea level is roughly 5,000,000, while on the Rand, 6000 feet above sea level, it is from 7,000,000 to 7,500,000. It takes from 14 to 20 days after arrival on the Rand for the blood to reach this standard. During this time the oxygen-carrying capacity of the blood must be below normal, and the tissues, receiving an insufficient supply, must be thereby reduced in disease-resisting power. Carl Spengler has shown that the *red* cells are the main producers and storehouses of tubercle antitoxin,[4] often containing a million times more than the corresponding serum. The white cells contain less than the red but more than the serum. While the red cells are not in a normal condition they cannot perform their functions normally, and the production of antitoxin must be injuriously interfered with.

These facts would appear to supply the explanation of the oft-repeated observation that "boys" are much more liable to contract pneumonia and tubercle during the first two or three weeks of their stay on the Rand than later. Some hold that the greatest number of cases of sickness occurs in the first 24 hours, but the fact that the mass of native workers come off a long and tiresome journey, without the opportunity of getting any rest, and are drafted at once to their various destinations along the "Reef," suggests that many of these "first 24-hour" cases are probably due to simple exhaustion. It has further been found that there is a direct proportional relation between the amount of hæmoglobin and the amount of immune substances in the blood. It seems therefore probable that if special care were taken of the "boys" during the transitional period it might materially aid in reducing the sickness-rate and increase the chances of escaping pneumonic and tuberculous infection. What amount of injury results to the blood, if any, from the men spending half the day at an altitude of 6000 feet and the other half at from 1000 to 3000 feet there are no data to indicate.

Conditions of Living on a Mine.

To ensure a standard of health sufficiently high to enable the individual day after day to perform a fair day's work in quantity and quality three things are essential—sufficient food, sufficient rest, and sufficient warmth (clothing, bedding, &c.). In the case of the white man, whether these essentials are obtainable under the working conditions on a mine depends mostly on himself—e.g., a man comes "off shift" and without changing or washing cycles to his home in the "single men's quarters," gets into his room, and tumbles into his bed without even removing his working clothes, "refreshes" himself thoroughly and goes to sleep and gets a chill. On recovering he is unable to take sufficient food. This goes on day after day till pneumonia claims a victim.

A steady hard-working-man after "coming off" changes, bathes, and returns to his room, which is often shared by another miner who may be a case of open tuberculosis, who will not permit either window or door to be kept open; he "turns in" and goes to sleep in an atmosphere of tuberculous vapour. In due time tuberculosis claims an innocent victim. These rooms are mostly of the back-to-back type, and are dirty and verminous, making restful sleep impossible. A considerable number of men, again, are very "free livers," who run needless risks from exposure, disease, and other debilitating influences. From the ranks of these comes a goodly number of cases of tuberculosis and pneumonia.

The case of the native is somewhat different. The standard ration is: 20 oz. mealie meal, 8 oz. wheat bread, and 4 oz. beans (dried) per day; 3 lb. "meat," 22 oz. pea nuts, 16 oz. treacle, and 40 oz. vegetables per week. This ration is added to in some of the mines. There seems to be a good deal of difference of opinion as to the suitability of this ration. It is a ration built entirely on its calorie value, it is not a toothsome diet, there is a considerable waste in unconsumed food, and there is a considerable amount that is not digested or assimilated, while Casimir Funk has shown that the manner of cooking may influence the value of a diet. The compilation of an *efficient* diet is undoubtedly difficult and can only be attained by direct experiment. A "boy's" clothing usually consists of a blanket—often a mere rag, a pair of trousers, and a shirt. His bed—plain wooden boards without bedding. The "compound" room in which he eats and sleeps is a large draughty barn, under-heated and over-ventilated, always dusty, often dirty and verminous. Comfort there cannot be, and under the conditions warmth and restful sleep are well-nigh impossible. Add to this that the native is extremely sensitive to cold, and that in winter there may be as much as 20° F. between the wet and dry bulb thermometers, and the least imaginative will realise that the most robust constitution is liable to break down under such treatment. How are those who are constitutionally susceptible to pneumonia and tuberculosis to pass through such an ordeal unscathed? They cannot and do not. These are the places where, and the conditions under which, pneumonia and tuberculosis spread, flourish, and destroy.[5]

Is it lack of knowledge, simple thoughtlessness and lack of sympathy, or downright callousness that permits such conditions to exist? Probably some of each. The "great expense" has been a reason against any change. But when the problem is examined carefully one cannot help thinking that all the necessary changes would not only not raise the "working costs" of a mine, but would prove to be an investment that would return a handsome dividend.

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[4] Spengler's work has been confirmed by S. Fuchs von Wolfring, Dr. Rachmaninoff, Dr. Rossel, and Dr. G. Fuchs, of Beibrich, in over 1000 different specimens of blood, also by Sewastianoff.

[5] Since this was written I have been informed that owing to the shortage of "boys" recently the compounds are less crowded than usual, and that there has been a very marked fall in the sickness rate.

Working Conditions.

Little need be said on these. Dust, carbonic oxide, and nitrous fumes should, of course, be reduced to a minimum by improved ventilation and increased care; but no matter how stringent regulations may be, in the nature of things they will still exist in all the mines to some extent, and the two latter probably continue to do some harm, the CO by putting some hæmoglobin "out of action," and the fumes by causing some bronchitis, thereby lowering the resisting power against bacterial attacks locally and generally. The dust that might remain in a well-ventilated mine would be of little account. Oliver in his "Diseases of Occupations," p. 293, gives an excellent illustration of this. He quotes from a report by Dr. Brembridge on the Kolar gold mines in India to the following effect:—

> In the Kolar gold mine there are 40,000 coolies employed; the rock is hard. Dr. Brembridge went to India expecting to meet with cases of miner's phthisis, but he failed to find evidence of the disease, except in men who came from the Transvaal. Although no precautions are taken in the Kolar mines to throw water on the surface to diminish the dust after the use of explosives, and the men work hard, yet Dr. Brembridge finds that the miners, native and white man, keep good health. ...... There is plenty of dust in the Kolar mines; it is hard quartz rock that is blasted, and without such precautions as the spraying of water. ...... Dr. Brembridge finds that a large percentage of miners die from pneumonia, due not so much to the dust as to the fact that the men, after working hard for eight hours, are obliged to climb ladders to a height of 2000 feet in a state of fatigue and when perspiring, and thus become chilled. The proof that this has had much to do with the prevalence of pneumonia has been demonstrated by the fact that since a skip, whereby the coolies can ride to the surface, has been introduced into one of the mines from which the largest number of cases of pneumonia came, the number of cases of acute lung disease has considerably diminished.

Here, too, this cause of pneumonia to some extent exists, but here the "boys" come from the warm moist mine into an exceedingly dry and cold air—indeed, it may be compared to putting them into a freezing chamber.

A glance at some of the "rates" for Germiston district helps to bring out the importance of the above remarks. In the following table the incidence rate for pneumonia and the death-rate for phthisis (tuberculosis and miner's phthisis) for three years are given for three races then working on the mines. Underground they all worked under the same conditions and were exposed to the same dangers, save that the native was less well protected against chills on coming to the surface than were the other two races.

—	Whites.			Natives.			Chinese.		
	1905-06	1906-07	1907-08	1905-06	1906-07	1907-08	1905-06	1906-07	1907-08
Pneumonia incidence per 1000	2·30	2·54	3·43	25·04	29·37	55·07*	2·05	1·37	1·96
Phthisis deaths per 1000 (tuberculosis and miner's phthisis)	2·23	2·45	1·23	4·94	3·67	3·63	1·53	0·87	1·71

* The importation of natives from the tropics caused the very great increase in the rate for this year. For all the three years a good many cases of tuberculosis in natives came under this head.

These figures show that the natives suffered more than the other races. In the case of whites and natives the figures for "phthisis" are very much below what actually existed on account of the whites going and the natives being sent out of the district when they became unfit for mine work. Nevertheless, the Chinese, although the full rates are recorded, show lower figures than black or white. How is this to be explained, seeing that the Chinese occupied the same compounds as the natives occupy now? The Chinese had better food and it was well cooked, while their sleeping quarters were conspicuous for their *apparent* cleanliness and the great care taken to procure personal comfort, good warm bedding and bed clothes, and plenty of these. They did not consume their food in their sleeping quarters, and were not in the habit of indulging to excess in intoxicating drinks as the other races were. The figures speak eloquently in favour of sufficient food, sufficient warmth, and sufficient rest. There are others that might be considered, but those dealt with seem to me to be the outstanding causes which lead up to a death-rate unparalleled in any civilised country, and the bringing clearly into view the framework on which they rest discloses the means by which they may be removed or modified, and this death-rate brought more into line with those obtaining for similar industries in other parts of the world.

Conclusions.

1. The "Reef" population is, as a whole, abnormally susceptible to pneumonia and to tuberculosis, and constitutionally badly prepared to withstand the attacks.

2. The change from a low to a high altitude disturbs the physiological equilibrium of the blood of new arrivals on the Rand, and renders them extremely susceptible to disease until this equilibrium is re-established.

3. Putting new arrivals to heavy work before this physiological equilibrium is established (about three weeks) increases the sick lists and raises the death-rate.

4. The great dryness of the air in winter causes much pneumonia, especially in those coming "off shift," unless effective protective measures are provided and enforced.

5. The natives are underclad and do not receive sufficient rest or sleep, and their food requires investigation as to its physiological efficiency and proper cooking.

6. The causes which are responsible for the abnormal death-rate are capable of removal in large measure, and the chief supports of these are—false economy and callous inefficient administration.

ROYAL INSTITUTION.—At a general meeting of the members of the Royal Institution held on April 6th the Duke of Northumberland, as President, announced that the septennial award under the Acton Endowment had this year been made to Professor C. S. Sherrington, Waynflete professor of physiology in the University of Oxford, for his important work entitled "The Integrative Action of the Nervous System." This work was a synopsis of an elaborate paper published in the Philosophical Transactions of the Royal Society on Experiments in Examination of the Peripheral Distribution of the Fibres of the Posterior Roots of some Spinal Nerves.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

ELECTION OF PRESIDENT.

AN Extraordinary Comitia was held on Monday, April 6th, Sir THOMAS BARLOW, the President, being in the chair.

The PRESIDENT delivered the usual annual address, in which he referred to the Royal honours which had been conferred on Fellows, Members, and Licentiates during the past year; also to the Harveian oration and the lectures which had been delivered before the College. He also alluded to the award of medals and prizes, and the various events within the College. He likewise mentioned the gifts which had been made to the College. He read obituary notices of the Fellows who had died during the year:—George Ernest Herman, Robert Leamon Bowles, Frank Buszard, John Charles Thorowgood, Alfred Lewis Galabin, and Philip Frank. He thanked the Censors' Board and the other Fellows for their unfailing loyalty during the past year, and then vacated the chair.

Dr. P. W. LATHAM proposed a vote of thanks to the President for his address, and for his services to the College, which was carried by acclamation.

The ballot for the election of President then took place, and Sir Thomas Barlow was re-elected by a large majority.

The Senior Censor (Sir James Kingston Fowler) delivered to the President the insignia of office. The President gave his faith to the College and thanked the Fellows for re-electing him.

The following communications were received: (1) From the secretary of the Royal College of Surgeons (three letters); (2) from the clerk to the Privy Council, dated March 5th, to inform the College that the Sixth International Congress on Thalasso-Therapeutics will be held at Cannes on April 15th; (3) from the secretary of the Board of Control, dated March 25th, asking for suggestions concerning the use of a grant of money "for the purpose of aiding and encouraging scientific research into the causes and treatment of mental disease and mental defects." The President was asked to nominate a subcommittee who should report to the Council.

A report was received and adopted from the Censors' Board, dated March 2nd, concerning the employment of unqualified persons for purposes of treatment under the National Insurance Act. The report was as follows:—

> In the course of last year communications passed between the Censors' Board and the Insurance Commissioners on the subject of the employment of non-qualified persons under the Insurance Act. The contention of the Commissioners appeared to be that, while none but registered medical practitioners are admissible to the panels, yet there was nothing in the Act of 1911 to prevent insured persons who are allowed or required to make their own arrangements for medical benefit from making such arrangements with persons who are not legally qualified medical practitioners.
>
> More recently the Commissioners "for the purpose of removing doubts and for the convenience of Insurance Committees" have altered the Regulations in this respect, and in their new Regulations [National Health Insurance (Medical Benefit) Regulations, 1913, Section 44 (2)], and in a "Memorandum with regard to persons making their own arrangements under Section 15 (3) of the National Insurance Act, 1911," the possibility of treatment by unqualified persons under this Section of the Act is specifically recognised, and provisions are made with respect to it.
>
> The President and Censors consider that to give to unqualified persons any status whatever under an Act of Parliament is an innovation which should not pass unnoticed by the College.
>
> They therefore submit the following Resolution for the consideration of the College:—
>
> NATIONAL HEALTH INSURANCE (MEDICAL BENEFIT) REGULATIONS, 1913.
>
> The College observes with regret that in Section 44 (2) of the National Health Insurance (Medical Benefit) Regulations, 1913, and the Memorandum issued in connexion therewith, provision is made whereby insured persons who make their own arrangements for Medical Benefit under Section 15 (3) of the National Insurance Act may obtain treatment from non-qualified persons.
>
> Hitherto none but duly qualified medical practitioners have been employed, as such, in any public capacity, and the College deplores that now, under an Act professing to promote the health of the nation, recognition should be given and provision made for the payment of public money to a class of persons who have not obtained a legal qualification to practise medicine, and concerning whose medical knowledge there exists no sort of guarantee.

A report, dated Feb. 12th, was received and adopted from the committee nominated July 3rd, 1913, concerning the infectivity of pulmonary phthisis. The report summarised accepted knowledge upon the infectivity of tuberculosis, and indicated that the tubercle bacillus could enter the body by inoculation, by inhalation, and by swallowing, while it emphasised the absence of evidence that tuberculosis can be conveyed by breath alone, or by emanations from patients, or by their garments unless soiled by discharges. The precautionary measures recommended are: the careful disposal and disinfection of the sputum and other discharges; the disinfection or destruction of soiled handkerchiefs, clothes, and linen; the removal of dust by frequent moist cleansing of floors and walls; and abundant air space and free ventilation. The report closes by stating that no risk is incurred by living in the immediate neighbourhood of institutions for the treatment of tuberculosis which are properly conducted.

The committee of management reported that Sir W. Watson Cheyne had inspected the examinations of the Egyptian Medical School, and a vote of thanks was accorded to him for his services. The committee also reported that Wellingborough School and the Bradford Technical College had been added to the list of institutions recognised by the Conjoint Board as giving instruction in chemistry and physics and biology respectively, and recommended that the Royal Naval Hospital, Chatham, should be recognised for the instruction necessary for the diploma in public health.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the twenty-seventh meeting of the Royal Commission on Venereal Diseases evidence was given on behalf of the Society of Medical Officers of Health by Dr. A. K. Chalmers, the medical officer of health of Glasgow and president of the society, and by Dr. Louis C. Parkes, medical officer of health of Chelsea.

They drew attention to—

1. The lack of exact information regarding the present prevalence of syphilis and other venereal diseases either as causing illness or death.
2. The misleading or incomplete character of certified causes of death, particularly of the remote causes in death from diseases of the nervous or circulatory system.
3. The absence generally of any systematic provision for the recognition and treatment of the diseases in question.
4. The relationship of syphilis to miscarriages, still-births, and deaths among infants in the first year of life, especially the first four weeks.

The Society of Medical Officers of Health were, they stated, of opinion that administrative action was desirable for the purpose of providing facilities for the recognition and treatment of venereal diseases. They recommended that the local authorities should be required to place at the disposal of medical practitioners facilities for diagnosis by bacteriological and other methods, and that accompanying any such request for examination the practitioner should apply a statement showing the age, sex, condition as to marriage, number of children, and leading features of the disease present, but not including the name of the patient. They did not recommend the adoption of a system of notification in the ordinary sense. Local authorities should also be prepared to arrange for the treatment of persons suffering from venereal diseases either in dispensaries or hospitals under their own responsibility or by arrangement with general hospitals and dispensaries. It was important, they thought, that the facilities provided by the local authority should be available for any person who applied for them, whether that person was a resident in the district of the local authority or not. They recommended that the Local Government Board should issue an order declaring venereal diseases to be endemic diseases threatening the health of the population, and that the Board should make regulations governing the provision of facilities by the local authorities. It was necessary, they thought, that the local authorities should be assisted by a considerable grant in aid from Government funds.

Dr. Parkes on his own behalf submitted a detailed scheme of action by local authorities under regulations to be issued by the Local Government Board. He was of opinion that the whole expenditure incurred by local authorities in regard to these diseases should be borne by Imperial funds. Both Dr. Chalmers and Dr. Parkes were opposed to notification of venereal diseases, but Dr. Parkes thought that after two or three years' experience of systematic action by local authorities against the diseases it would be possible to determine whether any form of compulsory notification could be introduced, and whether penalties should be imposed upon persons who, knowing themselves to be suffering from a venereal disease, by their conduct expose other persons to infection.

At the twenty-eighth meeting evidence was given by Sir Donald MacAlister, Principal and Vice-Chancellor of the University of Glasgow, and President of the General Medical Council.

Sir Donald MacAlister described the powers of the General Council in relation to medical education and the way in which these powers are exercised, for the securing the maintenance of such a standard of proficiency as shall guarantee the possession by registered practitioners of the knowledge and skill requisite for efficient practice. With regard to instruction respecting venereal diseases, he said that certain reports made to the General Medical Council and the examination papers used at qualifying examinations, as well as the results of a special inquiry he had made for the purposes of the Commission, enabled him to say that questions on these subjects were set with such regularity by every licensing body that candidates could not fail to be aware of the importance attached to the subject and of the necessity laid upon them to study it seriously as a condition of success.

On the subject of quack treatment Sir Donald MacAlister said that the General Council had taken every opportunity to press on the Government of the day the importance of restricting the free practice of medicine, surgery, and midwifery by unqualified persons, and the Council was strongly of opinion that steps ought to be taken to prevent the cruel wrong done by permitting free practice in branches of these subjects on the public without any previous qualification. He pointed out that without difficulty veterinary surgeons had obtained an Act which protected them and protected the lower animals, so that no person could use any title suggesting that he had a veterinary qualification or practise as a veterinary surgeon on the lower animals without being qualified. In fact, Parliament had protected the lower animals much more effectively than it had protected human beings against the ravages of the quack. He thought that a special case could be made out for preventing unprofessional treatment of venereal diseases by reason of the severity of these diseases and their effect upon the population.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF COUNCIL.

A QUARTERLY meeting of the Council was held on April 2nd, Sir RICKMAN GODLEE, the President, being in the chair.

The SECRETARY reported the death of Mr. William Bruce Clarke, past member of the Council and of the Court of Examiners.

The best thanks of the Council were given to Sir Watson Cheyne for his services as visitor to the examinations of the Egyptian Medical School at Cairo.

In accordance with the recommendation of the Jacksonian Committee the Jacksonian prize for the year 1913 was awarded to the author of the dissertation on "Malformations of the Small Intestine: their Mode of Origin, the Morbid Conditions which Arise from Them, and their Treatment," bearing the motto "Aliud ex alio clarescet," and when the President opened the envelope bearing this motto it was found that the author was Mr. J. Howell Evans. It was resolved to request Mr. Evans to attend the ordinary meeting of the Council on May 14th to receive the Jacksonian prize.

It was resolved that the subject for the Jacksonian prize for the year 1915 should be "Congenital Dislocations of the Joints: their Pathology and Treatment."

Surgeon-General Arthur William May, C.B., R.N., Medical Director of the Navy, was elected a Fellow of the College.

A letter was read from Mr. J. Richardson Cross reporting his attendance at the Home Office on Jan. 29th to give evidence before the Committee on Factory Lighting as requested by the Council, and stating that in support of his evidence he was able to lay before the committee answers to a letter circulated by him among members of the Ophthalmological Society bearing on the questions under consideration. The thanks of the Council were given to Mr. Cross for his letter.

A letter was read from the General Secretary of the Sixth International Dental Congress stating that the Committee of Organisation accept with thanks the offer of the Council to hold a reception at the College for the members of the Congress.

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

County of Middlesex.—Dr. C. W. F. Young's report for 1912, recently issued, gives a large amount of interesting information on the health and administration of this county, which, though small, is one of the most populous of the county areas. The estimated number of inhabitants is about 1,170,000, of which all but 58,000 are in "urban" districts. The various statistical data for the county as to births, incidence of infectious disease, case mortality of infectious diseases, and deaths from different causes are well illustrated by diagrams which save much study of tables. The decline in the mortality of notified cases of diphtheria from 1902 to 1912 is specially noteworthy, but it has to be remembered that the extension of bacteriological methods in the diagnosis of diphtheria leads to an increasing amount of notification of illness the nature of which would not otherwise have been recognised, and also that "contacts" presenting no symptoms of illness at all, but returned as "positive" on a swab examination, are now frequently included among notified cases. Dr. Young insists on the importance of bacteriological examinations being made of all school children with sore-throat or nasal discharge during their attendance at school, and urges that closure of school for diphtheria will only disperse the children where they cannot be kept under supervision or frequent examination, with the result that on re-opening some will probably still be in an infective condition. This doctrine is now generally accepted, and it is interesting to note that the practical experience of Middlesex schools gives support to it. The tables for whooping-cough show that, to judge from the mortality returns, this disease shows little tendency to reduced prevalence, and some 200 deaths are returned annually as due to this cause. The development of tuberculosis provision is only touched upon in this report, but a map is inserted of the five areas into which Middlesex has now been divided for the purpose of a county dispensary service. A table showing the methods of disinfection in use in each district in the county illustrates the large extent to which the formalin spray has displaced sulphur dioxide fumigation as a means for disinfecting rooms, the latter being now retained in only three or four of the 37 districts. Eleven of these districts now dispose of their house refuse by combustion in destructors, and the extension of this practice is specially desirable in a county like Middlesex, where it is hardly possible to get rid of refuse by depositing it on land without giving rise to effluvium nuisance. Another matter closely affecting the health and amenities of the county is the condition of the small rivers which have to receive large volumes of effluent from sewage disposal works. The county council and its medical officer of health have in the past done much to prevent the discharge of offensive sewage into these streams, but it is clear that continued vigilance is necessary in consequence of the large increase of populations on the watersheds and the tendency of local bodies to provide inadequate purification plants. The proportion of the total births attended by midwives, apart from those in which the midwife merely acted as a nurse, is considerable—11,020 out of 27,576. Notifications that medical help had been requisitioned were received in regard to 853 of these cases.

No death of a mother occurred where a doctor had not been called in. A prosecution of an uncertified woman was dismissed by the magistrates on the ground that the six confinements which she had attended were emergency cases, as she had not been engaged beforehand by the mother and was only sent for when the mother was in labour. On representation of the matter to the Central Midwives Board the county council was informed that the same state of affairs had been brought to notice before, and that there was reason to believe that the Privy Council, on the Board's recommendation, were prepared to amend the Midwives Act so as to strengthen the powers of local supervising authorities in this respect.

County of East Sussex.—Mr. A. G. R. Foulerton, after referring to the perennial difficulty in obtaining reports from some district medical officers of health early enough for county purposes, points out that in health matters East Sussex is a well-favoured county, and was particularly so favoured in 1912. The only excessive rate was that from "senile mortality," and though the birth-rate is low (17·4) the children as a rule "are born to healthy surroundings and are not likely to be killed off during the first year of life by the insanitary conditions prevailing in large industrial districts which have higher birth-rates and huge infantile mortality rates." The tuberculosis death-rates are among the lowest of the English counties. Mr. Foulerton finds that the prevalence of pulmonary tuberculosis in children is exceptionally low, as in the case of 24,000 children "thoroughly examined" in course of school medical inspection the percentage with pulmonary tuberculosis was no higher than 0·04.[3] The report, besides giving useful accounts of the different districts, has some interesting addenda. One of these gives notes on the statistics and etiology of cases treated in the county lunatic asylum, supplied by the medical superintendent. Another is contributed by the Lewes coroner, Mr. G. V. Benson, on the circumstances of the 281 inquests held in 1912, one being on a partly disabled workman who, after worrying himself trying to understand the Insurance Act regulations as to unemployment, "came to the conclusion that they might be prejudicial to him in the future, and that it was better to get rid of the risk by throwing himself over the cliff." A third addendum, by Mr. George Finch, gives the results of examining the arms of children in different districts for vaccination scars, and includes diagrams in which the percentage of children vaccinated are plotted against the year of birth, and which show conspicuously the fall in vaccination which set in after 1907 and has continued since. The fall, Mr. Finch observes, may continue until perhaps in future the vaccinated may form a smaller proportion of the population than formerly did the pock-marked; medical officers of health and sanitary authorities would then have to deal with a population more susceptible to the virus of small-pox than has ever been the case before.

County of Hampshire.—In considering the supervision of the milk-supply and its present defects Dr. R. A. Lyster presses strongly for general certification of milk, and states that proper milk standards are not only necessary to efficient milk control by public health authorities, but are indispensable to the ultimate well-being of the milk industry itself. Milk, he considers, must be graded and sold on grade, just as other food materials are graded and sold. For grading purposes milk would best be divided into two great classes—the raw and the pasteurised varieties. Each class can be divided into grades according to its composition and its bacteriological purity. The county had a low rate of infant mortality in 1912, and in referring to the circumstance that the incidence of this mortality was higher among the poor Dr. Lyster protests against the assumption that bad housing is concerned in the matter, and reminds us that statistics classifying the people according to housing conditions is merely a classification according to poverty. The essential cause of excessive infantile mortality is poverty with "its invariable accompaniments—insufficient food for both mother and child, lack of medical attention or nursing, absence of suitable milk-supply, even if there were means to purchase it, uncleanliness, overcrowding, alcoholic indulgence, and such like." It is possible to agree with this view and still to find a preventable cause of infant mortality in "bad housing," which may be inimical to cleanliness, and may be largely responsible both for overcrowding and for alcoholic indulgence. The county death-rate for tuberculosis, which was 0·91 in 1910, has since shown a slight increase to 1·04 in 1912; that of the rural districts is now higher than that of the urban, and as high as it was ten years ago. The increase is attributed partly to the migration of diseased persons into rural districts after their condition is known. The report advocates that discarded warships, the position of which could be changed according to the weather and temperature at different times of the year, should be used as sanatoriums. In course of the county laboratory work a specimen of home-made wine was received which was suspected to have caused lead poisoning. This was analysed and found to contain 2·9 parts of lead per 100,000, and is stated to have been contaminated by lead from the glaze of the earthenware pan in which it was made.

REPORTS OF SCHOOL MEDICAL OFFICERS.

Borough of Kingston-upon-Thames.—Mr. H. Beale Collins records the beginning of an inquiry into the relationship between physical development of children and size of families. In children coming from families of six only in 71 instances they were above normal and in 80 below it. Contrasting entrants and leavers the figures point to a decline in size of families. The biggest "leaver" family was 22, the biggest entrant, however, only 14. The tables, however, have not much scientific value as they stand, as the criterion of "physical condition" is not rigidly defined and appears to refer only to standards of weight and height. Very little medical treatment is obtained, only about one-quarter of the children found defective obtaining it.

County Borough of Barnsley.—Dr. F. J. Sadler's report on the Queen's-road open-air school shows that it is reserved exclusively for children suffering from pulmonary tuberculosis. Of 62 children who were treated for a time sufficiently long for a judgment to be formed, 11 per cent. were improved, 45 per cent. improved very much and on the way to a cure, and 35 per cent. actually cured. One child died while attending the school, but from leucocythæmia. These satisfactory results were obtained by keeping the school open winter and summer, and have led the education committee to consider modifying the ordinary schools in the direction of the open-air school.

Borough of Newcastle-under-Lyme.—There are only five schools in the borough. Dr. John Fortune's report as school medical officer is incorporated with his report as medical officer of health. An inspection clinic is held daily. Only 33 per cent. of the defective cases obtain treatment, and this number includes cases of pediculosis. The figures do not seem to call for any congratulation of the borough.

County Borough of Bournemouth.—Dr. A. D. Edwards comments on the number of "delicate" children in the schools, which he associates with the character of the population attracted to Bournemouth. Ten such cases were taught in the open air during the year, with great benefit. The importance of abnormal restlessness as a possible early sign of rheumatism is commented upon. Of 10,000 children examined less than 6 per cent. have had growing pains. The report has an interesting psychological side to it.

County Borough of Brighton.—Brighton has 33 schools, including one for the mentally defective, and an average attendance of 16,417. Of 6318 children examined, 18·6 per cent. were in need of medical treatment, and a large number of dental cases appear to be excluded which in other localities would swell the percentage very largely. Teeth are considered "good or fair" if *not more than six teeth are carious.* The italics are our own and the figures are likely to mislead. The London County Council standard for normal is not more than three carious teeth, and dentists protest against this. Medical treatment is carried out by the senior school doctor, Dr. C. W. Hutt, and by a school dentist. Contagious skin diseases, refraction work, X ray work, and operations for removal of tonsils and adenoids are all dealt with.

County Borough of Eastbourne.—The birth-rate in Eastbourne is decreasing, so that the number of school children is less than that in previous years. In 27·2 per cent. of children inspected advice for defects was given, and in 80 per cent. treatment was secured. A school nurse follows up the inspection by visits to schools and homes, and treatment for defective vision, teeth, and ringworm (through a

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[3] THE LANCET, March 28th, 1914, p. 916.

"ringworm school") is given by the authority. The total number of children inspected was 2342. Out of 1140 boys, 291, or 25·53 per cent., were employed out of school hours. The cases are specially reported on, and show the need for a different method of "following up" such children. Even in flagrant cases reported by Dr. W. G. Willoughby the police did not prosecute.

City of Leeds.—Dr. Algernon E. L. Wear is assisted by 12 assistant medical officers and one school nurse, and his report is prefaced by a note from Mr. James Graham, secretary of education in the city, making out a strong case for support by the Treasury. The school nurse examined 20,378 children. A comparison of weights with boys in the Leeds Grammar School at age 12 gives: National Standard (presumably anthropometric committee), 76·7 lb.; Leeds Grammar School, 75·7 lb.; Municipal Secondary School, 73·5 lb.; and Elementary School, 70·5 lb. Jewish scholars approach most nearly to the country average. The corresponding heights are 54·9, 57·1, 55·7, and 53·8 inches.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In the 97 English and Welsh towns, with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 8932 births and 5741 deaths were registered during the week ended Saturday, March 28th. The annual rate of mortality in these towns, which had been 15·8, 15·4, and 15·2 per 1000 in the three preceding weeks, rose to 16·5 per 1000 in the week under notice. During the 12 weeks of the March quarter the mean annual death-rate in these towns averaged 16·4, against 16·1 per 1000 in London during the same period. Among the several towns the death-rate in the week under review ranged from 5·1 in Edmonton, 6·9 in Ilford, 7·3 in Devonport, 7·5 in Eastbourne, and 8·0 in Grimsby, to 22·7 in Burnley, 23·3 in Preston, 23·5 in Stoke-on-Trent, 25·3 in Swansea, and 30·0 in West Bromwich.

The 5741 deaths from all causes were 455 in excess of the number in the previous week, and included 488 which were referred to the principal epidemic diseases, against numbers rising from 397 to 444 in the five preceding weeks. Of these 488 deaths, 162 resulted from whooping-cough, 140 from measles, 73 from diphtheria, 65 from infantile diarrhœal diseases, 33 from scarlet fever, and 15 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·4, against 1·3 per 1000 in each of the two preceding weeks. The deaths attributed to whooping-cough, which had steadily increased from 110 to 155 in the five preceding weeks, further rose to 162, and caused the highest annual death-rates of 1·3 in Leicester, 1·5 in Sheffield, 1·6 in Rotherham and in Middlesbrough, 1·7 in Exeter, in Bolton, and in Newport (Mon.), 1·9 in Barnsley, and 2·6 in Swansea. The deaths referred to measles, which had been 118, 113, and 107 in the three preceding weeks, rose to 140 in the week under notice; the highest annual death-rates from this disease were 1·4 in West Ham, in Ipswich, and in Cardiff, 1·6 in Bradford, 1·9 in Burnley, 2·3 in Nottingham and in West Bromwich, 2·9 in Leicester, and 3·9 in Swansea. The fatal cases of diphtheria, which had been 60, 67, and 51 in the three preceding weeks, rose to 73, and included 12 in London, 10 in Birmingham, 4 in Manchester, and 3 each in Cambridge, Liverpool, and South Shields. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 59, 74, and 73 in the three preceding weeks, declined to 65; of this number 17 were registered in London, 5 in Manchester, and 3 each in Birmingham, Liverpool, and Middlesbrough. The deaths referred to scarlet fever, which had been 34, 31, and 37 in the three preceding weeks, fell to 33 in the week under notice, and included 10 in London and 3 each in Liverpool, Salford, Preston, and Sheffield. The fatal cases of enteric fever, which had been 20, 13, and 21 in the three preceding weeks, fell to 15, of which 2 occurred in Gillingham.

The number of scarlet fever patients under treatment in the London Fever and the Metropolitan Asylums Hospitals, which had steadily decreased from 3593 to 3173 in the eight preceding weeks, had further declined to 3143 on March 28th; 347 new cases were admitted during the week, against 340, 320, and 319 in the three preceding weeks. These hospitals also contained at the end of the week under notice 1237 cases of diphtheria, 356 of whooping-cough, 134 of measles, and 77 of enteric fever, but not one of small-pox. The 1433 deaths from all causes in London were 235 in excess of the number in the previous week, and were equal to an annual death-rate of 16·5 per 1000. The deaths referred to diseases of the respiratory system, which had been 260, [illegible], and 250 in the three preceding weeks, further rose to 291 in the week under notice, but were 101 below the number recorded in the corresponding week of last year.

Of the 5741 deaths from all causes in the 97 towns, 182 were attributed to different forms of violence, and 448 were the subject of coroners' inquests. The causes of 37, or 0·6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Leeds, Bristol, West Ham, Bradford, Hull, and in 70 other smaller towns. Of the 37 uncertified causes of death, 11 were registered in Birmingham, 4 in Liverpool, 3 in Preston, and 2 in Middlesbrough.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1204 births and 726 deaths were registered during the week ended Saturday, March 28th. The annual rate of mortality in these towns, which had been 16·6, 17·9, and 16·6 per 1000 in the three preceding weeks, further fell to 16·5 per 1000 in the week under notice. During the 12 weeks of the March quarter the mean annual death-rate in these Scotch towns averaged 18·2, against 16·4 per 1000 in the 97 large English towns. Among the several towns the annual death-rate in the week under notice ranged from 9·4 in Clydebank, 11·0 in Falkirk, and 11·1 in Leith, to 19·1 in Kilmarnock, 20·6 in Paisley, and 25·5 in Coatbridge.

The 726 deaths from all causes were 3 fewer than the number in the previous week, and included 78 which were referred to the principal epidemic diseases, against 77 and 66 in the two preceding weeks. Of these 78 deaths, 34 resulted from measles, 14 from infantile diarrhœal diseases, 11 from whooping-cough, 9 from scarlet fever, 9 from diphtheria, and 1 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·8, against 1·4 per 1000 in the 97 large English towns. The deaths attributed to measles, which had been 35, 34, and 38 in the three preceding weeks, fell to 34 in the week under notice, and included 21 in Glasgow, 5 in Motherwell, 3 in Coatbridge, and 2 in Edinburgh. The deaths of infants (under 2 years) referred to diarrhœa and enteritis, which had been 14, 10, and 5 in the three preceding weeks, rose to 14, of which 9 were registered in Glasgow and 2 in Aberdeen. The fatal cases of whooping-cough, which had been 10, 8, and 10 in the three preceding weeks, were 11 in the week under notice, and included 5 in Glasgow, 3 in Coatbridge, and 2 in Paisley. The 9 deaths attributed to scarlet fever, of which 5 occurred in Glasgow, were equal to the average in the earlier weeks of the quarter. The deaths referred to diphtheria, which had been 5, 14, and 6 in the three preceding weeks, rose to 9, and included 4 in Glasgow and 3 in Aberdeen. The fatal case of enteric fever was registered in Glasgow.

The deaths referred to diseases of the respiratory system, which had been 126, 137, and 117 in the three preceding weeks, further declined to 111 in the week under notice; 31 deaths resulted from various forms of violence, against numbers declining from 32 to 22 in the three preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 667 births and 526 deaths were registered during the week ended Saturday, March 28th. The annual rate of mortality in these towns, which had been 19·2, 20·0, and 20·3 per 1000 in the three preceding weeks, further rose to 22·8 per 1000 in the week under notice. During the 12 weeks of the March quarter the mean annual death-rate in these towns averaged 21·5 per 1000; in the 97 large English towns the corresponding rate did not exceed 16·4, while in the 16 Scotch towns it was equal to 18·2 per 1000. The annual death-rate in the week under notice was equal to 27·2 in Dublin (against 16·5 in London and 16·1 in Glasgow), 19·6 in Belfast, 22·4 in Cork, 11·4 in Londonderry, 29·8 in Limerick, and 19·0 in Waterford; while in the 21 smaller towns the mean death-rate was equal to 21·7 per 1000.

The 526 deaths from all causes were 57 in excess of the number in the previous week, and included 67 which were referred to the principal epidemic diseases, against numbers increasing from 33 to 47 in the three preceding weeks. Of these 67 deaths, 34 resulted from measles, 12 from whooping-cough, 8 from infantile diarrhœal diseases, 6 from scarlet fever, 6 from diphtheria, and 1 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases in the week under notice was equal to 2·9 per 1000, against corresponding rates of 1·4 and 1·8 per 1000 in the English and Scotch towns respectively. The deaths attributed to measles, which had been 4, 8, and 16 in the three preceding weeks, further rose to 34, of which 27 were registered in Dublin and 5 in Lisburn. The deaths referred to whooping-cough, which had been 9, 4, and 11 in the three preceding weeks, were 12 in the week under notice, and comprised 5 in Belfast, 3 in Dublin, 3 in Cork, and 1 in Limerick. The fatal cases of diarrhœa and enteritis (among infants under two years), which had been 12, 14, and 9 in the three preceding weeks, were 8 in the week under notice, and included 4 in Dublin and 2 in Belfast. The deaths attributed to scarlet fever, which had been 3, 4, and 6 in the three preceding weeks, were again 6, of which 2 occurred in Dublin and 2 in Belfast. The 6 deaths referred to diphtheria were 3 in excess of the average in the earlier weeks of the quarter, and included 4 in Dublin. The fatal case of enteric fever was recorded in Drogheda.

The deaths referred to diseases of the respiratory system, which had been 97, 104, and 105 in the three preceding weeks, further rose to 113 in the week under notice. Of the 526 deaths from all causes, 168, or 32 per cent., occurred in public institutions, and 4 resulted from various forms of violence. The causes of 14, or 2·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes of death did not exceed 0·6 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet-Surgeons: J. C. G. Reed to the *Terror*, additional, for Bermuda Yard and Ireland Island; E. S. Tuck to the *Natal*; W. R. Trythall to the *Cæsar*; R. J. Mackeow to the *Black Prince*, on recommissioning; J. Menary to the *Lord Nelson* and for general staff duties; and E. G. E. O'Leary to the *Queen*. Staff-Surgeons: W. N. Blatcliford to the R.N. Depôt, Deal, temporary; R. R. Horley to the *Sirius*, for medical charge on voyage out, and to the *Psyche*, on recommissioning; J. C. Bringan to the *Vernon*, temporary; C. A. G. Phipps to the *Pyramus*, on recommissioning; J. H. Lightfoot to the *Sirius*, for medical charge on voyage home; and E. R. L. Thomas to the *Cæsar*, temporary. Surgeons: R. J. G. Parnell to the *Victory*, additional, for disposal; H. H. Ormsby to the *Wildfire*, additional, for Sheerness Yard and Barracks; and G. B. Cockrem to the *Black Prince*, on recommissioning.

ARMY MEDICAL SERVICE.

Major William R. Blackwell, R.A.M.C., to be a Deputy Assistant Director-General at the War Office, vice M. H. G. Fell (dated April 1st, 1914).

ROYAL ARMY MEDICAL CORPS.

The undermentioned are restored to the establishment:—Supernumerary Lieutenant-Colonel Charles A. Young, vice F. J. Morgan (dated April 1st, 1914). Supernumerary Major Albert E. Hamerton, D.S.O. (dated March 28th, 1914). Supernumerary Lieutenants: William K. Morrison, Edgar Percival (dated April 1st, 1914), and Stanley J. Linzell (dated April 4th, 1914).

Colonel C. Birt has embarked for India.

Lieutenant-Colonel T. du B. Whaite has embarked for a tour of service in India. Lieutenant-Colonel F. J. Morgan has been appointed Senior Medical Officer at the Royal Arsenal, Woolwich. Lieutenant-Colonel T. B. Winter has been appointed to hold charge of the Military Hospital at Canterbury. Lieutenant-Colonel E. Eckersley has been appointed to hold charge of the Military Hospital at Quetta. Lieutenant-Colonel H. M. Adamson has been appointed to hold charge of the Military Hospital at Belgaum Cantonment.

Major R. H. Lloyd has been appointed Senior Medical Officer at the Military Hospital, Dagshai Cantonment. Major L. Addams-Williams has embarked for India. Major A. W. N. Bowen has been appointed to the Military Hospital at Belfast. Major C. E. Pollock has embarked for the Sierra Leone Protectorate. Major J. Hennessy has been appointed to hold charge of the Military Hospital at Ahmednagar Cantonment. Major J. W. H. Houghton has been appointed Specialist in Advanced Operative Surgery to the Military Hospital at Meerut Cantonment. Major A. G. Thompson has been appointed for duty on board the transport s.s. *Rohilla*, for Karachi from Southampton. Major H. W. K. Read has been appointed Senior Medical Officer at the Military Hospital, Rangoon Cantonment. Major H. D. Packer has embarked for India. Major E. W. Bliss has been appointed to the Eastern Command. Major D. Harvey has arrived home from the Nyasaland Protectorate. Major G. J. S. Archer has joined at Dorchester. Major A. H. Safford has taken up duty in the Irish Command. Major N. H. Ross has been appointed to the Military Hospital at Fyzabad. Major A. L. Scott has relinquished charge at Deepcut. Major W. S. Crosthwait has been transferred from Upper Topa, Murree Hills, to the Military Hospital at Ambala Cantonment. Major H. G. Pinches has arrived home from the Straits Settlements. Major J. H. Barbour has been appointed to the London District. Major E. V. Aylen has taken up duty in the Rawal Pindi Division.

Captain J. McKenzie has been transferred from t Military Hospital at Calcutta to Dinapore Cantonmen Captain E. M. Pennefather has been appointed to t Military Hospital at Multan Cantonment. Captain B. Patch has embarked for India. Captain J. F. Whela has been appointed Deputy Assistant Director of Medica Services, Sanitary Branch, to the Poona Division of th Southern Army in India. Captain E. C. Phelan has joine at Barrackpore Cantonment. Captain H. C. Winckworth ha embarked for a tour of service in India. Captain F. Case ment has been appointed to the Scottish Command Captain R. J. Cahill has been transferred from Athlone t Londonderry. Captain N. Low has joined at Colchester. Captain C. T. V. Benson has been granted leave of absence home from India for six months. Captain W. K. Beamen has been appointed to the Northern Command. Captain L. V. Thurston has been transferred from Bordon to Aldershot. Captain M. Keane has taken up duty at Calicut. Captain E. B. Lathbury has been appointed to the Irish Command. Captain J. A. Renshaw has been transferred from Secunderabad Cantonment to Wellington. Captain C. M. Nichol has joined at Alexandria. Captain J. F. Grant has been appointed Specialist in Electrical Science and Radiography to the Burma Division. Captain P. S. Stewart has been appointed to the Southern Command. Captain R. O. Kelly has been granted six months' leave of absence home from India. Captain F. T. Turner has been transferred to the Home Establishment from India. Captain A. T. Frost has joined at Lucknow Cantonment. Captain J. A. Bennett has been transferred from Newport to the Irish Command. Captain J. W. Houston has been appointed Deputy Assistant Director of Medical Services, Sanitary Branch, to the First (Peshawar) Division of the Northern Army in India. Captain W. Dunn has been appointed Senior Medical Officer, Military Hospital, Thayetmyo Cantonment.

Lieutenant T. E. Osmond has been transferred from Lucknow Cantonment to the Military Hospital at Ambala Cantonment. Lieutenant D. W. Bruce has taken up duty at Rawal Pindi Cantonment. Lieutenant J. Rowe has joined at Deepcut.

INDIAN MEDICAL SERVICE.

The King has approved the promotion of the following officers:—Colonel to be Surgeon-General: Robert William Steele Lyons (dated Jan. 10th, 1914). Lieutenant to be Captain: Thomas Arthur Hughes (dated 30th July, 1913).

The promotion of Major Herbert Henry George Knapp to the rank of Major is antedated from Jan. 29th, 1914, to July 29th, 1913.

The King has approved of the retirement of Lieutenant-Colonel Patrick Percy Kilkelly (dated March 1st, 1914).

Lieutenant-Colonel S. E. Prall, medical officer of health of the Port of Aden, has been granted leave of absence home on medical certificate. Lieutenant-Colonel the Hon. C. Mactaggart, C.I.E., has been appointed to officiate as Inspector-General of Civil Hospitals, Agra and Oudh, *pro tem.* Lieutenant-Colonel E. R. Parry has been appointed to officiate as Superintendent of the Alipore Central Jail. Lieutenant-Colonel A. E. Berry has been appointed Specialist in Ophthalmology to the Fifth (Mhow) Division.

Major A. King has been placed under orders for Bombay. Major W. D. Hayward, medical storekeeper to the Government of Madras, has been granted 20 months' leave of absence. Major J. L. Marjoribanks has been appointed Medical Officer of Health of the Port of Aden and Medical Officer to European General Hospital at Aden. Major T. Hunter has been appointed Civil Surgeon at Naini Tal. Major C. F. Marr has been appointed Medical Storekeeper to the Government of Madras. The services of Major W. G. Richards have been placed temporarily at the disposal of the Government of Madras. Major H. W. Illius has been appointed Civil Surgeon of the Second Class. The services of Major J. E. Clements have been placed permanently at the disposal of the Government of the United Provinces of Agra and Oudh for employment in the Jail Department.

Captain G. L. Duncan has been appointed to hold medical charge of the 90th Punjabi Regiment. Captain R. H. Lee has been appointed Superintendent of the Midnapore Central Jail. Captain W. S. J. Shaw has been appointed Superintendent of the Central Asylum at Yeravda. Captain R. D. Saigol has joined the Civil Medical Department in Burma. Captain C. L. Dunn has been appointed for special duty in connexion with the prevention of plague in the Punjab.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

The undermentioned Lieutenants are confirmed in their rank: George H. Haines, Howell G. Jones, and Henry C. Rook.

Cadet Andrew Robert Fausset Clarke, from the Edinburgh University Contingent, Officers Training Corps, to be Lieutenant (on probation) (dated Feb. 17th, 1914).

No. 18 Field Ambulance, Lieutenant-Colonel Fred D. Woolley resigns his commission (dated March 21st, 1914).

TERRITORIAL FORCE.

Royal Army Medical Corps.

4th London Field Ambulance, Royal Army Medical Corps: Lieutenant Herbert E. Middlebrooke resigns his commission (dated April 4th, 1914).

5th London Field Ambulance, Royal Army Medical Corps: John Edward Sandilands (late Captain, List of Sanitary Officers whose services will be available on mobilisation) to be Lieutenant (dated April 4th, 1914).

1st Lowland Field Ambulance, Royal Army Medical Corps: Robert Scott Taylor to be Lieutenant (dated Feb. 19th, 1914).

1st London (City of London) Sanitary Company, Royal Army Medical Corps: Lieutenant Joseph Grounds to be Captain (dated Dec. 4th, 1913).

Sanitary Officers whose services will be available on Mobilisation.—Captain John E. Sandilands resigns his commission (dated April 4th, 1914).

2nd London Clearing Hospital, Royal Army Medical Corps: Lieutenant-Colonel Charles Monk, Retired List (late of the Indian Medical Service), to be Lieutenant-Colonel (dated March 6th, 1914).

For Attachment to Units other than Medical Units.—Ernest Mannering Morris (late Captain, Unattached List for the Territorial Force) to be Lieutenant (dated March 20th, 1914).

Attached to Units other than Medical Units.—Captain William Ritchie is seconded under the conditions of paragraph 114 of the Territorial Force Regulations (dated Feb. 19th, 1914). Captain Arthur H. W. Hunt resigns his commission (dated April 4th, 1914).

TERRITORIAL FORCE RESERVE.

Royal Army Medical Corps.

Charles Gordon Watson (late Captain, List of Officers attached to Units other than Medical Units) to be Captain (dated Feb. 13th, 1914).

ROYAL NAVAL MEDICAL SERVICE EXAMINATION.

At the examination for appointments as Acting Surgeons for the Royal Naval Medical Service held on March 30th and 31st and April 1st and 2nd, 17 candidates were successful as follows:—

	Marks.
F. C. Hunot, Guy's Hospital	1805
H. B. Parker, London Hospital	1728
R. F. Quinton, London Hospital	1685
J. L. Priston, London Hospital	1665
M. J. Aitken, Glasgow University	1665
J. A. Maxwell, B.A., Trinity College, Dublin	1610
W. G. Thwaytes, Edinburgh University	1555
M. S. Moore, Trinity College, Dublin	1513
W. P. Beattie, Aberdeen University	1470
F. E. Fitzmaurice, University College, Cork	1433
C. E. Greeson, Aberdeen University	1408
T. J. O'Riordan, University College, Cork	1385
J. C. Kelly, Trinity College, Dublin	1375
H. W. Fitzroy-Williams, Victoria University, Manchester	1373
T. Hill, University College, Cork	1343
J. M. Horan, University College, Cork	1295
G. M. Graham, Edinburgh University	1233

The maximum number of marks obtainable is 2400.

THE SESSION AT HASLAR.

On the completion of the course of instruction for the winter entry of Acting Surgeons, Royal Navy, at Haslar, the prizes and commissions were distributed on April 2nd by the Medical Director-General of the Navy, Surgeon-General A. W. May, C.B., K.H.P. The following is a list of the successful candidates with the aggregate marks obtained at the London, Greenwich, and Haslar examinations:—

	Marks.
A. R. Sharrod	3499
J. S. Elliott	3421
A. J. Tonkinson	3420
T. J. Kilbride	3275
J. R. Haldane	3213
J. S. Harvey	3155
J. P. Blockley	3086
W. H. Murray	3052
G. H. Hayes	3036
P. B. Wallis	2964
H. C. A. T. Cannon	2901
H. J. Hopps	2322

The gold medal was gained by Acting-Surgeon A. R. Sharrod, formerly of the London Hospital, and the silver medal by Acting-Surgeon J. S. Elliott, formerly of Edinburgh University. The three Admiralty prizes were respectively gained by Acting-Surgeon A. R. Sharrod, Group I. Haslar subjects; Acting-Surgeon T. J. Kilbride, Group II. Haslar subjects; and Acting-Surgeon A. J. Tonkinson, Greenwich subjects. Special commendations are as follows: Acting-Surgeon A. R. Sharrod, for obtaining highest marks at the Haslar examination, and for being first in the two Haslar groups; and Acting-Surgeons Sharrod, Elliott, and Wallis for zeal and ability shown in the performance of their ward duties. The Director-General, in presenting the prizes and commissions to the surgeons, told them that their duties would have to deal with the physical and moral welfare of the Navy. There was no doubt, he said, that not only the welfare but the very existence of this country depended on the Navy. It was common for people outside the service to imagine that efficiency consisted in the number of ships the country possessed, and to forget that behind the guns and in the ships there was the *personnel*. It was really upon the efficiency of the *personnel* that the power of the navy depended. Their work on shore would not much differ from that of the ordinary hospital work, for naval hospitals were in no way inferior in scientific attainments to the ordinary shore hospitals. Their life on board ship, however, would differ very much from anything they had either seen or contemplated in their life on shore. He thought it would be clear to them that it was their duty to prevent the *personnel* of the fleet from becoming ill rather than to cure men when they were ill, and to remember that they should place as many efficient men in the fighting line as possible. Prevention of illness must therefore be their aim on board ship. Continuing, the Director-General dwelt at some length upon the important question of ship ventilation, and in dealing with preparation for war urged the great importance of instructing the men in rendering first aid to the wounded, and reminded them that they would have to consider such matters as transporting the wounded down from the fighting tops and up from the stokeholds, as well as being prepared to carry out operations under very difficult circumstances.

AT the next meeting of the Society of Medical Officers of Health, which will be held at 5 P.M. on Friday, April 17th, at 1, Upper Montague-street, Russell-square, W.C., a paper will be read by Dr. B. A. Peters, lecturer on infectious diseases, University of Bristol, on the Elimination of Cross Infection in Hospitals. As this is a question affecting all hospitals, and especially those for children, it is hoped that the meeting will be attended by members of the medical staffs of these institutions.

ROYAL MEDICAL BENEVOLENT FUND.—At the last meeting of the committee 24 cases were considered and grants amounting to £267 voted to 22 of the applicants. The following is a summary of the cases relieved:—

Widow, aged 75, of M.R.C.S. Eng. Only income 5*s.* per week from Old Age Pension. Health very bad and failing sight. Voted £18.—Widow, aged 62, of M.D. Glasg. After husband's death endeavoured to support herself by taking boarders. In consequence of ill-health and lack of boarders unable to pay her way. Voted £12.—Orphan, aged 63, of M.D. St. And. Takes in paying guests, but illness and bad season cause of distress. Voted £10.—M.D. Q.U.I., aged 80. Private practice diminished and only a few panel patients. Voted £18.—Orphan of M.D. Edin., aged 68. Distress caused through the foreclosure of mortgages on leasehold property. No income at present. Relieved once £12. Voted £12.—Widow of M.D. Glasg., aged 56. Endeavours to earn a little by taking in a boarder. Suffering from chronic rheumatism. Children unable to help. Relieved seven times, £54. Voted £12.—Widow of M.D. Edin., aged 59. Has very indifferent health. Children only able to help slightly. Relieved four times, £44. Voted £12.—Orphan of M.R.C.S. Eng., aged 75. Unable to work in consequence of recent accident and old age. Just been elected an out-pensioner of £26 per annum, and has an annuity of £9 15*s.* 6*d.* Relieved once, £10. Voted £10.—Orphan of M.R.C.S. Eng., aged 65. Endeavours to earn a little by taking in boarders, and just a little assistance from relatives. Cause of present distress, death of mother and sister, both of whom had small annuities. Relieved seven times, £84. Voted £12.—Orphan of M.R.C.S. Eng., aged 66. Income from investments only £20 per annum. Lives with sister whose income also is only £20. Distress caused by loss of investments and ill-health. Relieved twice, £24. Voted £18.—Orphan of M.R.C.S. Eng., aged 59. Has invalid mother to nurse. Mother lost income through building society frauds. A little assistance for invalid comforts from the Guild. Relieved twice, £24. Voted £12.—Orphans of M.R.C.S. Eng., aged 41 and 43. Endeavour to earn a living by letting rooms. Bad season cause of present distress. Relieved once, £10. Voted £10.—Widow of L.R.C.P. Edin., aged 56. Unable to earn anything in consequence of bad health. Receives a little help from the Guild. Relieved eight times, £103. Voted £12.—Orphan of M.R.C.S. Eng., aged 50. Difficulty in obtaining suitable employment through unsatisfactory health. Relieved twice, £27. Voted £12.—Widow of M.D. Glasg., aged 69. Income only £14 per annum allowed by friends and a little help in the winter from the Guild for coal. Health bad. Relieved once, £12. Voted £12.—Orphan of M.R.C.S. Eng., aged 63. Income only £5 per annum from a friend. Has very bad health and quite unable to do anything. Relieved five times, £60. Voted £12.—Orphan of L.R.C.P. Irel., aged 52. Endeavoured to support herself until two years ago, when health broke down. Income £39 per annum from relatives. Relieved once, £10. Voted £10.—Widow of M.R.C.S. Eng., aged 59. Health bad and cataract of left eye and quite blind in right eye. Children quite unable to help. Relieved three times, £30. Voted £10.—Orphan of M.R.C.S. Eng., aged 57. Only able to earn a small sum per week by needlework, and a relative helps to pay the rent. Health bad. Relieved 16 times, £190, and special £5. Voted £12.—Orphan of L.R.C.P. Lond., aged 67. Blindness and nervous breakdown. Only income £17 per annum from a society. Relieved nine time, £90. Voted £12.—Orphan of M.R.C.S. Eng., aged 45. Endeavours to support herself by letting rooms, but has been unsuccessful recently. Relieved three times, £30. Voted £12.—Widow of M.R.C.S. Eng., aged 66. Suffering from malignant growths of the breast. Endeavoured to earn a little by letting room. Children only able to help very slightly. Little help for nourishments from the Guild. Relieved 13 times, £156. Voted £10.

Contributions may be sent to the honorary treasurer, Dr. Samuel West, 11, Chandos-street, Cavendish-square, London, W.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(Continued from p. 996.)

XLII.—LONDON: FAVOURABLE VIEWS OF THE ACT.

IT now became my task to call on various practitioners who are on the panel and who approve of the Insurance Act. My first visit was to a popular practitioner living in the Fulham-road, who expressed himself as being quite satisfied. He had some 800 insured persons on his list and paid only about three visits a day. Out of 24 visits paid on the day of my call only two were to panel patients. Some came to his surgery from long distances when they were really too ill to go out, and he had to hasten them home and to bed. Nor did he get the numerous night calls he had feared; but very trivial cases did come to his surgery, people who complained that their corns hurt them or that they had warts. But there were, he said, in Fulham some panel doctors with too long lists. One of them was credited with a list exceeding 4000, and another 2500. Patients had used their right under the Act to put themselves on the list of practitioners whom they desired to see, and thus it was that some insured persons, whom he did not know before, had come to him. Nor had he found that his panel work interfered with his private practice. On the contrary, it had increased the number of his private patients, for now he was attending, and for the usual fees, the dependents of the insured.

It would be a mistake, however, to conclude from the above optimistic view that because a doctor is on the panel and approves, in a general sense, of the Insurance Act, he is therefore quite at ease and quite satisfied. This is far from being the case, for numerous improvements are suggested and many apprehensions entertained.

The Group System.

In quite a different part of the metropolis, in Lewisham, I saw a well-known and popular panel doctor who anticipated the possibility of a State Medical Service as a solution of the problem of medical benefit. In the meanwhile, and though he did not use such terms as collective or coöperative effort, he strongly advocated the organisation of panel work in the "group" form. To him it was wasteful and injurious to turn private dwellings into surgeries. In rural districts, where the population was scattered and practitioners lived several miles away from each other, this could not well be avoided. But in densely populated industrial centres, in London especially, it was a scandalous waste of opportunity and of resources for every panel doctor to keep up a petty little surgery of his own. Panel doctors, he urged, should form groups numbering at least six and preferably more. Jointly these panel doctors should hire a house, or, if it be possible, they should have a building planned and constructed specially for their purpose. Here there would be one large well-appointed waiting room, and as many consulting rooms in communication with the waiting room as there were panel doctors grouped together. Then there would be other rooms for electric treatment, bacteriological examinations, X rays, &c.; and thus jointly many facilities could be secured that no one panel doctor could by himself afford to supply. Above all, there would be the advantage of rendering coöperation between the panel doctors both natural and easy. Incidentally this would tend to reduce the prevalence of malingering, and the panel doctors might secure for themselves much greater freedom by agreeing to deputise for each other. The great object to strive for at present was the abolition of the spirit of competition. Under the capitation system this was rendered much more easy of attainment. Indeed, he went on to say, the Insurance Act has already established a State Medical Service, at least as far as the patient is concerned, if this was not so much so in regard to the doctor. The idea of service to the State had got to take the place of the old notion of competition. The Insurance Act was not intended to facilitate "bottle of medicine practice." It was meant to bring into existence a great educational force. The panel doctor was given an independent position with a comparatively safe income, so that he might teach the ignorant masses that a bottle of medicine will not cure disease. They had to teach sanitation. This could be done better in medical centres, such as might be established by grouping panel doctors together, than in small private surgeries. If a doctor speaking in his own small, ill-ventilated, dingy surgery told his patient he must have exercise and more air, the patient would go away and tell his friends that the doctor was no good because he had given him no medicine. But if such lessons were enforced by several doctors grouped in a centre where an object-lesson of cleanliness and ventilation was given at the same time they would be better appreciated.

Unsuitable Surgeries and Complaints against Panel Doctors.

At present, in this part of the south-east of London, there is a panel doctor who examines his patients in the waiting-room before all the other patients. It is true that this is quite an exceptional case, but nevertheless, and though he has no place to see his patients in private, he has quite a long list of poor people who have selected him as their panel doctor. In other parts of London similar scandalous conditions obtain here and there. A section of the population is so down-trodden—poor, wretched people—so inured to rough treatment, that they do not resent lack of proper accommodation. On several occasions my attention has been drawn to a notorious case of this sort on the Surrey side in a thickly populated district. The question is, How long will it be before these forlorn sections of the poor discover that they are badly treated and that better treatment is within their reach if they will avail themselves of the opportunities the Act gives them? Also, and on the other side, better men will come on to the panel when they see that a competence can be assured them, and this, too, without having to engage in any acute phase of competition against fellow practitioners.

As a member of the Medical Service Sub-Committee formed by the London Insurance Committee, my Lewisham informant explained he was in a position to inform me that the greater number of complaints made against panel doctors came from the poorer districts. This was natural, because it was just in such districts—Hoxton and Bethnal Green, for instance—that the panels were understaffed. The patients who were most apt to complain in all districts, and perhaps more especially in the better class districts, were those whose doctor has not gone on the panel. They had thus been obliged to send for a panel doctor whom they had never seen before; and this sort of compulsion was apt to make them critical. The general complaint was that the doctor did not come quickly enough, especially if asked to call in the afternoon or evening. But it must be remembered that in a crowded neighbourhood a panel doctor with a large list might well be detained in his surgery till ten in the evening.

The Good that Grumbling Does.

All this grumbling, whether justified or not, is probably doing good. The grumblers will help to obtain in time a recognition of the fact that the panel patient is extraordinarily protected by publicity. Therefore in time the Act will give a guarantee of good service, because it is a public service and a controlled service. But for the present, at least in many instances, the control is inefficacious.

As far as his own patients were concerned my informant had but little complaint to make. He had more than 1000 insured persons on his list, and many of them called on him as little as they possibly could. Of course, like all his colleagues, he was annoyed by trivial cases, but he did not find that the working class bothered him in that manner. It was the clerk earning 35*s.* a week who rushed off to the doctor on the slightest provocation. And by the side of the trivial cases he had work of the greatest scientific interest. He had one obscure case in particular which he would gladly have gone from one end of London to the other to see.

Improved Conditions of Practice under the Act.

I inquired at this point whether the Insurance Act could be utilised to check the spread of venereal disease. The reply was that so many practitioners stood in terror of the "unco' guid" that they dared not advise as to what precautionary or prophylactic measures, other than moral restraint, could be taken. But the Act would be, he maintained, a powerful instrument for the general prevention of sickness. When things had had time to settle down panel doctors would be less timid; they would think less and less about losing patients. A conscientious doctor would not lose more than a patient here and there, and under the capitation system this amounted to a very small sum. It did not affect seriously the much greater security of income now enjoyed. Of course, under the contract system there was a danger that some practitioners might drift into a groove, finding little to encourage them to improve their methods, and resting content to rub along in the easiest way. Would the glare of publicity be sufficient to prevent such neglect, or would the State institute compulsory post-graduate courses so that medical men in its service might be forced to keep abreast with the march of science?

Then there was also the question of private practice. In the case of this informant again the going on to the panel had not interfered in the least with his private practice. On the contrary, insured persons on his list had, on several occasions, introduced him to private patients. His private practice had so increased, and his position was so much improved after working for one year on the panel, that he had just been able to exchange his bicycle for a new motor-car. Taking everything together, the outlook seemed encouraging to him. There was difficulty in some parts of London. Even before the Act there were not doctors enough in certain districts; now it should be easier to induce practitioners to settle in those districts. When all the advantages were better known, a better supply of doctors would follow. But such a sweeping change as that brought about by the Insurance Act required several years to produce its full effects. Such, at any rate, were the principal opinions and impressions that were set before me by friends of the panel system during my visit to Lewisham.

(*To be continued.*)

MOTORING NOTES.

(FROM A SPECIAL CORRESPONDENT.)

The Studebaker Two-seater Cabriolet.

To many people an American car denotes a cheap one which perhaps goes well and climbs hills excellently, but probably not for long. In fact, recently, when discussing with a colleague the purchase of such a car, he said: "They are like some razors: not made to shave, only to sell." As a consequence of this and other conversations and inquiries, and also because the car in question seemed to possess qualities that adapted it well to the needs of a doctor, I spent a day in thoroughly examining and testing a Studebaker cabriolet, concerning which I see that a correspondent of THE LANCET has recently made inquiries.[1] The cylinders are cast *en bloc*, and have a bore of 3½ inches and a stroke of 5 inches. The valves are all on the left side, and are enclosed by a plate which is accessible and easily removable. The valves themselves are drop-forged with their stems electrically welded to the head. The operating push-rods are adjustable. The pistons are of grey iron with polished heads, and are fitted with three piston rings above the gudgeon pin. The connecting rods are of drop-forged steel. The gudgeon pin bearing is of phosphor bronze. The big ends are lined with cast babbitt metal, and packing pieces are provided for adjustment. The crank shaft is of chrome nickel steel, and all the bearing surfaces are ground to micrometrical exactness. Lubrication is by means of a plunger pump driven direct from the cam-shaft. A supply of oil is carried in a sump in the bottom of the crank case, and from here the pump forces it into four troughs, one under each connecting-rod. There is also a sight gauge-glass on the dashboard, from which oil is led to the timing gears at the front of the engine. This gauge serves as an indication that the pump is working correctly. An oil-level indicator fitted to the side of the crank case, which is easily visible, shows accurately at all times the quantity of oil in the sump. Ignition is by means of a single coil mounted on the off-side of the engine, and the current is derived from accumulators which are kept fully charged by the dynamo, and these also supply current for the lamps and the engine-starting electric motor. A dry battery is connected to the ignition coil as a standby in case of derangement of the main system. Cooling is by means of a gilled tube radiator with a fan behind it, and a large centrifugal pump. The carburetter is a Schebler, and a regulator is placed on the dashboard enabling the adjustment of the air supply to be varied according to climatic conditions. The clutch is a leather-faced cone, which, as a matter of fact, is probably as simple and as satisfactory as any. Flat steel springs are fitted underneath the leather to facilitate easy engagement. The transmission is by propeller shaft with two efficient universal joints. Three forward speeds and one reverse are provided, all operated by a single lever on the gate change system. The housing of the rear axle also contains the gearbox. The control is by throttle and spark levers on the top of the steering wheel, with a foot accelerator situated between the clutch and foot brake pedals. The brakes all act on the rear hubs—one set being by external contracting lined steel bands acting on steel drums, whilst the other set is by internal expanding shoes acting on the same drums. The electric self-starter is fitted on the off-side of the engine, and is connected, by means of a suitable reduction gear and chain, to a chain sprocket and roller clutch fitted on the front end of the crank-shaft. The starting motor and the chain are stationary, except when in use for the actual purpose of starting the engine.

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[1] THE LANCET, April 4th, p. 1014.

I had no doubt that the car would go, but I wanted evidence. I therefore suggested to the representative of the company that I help myself from their store to various parts for examination as to quality and machining. They agreed with pleasure. I found their depôt a perfect hive of industry, some hundreds of cars being in various stages of preparation for delivery. Here I saw the tuning-up and testing of the products of the firm. It is in the thoroughness with which this is done that the difference exists between the best and the mediocre car—at least, from the user's point of view. The tester represents, or should represent, an aggressive, expert and discontented purchaser. At the depôt each detail is separately considered, so that the car leaves with its engine up to standard power, quiet and fast on the level, cool in traffic and on speed, and with the carburetter consuming a minimum amount of petrol. In the store I picked out a differential star, four different spider pinions, a connecting rod, the two parts of a gearbox through shaft, each from different piles, some gear pinions, a shackle pin, cam-shaft, and one of the universal joints. These I took with me to Woolwich, where I examined them with an engineering friend. His opinion was that the material was good and the machining excellent, and though in unimportant parts the pieces were rough the bearing surface and important parts were well finished and undoubtedly, as stated by the makers, ground to micrometrical exactness. All the spider pinions, though picked out indiscriminately from a stack of many hundreds, were a perfect fit on the star. The through shaft parts were also a good fit, the bush for the bearing between the two fitting perfectly; the connexion between the two portions is by a three-point dog clutch. Some might prefer an internal tooth pinion, but on many cars this method is adopted, and it is quite an accepted practice. From Woolwich I took the car and tested it over some Kentish hills. I found the engine starter worked well, the engine gave all the power necessary, and that without noise or fuss of any kind; the springing was good, and even over rough roads there was little hopping or swerving, but of course a shock absorber would have been an improvement. Although three speeds are provided, they are requisite only for starting and for steep climbs. As a rule, from a crawl to well over the legal limit, the top speed obtained all the time. In traffic the control was excellent, and of this I had proof in Piccadilly and over that unpleasant crossing, the Elephant and Castle. The gear changing is easy, and immediately on taking the steering wheel and opening the throttle the sweetness with which the clutch takes up the drive was noted. The way, too, the car travelled up a hill on top gear made driving a pleasure. The brakes were tested in both directions on a hill of 1 in 4·8, and gave ample proof that either is sufficient for any emergency. The car is comfortable to drive, and clutch, brake, and throttle pedals are well situated, though personally I prefer the latter on the left instead of between the two former. The body is comfortable, the upholstering good, and entry can be made on either side.

There is little doubt that this car will become popular with the medical profession, especially as, considering the quality, the price is reasonable.

Motor Engineering Pupils and Scholarships.

The Daimler Company, Limited, of Coventry, have sent to all the technical schools and colleges throughout the United Kingdom inviting pupils in their works. Their scheme seems to be a very comprehensive one, and planned on broad and generous lines. It is necessary for candidates to show evidence of some scientific training. Under their new system it is possible for a pupil to win a scholarship if his work reaches a sufficiently high standard.

The Rapid Valve Truer.

There is no question that the efficiency of an internal combustion engine is largely dependent on its compression, and therefore any leakage past the valves reduces this efficiency. As a rule, grinding-in suffices to make a valve "bed" correctly on its seat. As a matter of fact, a large number of owner-drivers are rather too keen on grinding-in their valves, but the minority who postpone this procedure too long may find that the badly worn valve face requires an enormous amount of grinding, and may even call for the aid of a lathe. It is in these cases that the rapid valve truer will be found useful. The instrument consists of a cutter screwed into a casing, which latter has inside it a double-coned part and a single-coned part, forming ball races for two sets of balls. These hold the valve stem concentrically true with the cutter, so that the valve face beds evenly when being trued up. The cones are adjustable, and one cutter will true a large number of valves. The method is simple. When the instrument was tested by the writer on a ten-year-old badly pitted valve found on a scrap heap the resulting finish was equal to that obtained on a lathe with skilled workmanship. The device is sold by Messrs. Brown Bros., Limited, of Great Eastern-street, London.

Boilerine Radiator Tablets.

We have submitted these tablets to laboratory examination and find that the claims made in regard to their property of preventing lime deposit or of dissolving it when formed are substantiated. By their use the water in the radiator, and therefore the tubes, are kept clean, the circulation is unimpeded, the radiation is maintained at a maximum, and the risk of choking the channels avoided. Analysis disclosed the ingredients which have no corrosive action on metal when used in the quantity directed, which is, of course, based upon the degree of hardness of the water. For London water two tablets to the gallon are sufficient. A soluble combination of the lime salts of the water with the ingredients of the tablet is formed which has negative properties in regard to metal. The makers are Messrs. Boilerine, Limited, 885A to 897, Old Kent-road, London, S.E.

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

MANCHESTER.

The Ways of Women Inebriates.

IN the annual report of the Lancashire Inebriates Reformatory at Langho, near Blackburn, Dr. F. A. Gill, the medical superintendent, states that 60 per cent. of all committed were mentally defective. Commenting upon the traits of women inebriates, he thinks the chief features of this class are defective intelligence, quarrelsome disposition, perverted or absent moral sense, and lack of control over impulses. Defective intelligence is expressed chiefly by a condition of general apathy, lack of energy, faulty memory, and little power of thought or judgment. "Their sense of honour," he says, "is simply non-existent. A lie is a matter of convenience, truth or untruth is a matter of indifference so long as it will enable them to attain their ends. Morality has no meaning. ...... Some of them nearly live a bovine existence, eating, dodging their work, and not infrequently falling asleep over such work as they do. When punished by confinement to cells they are perfectly content to do absolutely nothing."

Diseases in Infancy and Childhood: Boiling of Milk and Tuberculosis.

Dr. Ralph Vincent gave recently an address to the Manchester Sanitary Association on the prevalence of disease amongst babies and young children, in which he said that many of the diseases of children, including tuberculosis, were caused or led up to by inadequate or improper food. He did not think there was much, he said, in the cry about the ignorance of mothers. The great cause of the prevalence of disease in the young was the absence of food adequate for the requirements of the infant. Mothers should be encouraged to breast-feed their infants, as milk was not in its natural condition when it was boiled. He repeated the view that boiling destroyed a vital property of milk, and declared himself able to exclude cow's milk as a cause of tuberculosis in a great majority of cases.

Obsolete School Buildings.

Lord Sheffield on April 3rd, as President of the Manchester and Salford District Education Association, referred to the large number of defective school buildings in Manchester and Salford. According to reliable statements there are far more than a score of schools with an average daily attendance of 20,000 children which are utterly unsuitable for their purpose, and which have been repeatedly pronounced to be defective by the Board of Education. Most of these were built before the Education Act of 1870. Since then there has been a complete reformation in the construction, lighting, and other hygienic requirements of school buildings.

Charitable Bequests.

Miss Elizabeth Catherine Wagstaffe, of Cheetham Hill, Manchester, among other legacies, bequeathed £300 to the Clinical Hospital, Manchester; £500 to the Salford Royal Hospital; and £500 to the Cancer Pavilion, Manchester.

April 7th.

BRISTOL AND WESTERN COUNTIES.

Farm Colony for the Feeble-minded.

A SHORT time ago Mr. H. H. Wills offered a farm, worth about £7000, at Bishop's Lydeard, near Taunton, for use as a farm colony for the feeble-minded of Bristol and Somerset, on condition that the sum of £14,000, for the erection of buildings, was collected by March 20th. There is still a deficit of £4000, but Mr. Wills has extended his time limit to May 31st, so that the necessary sum may be raised if possible. A series of meetings is to be arranged to make the need of such an institution more widely known. It is hoped that the cost of upkeep will be largely covered by grants from local governing bodies and by the produce of the farm itself.

The Late Surgeon-Lieutenant-Colonel Smith.

The death of Surgeon-Lieutenant-Colonel Samuel Smith, in his seventy-ninth year, removes a familiar figure from the streets of Bristol. He had been in practice here for many years, and for a considerable time held the office of battalion surgeon to the 1st Gloucester Volunteer Royal Engineers, also receiving a commission in the Army Medical Reserve. After 23 years' service he retired with the Victorian Decoration and permission to retain the rank and to wear the uniform of Surgeon-Lieutenant-Colonel. He was a Fellow of the Royal Meteorological Society and of other learned societies. In spite of his advanced age he was very active, and remained in practice until the onset of his last illness.

Consulting Medical and Surgical Officers to the Bristol Poor-law Institutions.

The Bristol board of guardians has decided to follow the example of other large cities by appointing a physician and a surgeon respectively, at a salary of £100 a year each, to act in a consultative capacity to its workhouses and infirmaries. The conditions of service have not yet been definitely stated, and the appointments have yet to be advertised; but there is little doubt that if the details are satisfactorily arranged these posts will add greatly to the efficiency of the local Poor-law medical service.

Hospital Sunday Fund at Bristol.

At present the sum of £1959 has been received in connexion with the Lord Mayor of Bristol's Hospital Sunday Fund. This is slightly in excess of the total for 1913, which amounted to £1957, and as there are still over 30 collections to be sent in it is anticipated that this year's total will exceed £2000.

Bristol Board of Guardians.

The Bristol board of guardians at its meeting last week appointed Mr. R. H. Norgate, L.R.C.P. Lond., M.R.C.S., to be the medical superintendent of the new workhouse infirmary at Southmead, at a salary of £400 per annum. Mr. Norgate has been resident medical officer of the Stapleton workhouse infirmary of the Bristol union for the past 19 years. The guardians also decided to appoint two assistant medical officers.

The Local Government Board and Whole-time Medical Officers of Health.

The Local Government Board recently suggested to the Taunton rural district council and to the Wellington urban council that owing to the resignations of their respective medical officers of health they should combine and appoint a whole-time officer to the post. Last week these authorities, together with representatives of the Taunton board of guardians, discussed the matter fully, and eventually resolved unanimously to recommend the appointment of a whole-time medical officer who should act as medical officer for the St. James's district of Taunton, medical officer of health for the Taunton rural district and the Wellington urban district, and hold also the posts of medical officer to the Taunton Isolation Hospital and the Children's Homes at Taunton. The salary to be £450 per annum.

A Medical Certificate at Plymouth.

At the Plymouth county court on March 20th, before his honour Judge Lush-Wilson, K.C., a man was summoned for non-payment of rent. The defendant suffered from pulmonary tuberculosis, and his wife produced a medical certificate to the effect that he was unable to work through illness. The practitioner who gave the certificate stated that he had put no date on it. His honour said it was a sad case, but the woman appeared to have put a date upon a certificate which had been previously given to her husband so as to make it suitable for the present case, and to have sworn that her husband was ill in bed, although he was then at work at the dockyard. His honour said that he must lay the facts before the Public Prosecutor and leave him to decide upon the course to be adopted.

April 7th.

IRELAND.

Medical Officers of Health in Ireland.

IN answer to a question in the House of Commons last week, Mr. Birrell, Chief Secretary for Ireland, stated that there were 903 medical officers of health, including medical superintendent officers of health and consulting sanitary officers, employed by local authorities in Ireland. Of these, two were full-time officers, and they were paid salaries of £500 a year or over. Mr. Birrell's answer is inaccurate, as there is only one whole-time medical officer of health in Ireland, the medical officer of Belfast. The information would have been more complete if Mr. Birrell had added that the salary of a medical officer of health in Ireland varies from £5 to £25 a year. THE LANCET recently (March 28th, 1914, p. 924) gave particulars of the obstructions put by the responsible Government department in the way of a local authority which wished to make the office of medical officer of health effective.

Royal College of Physicians of Ireland.

At the meeting of President and Fellows last week Sir Arthur Chance, F.R.C.S. Irel., was elected an Honorary Fellow of the College. The honour is a recognition of gratitude to Sir Arthur Chance for his services to the College while representative of the sister College on the General Medical Council. Sir Arthur Chance is a past President of the Royal College of Surgeons in Ireland, and is surgeon to the Mater Misericordiæ Hospital. At the same meeting Dr. Bethel A. H. Solomons was elected a Fellow.

High Mortality in Dublin.

The death-rate of Dublin has been abnormally high during the past few weeks, even for Dublin.

Scarlet Fever in Belfast.

The scarlet fever epidemic—which has now raged in Belfast since October, 1909—is slowly wearing itself out, for the report of the health of the city during the period between Feb. 15th and March 14th, presented at a meeting of the city council held on April 1st, shows that 132 cases were notified.

A Rise in Salary.

The salary of the medical officer of health of Belfast has been raised from £800 to £900 by two annual increments.

The National Insurance Act in Belfast.

At a meeting of the Belfast Trades Council on April 2nd a resolution was unanimously passed expressing the opinion that the present panel system of obtaining medical certificates has proved a complete failure both in regard to the interests of the insured persons and of the Approved Societies, and calling upon the Chancellor of the Exchequer and the Irish Insurance Commissioners to institute a State Medical Service for the insured persons, failing which a State Medical Service should be initiated for the purpose of issuing medical certificates to insured persons when ill. At a meeting of the Belfast Local Medical Committee held on March 31st Mr. R. J. Johnstone was elected chairman, in place of Sir John Byers, who, through pressure of work, has been obliged to resign. A resolution was unanimously passed thanking Sir John Byers for his services, and deeply regretting his inability to continue in office.

The late Colonel Frederick S. Heuston, A.M.S.

I regret to announce the death of Lieutenant-Colonel F. S. Heuston, at Greystones, co. Wicklow. He had a distinguished career in the Army Medical Service, from which he retired two years ago. A Tipperary man by birth, he received his medical education at the Carmichael school in Dublin, and took the Fellowship of the Royal College of Surgeons. He entered the army in 1884, and saw much active service, beginning with the Black Mountain Expedition in 1888. In 1894 he was seconded for service with the Chinese Government, and took part in the opening of the Imperial Medical College at Tientsin, of which he was for some time president. He served in the Chino-Japanese war, and was decorated by the Chinese Emperor, while he was also a C.M.G. In the South African war he was twice mentioned in dispatches. In his younger days Heuston played for the Irish International Rugby team in three successive years, 1881, 1882, and 1883. He was a brother of Mr. Francis T. Heuston, surgeon to the Adelaide Hospital, Dublin, to whom the sympathy of the profession will be extended.

April 7th.

PARIS.

The Proper Hours for Meals.

Professor Bergonié, of Bordeaux, has invented an electric bed in which the passage of the current through the body of the subject sets up organic combustions similar to those brought on by muscular exercise and leads to reduction of obesity. Professor d'Arsonval has recently communicated to the Académie des Sciences the results of M. Bergonié's studies by means thereof on the energy of the organism. By studying closely the hourly variations of energy in a subject whose mode of life is known and regular and whose weight is constant at the same hours, it becomes possible to construct a curve of the needs of energy of the subject for every hour. It is known that 80 per cent. of the energy is taken up in maintaining the body heat, and that the calls on this energy for heat production are in inverse proportion to the temperature of the surrounding medium. In civilisation, where activity is prolonged far beyond sundown and for a part of the night, the draught upon energy at these hours is considerable. On the other hand, between 10 P.M. and 6 A.M., during sleep, the heat demand is *nil*, and energy is stored afresh for use with great intensity on waking. M. Bergonié concludes that the hours at which it is suitable to take into the system by means of food the sources of this energy must be regulated by these considerations; but it is necessary to take note of the period that elapses between the time of taking food and that at which its digestion and assimilation have set free all the utilisable energy, just as in the electrical power house the engineer must calculate the time that elapses between the coaling of the fire and the augmentation of the voltage in the circuit. M. Bergonié has discovered that the least suitable hours for meals are between noon and 1 P.M. and between 7 and 8 P.M.—that is to say, precisely those hours which in Europe modern usage has set apart to meals. It is true that these meal hours have varied considerably down the ages, and that in the last century they were earlier than at present. According to M. Bergonié the meal hours that a rational hygiene would prescribe would be as follows: the principal meal of the day should be taken at 7.30 A.M. or as soon after as possible, so as to obtain all the necessary energy for the day's work and to restore the liver, emptied by the night's abstinence. A second meal of 300 to 400 calories, for which a luncheon of milk, sugar, and cakes would suffice, should be taken about 4 P.M. Finally, a third light repast of 700 to 800 calories at 8.30 or 9 P.M. would complete the alimentary *régime*. M. Bergonié adds that in a family which has accepted his views this *régime* has been followed for six years, and has furnished excellent results as regards the general health of all the members. These views have aroused much surprise in France; in England it would be necessary, in conforming with this *régime*, to have breakfast a little earlier and of the old-fashioned solid sort, to reduce luncheon to a sort of tea, and to postpone and reduce the evening meal.

Amœbic Dysentery in France.

A communication by Professor Landouzy to the Académie de Médecine suggests that there is a gradual acclimatisation of amœbic dysentery in France. Already 14 cases are known in persons who have never been out of France, and among these have occurred seven hepatic abscesses and five deaths. Four of the victims had associated with colonials in France and appear to have been directly infected, but the others had had no such exposure. Professor Landouzy reported the case of a mariner at the Hôpital Laennec, aged 38, who had always served on boats plying in the north of France. There was no suspicion of dysentery. The patient was cachectic, with an enlarged liver, and had suffered for months from vomiting and diarrhœa (not bloody). Chemical reagents showed a feeble hæmoglobin reaction however. Hepatic cancer was diagnosed, but at the necropsy made 24 hours after death an enormous hepatic abscess was discovered with the characteristic intestinal ulcerations of dysentery, both abscess and ulcerations showing amœbæ. Inoculation into a cat proved negative. Professor Landouzy reported another case, that of a man who had spent a year in Morocco and returned without any sign of dysentery, though he had lost flesh and was easily fatigued. A little later he sustained in an automobile accident a severe contusion of the liver, and three months afterwards a sharp febrile attack with a large abscess of the liver containing amœbæ ensued. This man was an unwitting germ carrier. From these observations Professor Landouzy presages an indigenous amœbiasis which is gradually becoming acclimatised and is giving rise to numerous germ carriers, in whom the disease may break out on the occasion of a traumatism, and who especially may be unconscious and unrecognised conveyers of it. The special danger is that the medical man is apt to think of dysentery only in connexion with patients returned from the colonies. Professor Landouzy suggests that special search be made for the amœba in all cases of rebellious diarrhœa of unexplained origin and accompanied by cachexia, even though there may be no blood in the stools and no hepatic symptoms. Moreover, returned colonials who have attacks of dysentery must no longer be regarded as incapable of spreading the disease, but the same precautions as are used in the colonies must be rigorously insisted on in their case. M. Vaillard, president of the Conseil Supérieur de Santé de l'Armée, while admitting the possibility of contagion through returned colonials, protested against exaggerated fears. Although the numbers of returned soldiers and civilians during the past 30 years had greatly increased, the number of cases had not increased, and the discovery of a really specific remedy in emetine now rendered possible the sure sterilisation of such cases. In this view he was supported by M. Bertrand, director of the Service de Santé of the Navy.

Hospital Sanitation.

Considerable attention has been directed to a recent article in the *Presse Médicale* by Dr. Raoul Brunon, physician to the General Hospital at Rouen and director of the medical school there. He alludes to the millions spent in Paris by the Assistance Publique for the construction of new hospitals, no expense having been spared in making them comfortable to the verge of luxury, and insists that no improvement in hospital statistics can be looked for unless regulations such as those which have sufficed to render the oldest hospital buildings sanitary are adopted generally. These necessary conditions are adequate floor space for the beds, continuous ventilation of the wards, and the necessary minute personal attention to each patient many times a day. Even the newer hospitals, if lack of room causes overcrowding, too close proximity of beds, and insufficient air space, or if a deficiency in the *personnel* precludes the proper washing of individual patients and the daily disinfection of the floors, walls, and furniture, will show statistics as unsatisfactory as those of the older buildings. When a town undertakes the construction of costly hospitals they cannot for the same expenditure provide the same number of beds for the community. Overcrowding soon occurs and with it insanitary conditions. In an old hospital if the walls and floors are washed every day, if the wards are frequently emptied and disinfected and are always properly ventilated, there will be less infectiousness present. M. Brunon instances the hospital mortality from broncho-pneumonia in whooping-cough and measles as due to contagion of the hospital wards. In the old General Hospital of Rouen, under his direction, not a single case of death has occurred from measles or whooping-cough for many years, thanks to rigorous asepsis and ventilation, while at Paris the mortality from measles is still severe. In 1887 the mortality from measles exceeded 40 per cent. at Paris, in 1898 the mortality was such that the Chef de Service demanded the closing of the whooping-cough wards after 103 children had died therein in ten months. In 1899 the mortality from broncho-pneumonia after measles was still about 30 per cent. It is to-day 14 per cent. at the Enfantes Malades, 12 per cent. at the Trousseau, and 9 per cent. at the Hôpital des Enfantes Assistés.

April 6th.

VIENNA.

Professor Wenkebach appointed Successor to Professor von Noorden.

Professor Frederick Wenkebach, the director of the medical clinic of Strassburg, having been invited by the Austrian Ministry of Education to become the successor of Professor von Noorden in the first medical clinic of Vienna, has accepted the offer thus made to him. As already mentioned in one of my letters, Professor von Noorden was induced by reasons of a personal nature to resign his post and to relinquish his clinic, a first-rate and completely modern institute. Professor von Noorden has founded in Vienna an excellent institute for the investigation of the processes of metabolism, and his successor, who is 50 years of age, and a Dutchman by birth, has done a great deal of work in this direction, so that the departure of Professor von Noorden will be compensated to some extent. Professor von Wenkebach will take over the clinic in the month of May in the coming summer term. He was recommended by the senate of the university "*primo et unico loco*," an honour accorded only to very few professors.

The Winter Term of the Austrian Universities.

Last winter the Austrian universities were very well attended by students, and in particular the medical and biological institutes could not accommodate all those who sought admission. It seems that apart from the natural increase of population the attraction of scientific study induces constantly increasing numbers of young persons of both sexes to betake themselves to some university. The proportion of medical students to those of the other faculties — namely, philosophy, law, and theology—has increased from 19 per cent. to 24 per cent., as compared with the numbers recorded in the winter of 1912-13, whilst the total number of students has gone up by 3 per cent. There were 370 graduations as doctor of medicine in Vienna, or more than 20 per cent. in excess of the graduations last year. The chief increase of students and medical graduates was noted in Vienna and Prague, whilst the other smaller universities had a considerably less percentage. It is interesting to find that the number of foreign students and medical graduates—working in the medical institutes chiefly—is constantly rising, and that the influx comes chiefly from England and the United States of America, whilst the Russian and Italian contingents are rather less numerous than in previous years.

Grievances of Veterinary Students in Vienna.

More than a year ago the relations between the students of the veterinary school and the military managing board began to be strained, but a settlement of the disputed questions was eventually arrived at, although not without much difficulty. Quite recently, however, discord has again arisen, on account of the military authorities in command of the veterinary school having violated the university rules as understood by the students. The authorities having ordered a class to be formed for men who were said to have no right to attend the university, the students regarded this as a serious affront offered to them and demanded satisfaction. When this was refused they not only declined to do their class work but also prevented the delivery of any lectures, the newly-formed class above mentioned being interrupted in like manner with the others. The students demanded the immediate dismissal of the offending officer, and as this was similarly refused the managing board found no way out of the difficulty but to close the school and send the students home without having passed the necessary examinations. This means that the students lose this winter term, and many of them lose also the scholarships and privileges which can be gained only by those who have passed certain examinations. The students of the other faculties in Vienna have expressed their sympathy with the veterinary students in the conflict on which they have entered, and the former in their turn intend taking radical measures to ensure that academic rules and academic liberty shall be respected in all departments of university training.

April 6th.

CANADA.

Medical Inspection of Schools in Quebec and Ontario.

IN Montreal medical inspection of schools is under the Board of Health. Up to the present time the city has been divided into 19 districts, with a medical inspector in charge of each on part time at $1400 salary per annum. There are 254 schools in the city with approximately 85,000 pupils, so that each inspector is in charge of some 13 schools. There have been only seven nurses, but with the reorganisation of the Health Department of the city now proceeding under the new medical officer of health, Dr. Boucher, this number will be increased to 15 or more. The medical inspectors will probably be called upon to give all their time to this work on increased remuneration. Since medical inspection was established pediculosis and scabies have almost disappeared from the Montreal schools. Practically all the population of the city is vaccinated. The people coöperate willingly in medical inspection. Outside of Toronto, which has a well-established system under the Board of Health, a number of places in Ontario have inaugurated this work. Several other cities and towns have considered the question, but are waiting for a provincial law establishing medical inspection throughout the province.

Ontario Workmen's Compensation Bill.

In 1910 the Ontario Government appointed Chief Justice Sir W. R. Meredith Commissioner as to the laws relating to the liability of employers to compensate employees for injuries received during employment. The Commissioner visited England, Germany, and certain places in the United States, and as a result of his studies and observations a Bill is now before the Ontario Legislature which will be passed at the present sitting of that body. It is, however, not satisfactory to the medical profession. When it was first learned that a Commissioner had been appointed the Academy of Medicine, Toronto, appointed a special committee to watch the legislation which might be introduced. This committee was placed in charge of Dr. Bruce L. Riordan; and at a recent special meeting of the Academy Dr. Riordan presented the report of his committee. The Act is to be administered under the powers of a Commission whose decision in all matters shall be final, and there shall be no appeals allowed to the ordinary courts of the province. The committee calls for the reasonable payment of medical expenses in connexion with injuries which is not provided for in the Bill, and points out where the Bill should be amended so as to comply with this fair stipulation. The Bill is based more upon the German than on the British law. The Minister in charge of the Bill has been interviewed by members of Dr. Riordan's committee, who pointed out that coöperation on the part of the medical profession was most vital for the success of the Bill. Due consideration of the points raised by the medical deputation has been promised by the Government.

Syphilis in Toronto.

Quite recently the subject of syphilis in Toronto was under discussion by the Academy of Medicine. Dr. J. S. Graham reported that the total number of cases admitted to the Toronto General Hospital from August 11th to Dec. 13th, 1913, was 412; and of this number 180 gave a positive Wassermann reaction. Professional classes had the low percentage of 7, while business classes stood at 23. Dr. Mann gave the results of tests at St. Michael's Hospital. Of 158 men and 180 women examined, 57·5 per cent. of the men gave a positive reaction, 37·25 per cent. negative, the residue being doubtful. Of the women, 64·5 per cent. gave a positive, and 21·6 negative. Dr. Gordon Bates and Dr. G. S. Strathy tabulated their experiences as revealed by doing the test on about 1200 patients. They dealt with these under the heads: (1) Venereally infected; (2) infected through marriage; (3) inheritance. In the last class the cases were taken from the Hospital for Sick Children, Toronto, and the Hospital for Feeble-minded, Orillia. At the Children's Hospital they tested and found positive the parents of 37 suspected syphilitic children. At Orillia they tested 100 patients. Three were positive. Thirty defective children were also tested at the Children's Hospital; none gave a positive reaction. They come to the conclusion that syphilis plays but a small part in the direct etiology of feeble-mindedness.

Hospital Resignations.

Dr. Francis J. Shepherd, for 31 years senior surgeon of the Montreal General Hospital, has resigned, and is at present on a trip to Panama. Dr. W. H. Hattie, who has been superintendent of the Nova Scotia Hospital for the Insane for 14 years, has resigned, and has been appointed chief health officer for the province.

The Laurentian Society.

This society for the treatment and control of tuberculosis, during the first five years of its existence, has discharged 170 patients from its sanatorium. Of these, 98 are well and following some occupation, 24 are dead, 3 could not be traced, and 45 are still invalids.

March 24th.

INDIA.

The Town Planning of Delhi.

IN considering the future of Imperial Delhi it is important not to overlook the measures required to bring the Delhi of to-day into line with the new capital. The walled city and densely populated suburbs have long had an evil reputation for unhealthiness. Sanitation on modern lines has never been undertaken on a large scale, and epidemic disease in the shape of fever, cholera, and small-pox has levied a heavy toll on the inhabitants. Hence the death-rate has always been high and the infant mortality is even now appalling. For the new city that is being planned to the south to have in its immediate neighbourhood insanitary areas holding a congested population would be a grave mistake. Imperial Delhi in its true sense must embrace all the units that are at present roughly grouped together, and each one must be above reproach in the matter of public health. Improvements, then, in Delhi as we know it now must go hand-in-hand with the Imperial scheme that has for its object the creation of a brand new city on the southern site. Major H. C. Beadon, Deputy Commissioner, in his capacity of president of the municipality, drew attention to this point in his remarks on the annual municipal report for 1912-13. "The most pressing need of the Delhi citizen," he wrote, "is room to build, room to work, room to play, room to walk, room to drive—Room." He showed how the city is hemmed in by the Jumna, the notified area (which includes the civil station), graveyards, railways, and State lands—those to the south being now mainly reserved for the new city. "Instead of decent orderly expansion the people have been huddled into a totally insufficient area, so that the streets have been encroached on, slums have been built, and land has become so valuable that capitalists cannot build, and improvements, however pressing, cannot be effected." He urged very strongly that to relieve this congestion the whole area from the great Indian Peninsular Railway to the Darhaulia Nallah should be town-planned.

Medical Provision in Burma.

The Burma Chamber of Commerce recently called the attention of the local government to the inadequate provision of European medical officers in the province, which was aggravated by the medical policy laid down in the Secretary of State's despatch of December, 1908. In other Indian provinces with an organised European medical service the practice of Western medicine has been encouraged. Here there is no material for the recruitment of a native independent medical service. As examples of the Government medical policy, the chamber points to the refusal to supply Indian Medical Service officers to the growing trade centres, under-staffing the Rangoon General Hospital, and the slow development of the Burma Medical School. It is contended that by the refusal to meet the need for medical aid in rapidly growing commercial towns many valuable lives are lost and commerce has been checked. The policy of repression of the Indian Medical Service is detrimental to the commercial progress of this young province. The local government replied sympathising with the view that it was desirable to post Indian Medical Service officers as civil surgeons in a number of districts for which they are not now available. The need for more such officers in Burma has been represented to the Government of India.

Unhygienic Bombay.

Bombay has been so long known to the countries of the West and to the tourist as "Bombay the Beautiful" that people have not given much thought to Bombay the "unhygienic." It must be regretfully admitted that notwithstanding the very large annual expenditure on its health department, Bombay is still a good deal backward in sanitation. Bombay may be considered as one of the most densely crowded cities in the world. Not only have all available building areas in the city been long since taken up for building purposes, but a very large number of residential quarters in the shape of tall houses and rickety tenements have been allowed to crowd on them without much heed to the needs of the people. There are very few open-air spaces in the shape of parks, gardens, or other places of public resort to act as "lungs" to the city, to the urgent needs of its teeming population, densely packed in every nook and corner of it. What is actually meant by "overcrowded" can only be realised by a nocturnal visit to one or two of the many Goanese residential clubs which exist, or to one of the large tenements in some of the most crowded parts of the city. Most of these tenements consist of very small rooms, ill-ventilated, damp, and unwholesome, and are literally crowded with people, many of whom go out for work during the greater part of the day, and who on return home can scarcely get more breathing space than what is obtainable in the shape of the barest sleeping accommodation at night. No wonder overcrowding should thus stand far and away as one of the largest factors, if not quite the largest, in the very high rate of disease and death in the city. A still greater menace to the health of the city are the perverse and uncleanly habits and the apathy and ignorance of the vast bulk of the people who make up this heterogeneous mass of humanity. Although these things may not be easily preventable all at once, yet there is ample room for the exercise of certain corrective and educating influences, leading gradually up to considerable improvement.

The Calcutta School of Tropical Medicine.

The Governor of Bengal, Lord Carmichael, on Feb. 24th laid the foundation stone of the School of Tropical Medicine at Calcutta. In the presence of a large gathering His Excellency and Lady Carmichael were received by Colonel G. F. A. Harris, Inspector-General of Civil Hospitals, Bengal, who conducted them to the dais and made an introductory speech, in which he sketched the scope and aspirations of the Calcutta School. He concluded with a strong appeal for financial help. After the laying of the foundation stone Surgeon-General Sir C. Pardey Lukis, Director-General of the Indian Medical Service, conveyed the good wishes of the Government of India for the success of the school, and expressed his own keen personal interest in the subject. Lieutenant-Colonel Leonard Rogers, I.M.S., stated that donations amounting to Rs.1,17,952 had already been received. Lord Carmichael, in the course of a sympathetic speech, referred to the interest taken by the Viceroy in the scheme, and read out a message of encouragement which Lord Hardinge had telegraphed.

March 1st.

Obituary.

BENJAMIN NEALE DALTON, M.D. LOND., L.R.C.P. LOND., M.R.C.S. ENG.

ON March 23rd Dr. Benjamin Neale Dalton, a well-known practitioner in South London, died at the age of 70, after an illness of more than five years' duration. Dr. Dalton was the son of a stockbroker and was born at Stockwell in February, 1844. He was educated at the City of London School and entered as a student at Guy's Hospital in October, 1863. There he had a distinguished career. He took the first students' prize in three successive years, and in the third year obtained the treasurer's gold medal for surgery and the treasurer's gold medal for medicine, and further was awarded a prize of £10 for a paper on Malformations read before the Physical Society. After qualifying and acting as house surgeon he read for the degree of the London University, passing promptly the preliminary scientific examination and in 1870 the first M.B. examination. He was then appointed demonstrator of anatomy, and held the appointment for two years. In November, 1872, he took the final M.B. Lond., with the scholarship and gold medal in medicine and honours in obstetric medicine and in forensic medicine. In the next year he became M.D. While teaching anatomy he started a practice in South Norwood which he continued to hold until his final illness. He was industrious and hardworking, keenly interested in the scientific side of his profession, and he acquired a large connexion and was frequently consulted by his medical neighbours. He was a constant attendant at the local medical society, before which he read several papers. He kept himself acquainted with all modern advances. He was a great reader of history and philosophy, and was fond in his spare time of gardening, carpentry, and photography. On his holidays he much enjoyed foreign travel. He was married in 1878 and leaves a widow, three sons, and two daughters.

BIRMINGHAM AND MIDLAND SKIN HOSPITAL.—The annual report states that 282 in-patients were treated during last year, and 6200 out-patients, as against 276 and 6663 the previous year. The response to the appeal for donations to the radium fund had been very disappointing, only £46 having been received.

Correspondence.

"Audi alteram partem."

THE FACULTY OF MEDICINE OF THE UNIVERSITY OF LONDON AND EXTERNAL STUDENTS.

To the Editor of THE LANCET.

SIR,—At the meeting of the Faculty of Medicine of the University of London on Thursday, March 26th, an important vote was taken on the question of exclusion of external students from the Faculty. A division by show of hands gave 21 persons voting for exclusion and 19 against. The meeting had been called by the Board of the Faculty, with due notice that a number of propositions materially affecting the whole future of the Faculty and the University would be submitted for final decision by the Faculty, and it was held at the rooms of the Royal Society of Medicine—that is, in a place offering a maximal degree of convenience for attendance. As the reasons which have been often advanced for inadequate attendances of the Faculty—namely, inaccessibility of the place of meeting and insufficient importance of the agenda—cannot here be urged, the decision must be taken to represent the real feeling of the Faculty of Medicine as a whole, and I for one so accept it.

The Royal Commissioners based their recommendation to exclude the external student from the Medical Faculty on the ground that the Faculty had "passed a unanimous resolution" in 1909 in this sense; and, further, on two arguments which they adduce, and which I shall consider immediately. The first statement can no longer be maintained; many of us think it was a travesty of fact when it was made, and it must certainly now be relegated definitely to the limbo of fiction. I submit that the division shows that opinion is nearly equally divided on the Faculty, and that there is no mandate for introducing a change, so far-reaching and so radical, for which the arguments which have been offered are so singularly unconvincing. The Commissioners, it is true, had no personal or practical experience of the problems which they were called upon to investigate. But they were carefully coached by the party which desires the extinction of external degrees in the University, and the arguments which are thought worthy to stand in the Report probably represent the flower of wisdom of these advisers. The Commissioners, in fact, make no secret of their source of inspiration. The rubric to the section (§393) summing up the opinion of the Commissioners on external degrees runs thus: "Abolition of external degrees desirable *in the interests of schools and teachers*." (The italics are mine.)

The insertion of the limiting word "certain" immediately before the phrase "schools and teachers" would make the synopsis still more accurately reflect the whole spirit and meaning of the Report, and would indeed go a long way to explain its genesis. Here are the sole arguments, which all this collective deliberation can produce, for excluding external students from the Faculty of Medicine.

> We admit the argument of several witnesses that it is an injustice to doctors who have studied in London and obtained the London degree that the same qualification should be

> open to students who have never had any connexion with the University beyond sitting in its examination halls. Every school of medicine in the kingdom is now connected with a university, and no hardship would be imposed by requiring that medical students should graduate in the university in which they have studied (Final Report, p. 160).

The Commissioners bewail the "grave injustice," as they call it elsewhere in the paragraph quoted, that the London-taught graduate should run some risk of being confused with his brother graduate who has studied in a provincial University and been awarded his degree in London, as the result of passing the same examination which the London-taught graduate has passed. The persons directly interested in this argument are the graduates of the University, who must smile at this unwonted concern for them expressed by the Commissioners when they remember that these same gentlemen recommend the reduction of the graduates' representation on the governing body of the University—i.e., the Senate—from its present ratio of nearly one-third to less than one-seventh. This is surely a much "graver injustice" to graduates. The Commissioners' sympathy is, in fact, very like the not less noisily expressed sympathy of the Walrus and the Carpenter for the oysters which they were about to devour.

As a matter of fact, the graduates have shown, as I have stated in a previous letter to you, through their proper channel—namely, Convocation, which consists entirely of graduates—an overwhelming majority in favour of a decision directly the reverse of the halting opinion expressed in the late division of the Faculty, only one-third of whose members are themselves graduates of the University.

The second argument is at once refuted by reference to the official statistics which I quoted in my last letter,[1] and which demonstrate that the number of provincial students coming to London has not been diminished since the facilities to which allusion is made for graduating elsewhere have come into existence. The Commission in effect say that the provincial student "ought" to be satisfied to stay at home. He is not so satisfied. The Government, which fathered this Commission, is at this moment engaged in trying to persuade the inhabitants of Ulster that they similarly "ought" to prefer to be governed by their fellow countrymen. They do not so prefer. The Government are finding out, as I believe the Commission will also find out, that it is not so easy a matter as they imagine to coerce the legitimate preferences of free adult men.

The Faculty has long made bitter and just complaint that at the present time too few students enter for the medical degrees of the University of London. It is an unfortunate fact that many of the best men in the metropolitan schools after completing their studies in London take degrees in the provincial Universities of Oxford and *Cambridge*. I am frankly at a loss to understand why the Faculty which encourages this system should wish to stop the compensating flow from the other provincial universities to London, by a resolution which must automatically exclude more than 12 per cent. of the students at present taking medical degrees. I can only explain this inconsistency, as it seems to me, by supposing that the majority of the Faculty still cherishes the illusion which, it will be noted, the Commissioners themselves do not harbour, that the proposed new regulation will force the provincial students to take their courses as well as their degrees in London.

The resolution passed by the Faculty would, if adopted by the University, differentiate medicine from all other faculties as they exist at present; it would dock the University of 12 per cent. of its annual pass-list in medicine, and it would withdraw privileges from a large and ambitious class of students to whom the University has offered these privileges, unchallenged, for 50 years. To justify such sweeping change its supporters must find better reasons than they have been able up to the present to produce; they must convince a much larger proportion of the Faculty of the necessity for such change; above all, "they must," to use Professor Starling's words in another connexion, "show that their 'action' is not directed by a regard for the private interests of themselves or their schools," as seems indeed to be suggested by the Commissioners themselves in the quotation I have italicised above.

I am, Sir, yours faithfully,
E. GRAHAM LITTLE.

Wimpole-street, W., March 30th, 1914.

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[1] THE LANCET, March 14th, 1914, p. 719.

THE DUCTLESS GLANDS.

To the Editor of THE LANCET.

SIR,—I have read with interest in THE LANCET of March 28th Major R. McCarrison's letter in which he supports Professor Swale Vincent's statement to which I have taken exception. I am glad, however, to notice that Major McCarrison, who has done excellent work on diseases of the thyroid, in the last paragraph of his letter supports my general findings concerning the relationship between the ovaries and thyroid. My conclusions were based both on clinical and experimental observation, but he contends that only the clinical evidence is worthy of consideration.

With regard to Major McCarrison's criticisms of my results as to the effect of oöphorectomy upon the thyroid, I hope he will believe me when I say that I am fully aware of all the experimental difficulties he so pertinently raises; indeed, I have mentioned most of them myself in the Arris and Gale lectures and elsewhere. It is, therefore, hardly justifiable for him to cut out from my lectures two short sentences which were discussed and qualified, and obscure them with a network of side issues. This will be obvious to anyone who has read my original communications.

The points I brought out after presenting certain facts were, that the thyroid varies considerably, not only in different mammals, but in the same species in different circumstances, notably in regard to pregnancy, which is a seasonal function. And I showed, with due caution, I believe, that the thyroids of rodents, owing to the different habits and food of these animals, differ from those of the carnivora, not only normally, but also in the results obtained after experimental removal. Further, I found that in rodents, which have an inactive (i.e., non-essential) type of thyroid—in spite of the cellular appearance and scarcity of colloid—oöphorectomy increased the amount of colloid quite unmistakably in non-pregnant adult animals. My experiments can hardly be described as "few," for I have removed the ovaries from rabbits a very large number of times, and I have many sections of the thyroids from these cases. The experiment is, however, easily repeated by anyone who doubts my findings, or attributes special peculiarities to my animals, and is capable of distinguishing between the normal and abnormal in similar circumstances, and after making due allowance for the normal variations. It should be incumbent on all who adversely criticise the experimental and clinical findings of others to adduce evidence to the contrary. It is a constant source of wonder to me why so many men, whose own scientific work may be accurate and valuable, should always be ready to criticise the work of others on purely theoretical or imaginary grounds, when experimental repetition is easy and conclusive. The investigator who is incapable of making a mistake has yet to be born, and I am merely defending my own findings and statements because they have not yet been shown to be wrong; when they are proved by scientific evidence to be erroneous in any particular I shall be the first to acknowledge the fact, even if I make the discovery myself.

I am, Sir, yours faithfully,

Liverpool, April 1st, 1914. W. BLAIR BELL.

To the Editor of THE LANCET.

SIR,—In THE LANCET of March 28th Major Robert McCarrison has an interesting letter on the structural variations that he has observed in the thyroid glands of rats, in association "with locality, with altitude, with season, with food, as well as with the hygienic conditions incidental to confinement in cages," his conclusions being based on the study of the histological appearances of the thyroid glands of about 450 rats.

As the result of an even more extensive investigation carried out many years ago I was led to conclude that the food factor was of special importance. I then drew attention to the fact that the histological appearances of the thyroid gland in any group of rats obtained at the same time from one source conformed to one type, but that various types were obtainable, these doubtless corresponding to different degrees of activity of the gland of a nature at present ill understood. The different histological appearances observed were illustrated in the *Journal of Experimental Physiology* many years ago. Another point which was brought out by my observations was the influence of diet in modifying the structure of the gland, the changes observed being of a very striking kind, though not constant in character. Major McCarrison further refers to the striking variations which he has observed in the thyroid glands of rabbits and guinea-pigs. I can confirm this statement, and the same can be said of the thyroid gland in pigs. At one time I examined the thyroid gland of a large number of pigs and was impressed by the differences observed in the histological appearances. This is, perhaps, not very surprising when one considers the differences observed in the naked-eye appearances of the carcasses. The colour of the muscle and the colour and consistence of the fat vary enormously, this being due, in the view of the butcher, to the feeding of the animal, the commercial value of pork from animals fed on "hard" food being considerably higher than of animals fed on so-called "soft" foods (chiefly brewery refuse).

A fruitful field for investigation is open to those who have facilities to investigate some of the interesting problems suggested by the facts brought out in Major McCarrison's letter.

I am, Sir, yours faithfully,

CHALMERS WATSON, M.D. Edin.

Edinburgh, April 1st, 1914.

MINERS' PHTHISIS ON THE RAND.

To the Editor of THE LANCET.

SIR,—A letter of mine upon the above subject kindly published by you in THE LANCET of Dec. 2nd, 1911, caused at the time an outburst of indignant protest both from the mine-owners and their official organs. My figures were said to be exaggerated and my assertions false. But my figures were very sadly underestimated, and my assertions upon this very grave subject had never been proved to be otherwise than correct. The statements and figures of the mining houses and the Government, on the other hand, can seldom be relied upon, for the simple reason that this disease is cursed with the damnable political insincerity of both the above parties.

Commission after commission has been formed and packed with incompetent persons, with the result that to-day silicosis is more prevalent than it has ever been. In 1911 roughly 12,000 white men were employed below on these fields; to-day the total has fallen to about 10,000. In 1911 three men per day applied for relief; to-day it is nearer ten, and accumulative claims must have been disposed of long ago. Therefore, so far all the supreme efforts of the mining houses and their servants must be written down a complete failure, and the sooner this is recognised and faced the better.

In order to refresh your readers' memories I may say that it has long been held by medical men, both here and in Australia, that it is only the very finest dust caused by drilling, blasting, and moving rock which produces silicosis. The condition upon the Rand must not be taken to be unique for the production of silicosis. It must be clearly remembered that silicosis, and rapid at that, occurred during the excavation of a large open drain through sandstone in Sydney not many years ago. This, together with all the other occupations well known to produce silicosis, does away with the theory that it is entirely caused by the dust from blasting. To those unacquainted with the process of rock drilling I would point out that though water may be freely used in the form of a spray from the moment the drill hits the rock to the end of a 4 foot or longer hole, there is a time when it does not effectually destroy the finest dust. This period is when the drill is hammering and chipping away at the rough uneven surface of the rock in order to gain a start for the hole. This process is termed "collaring the hole." More frequently than not no water is used during this process, which provides abundance of the deadly dust. Another difficulty to be faced is the constant breaking down of water-supplies; these for the most part are avoidable and due to too great pressure, corroding of unprotected pipes, &c. Almost all these difficulties could be overcome by a small exercise of common sense on the part of the mining engineer; but, no, the same stupid system and mistakes are made year after year irrespective of the consequences.

The mining authorities would hold that by improved ventilating methods the dust caused by blasting has been largely overcome. If this is so, why is miners' phthisis more virulent than ever? I do not hesitate to say now what I have said before, that the continuous forced passage of dust-laden air through places where men are working can be of little advantage, if any. The dust must be rendered harmless as much as possible at its point of origin. If the fine dust is entirely produced by blasting, then, according to the theory of the mining engineer, it should be all carried out of the mine before the men re-enter to work. The fact remains that sufficient of the really fine fatal dust (irrespective of blasting) is produced by the rock drills to account for the whole of the silicosis on the Rand; and yet let me point out how the mining houses deal with this vastly important matter.

Rock drills are placed in numerous positions on the mines and are mostly worked by kaffirs under the direction of white miners. Your readers will note I say under the direction. Now, to show the attitude of the mining houses as to this terrible disease I will illustrate what was being done before the late industrial upheaval and what is taking place to-day. Before the strike the miners through their union endeavoured to limit the number of machines each man should supervise; upon the whole they were fairly successful. To-day there is no limit, and no limit means no control as regards the keeping down of dust produced by rock drills. If the mining houses and the Government (which are practically one) were honestly sincere in their efforts to stop this curse, they would surely insist on the efficient control of every drill. This by no means implies that one miner is necessary for every drill when one or more are placed together, but, with few exceptions, one miner only can supervise one drill properly when working any distance up a raise. The production of the finest dust from a rock drill means, when circulating as it freely does, the death element to everyone working in the mine.

I believe I am right in the following facts; if not, I hope your readers on the spot will correct them. Miners' phthisis was well known not many years ago in ganister mines near Sheffield. The question received the serious attention of the Home Government, with the result that it has now practically ceased. To prove the keen interest in stamping out this disease shown by the mining houses and the Government I must add the following. The medical officer to the said ganister mines both during and after measures taken to prevent this disease was here on the Rand last year, and upon his information I published in the press the facts he gave me, and also suggested that his opinion should be of the greatest value. What notice was taken? Absolutely none. "No experts wanted from oversea except when required for political purposes" might well be written over the doors of the mining houses. I believe I am right in saying that the Home Government insisted upon the fine dust produced in ganister mines in England being kept down by the use of steam, when miners' phthisis ceased.

The fact which has to be grasped by those who seriously wish to see our vast industry freed from silicosis, is that water in the form of sprays, &c., has failed to diminish the disease. The fact that steam has eradicated miners' phthisis in the ganister mines points to the fact that in order to attract the very finest and most deadly dust the water must be in a much finer state of division, and this can only be produced by steam. If the simple experiment is made of forcing dust through a volume of water, the difficulty of destroying the fine dust which emerges is readily seen. Steam therefore appears to be not only the only hope, but by experience elsewhere the only sensible solution left. Mr. Moynihan, the well-known consulting engineer, pointed out how steam could be introduced after the cessation of drilling through the compressed air pipes. The question at what depth this would be impracticable, if at all, remains to be seen. Anyhow, it would only seem common sense to gradually work down from level to level. Something more must be done to prevent this awful waste of life, and that at once.

I am, Sir, yours faithfully,
J. L. AYMARD.

Johannesburg, March 16th, 1914.

THE BIOLOGY OF TUMOURS.

To the Editor of THE LANCET.

SIR,—I am much obliged to Mr. H. C. Ross for his kindly criticism of my lecture upon the Biology of Tumours published in your issue of March 21st, and for directing attention to the action of substances known as auxetics. All that he says simply confirms the views I ventured to put forward. As their name implies, auxetics do but add to a force that is already present. They supply nothing that does not exist already.

But I cannot agree with Mr. Ross that it has been proved that certain cells will not divide unless they absorb a definite chemical stimulus. A general negative such as this is not capable of proof, nor if it were proved, is division the only form of growth. Growth does not of necessity imply even increase in size. When the chemical processes that underlie growth come to an end life comes to an end with them.—I am, Sir, yours faithfully,

C. MANSELL MOULLIN.

Wimpole-street, April 6th, 1914.

"THE MENACE OF CANCER" AND AMERICAN VITAL STATISTICS.

To the Editor of THE LANCET.

SIR,—The Director of the Imperial Cancer Research Fund, Dr. E. F. Bashford,[1] goes far out of his way in his attack on the trustworthiness of American vital statistics and incidentally on the accuracy of my conclusions that cancer is on the increase in the United States, as discussed at some length in my address on "The Menace of Cancer" before the American Gynecological Society, in 1913. The argument of Dr. Bashford, if it can be dignified by that name, is not new, for he gave expression to practically the same views in his first address on the cancer problem, delivered in the United States in 1912. Regardless of the fact that I personally called his attention to the gross inaccuracies of his statements, he repeats his misleading assertions, and fain would make the world believe that the Americans still live in the Dark Ages and that the pathologist knows more about statistics than one professionally connected with statistical research. It would take up more space than is likely to be available for a full reply to answer even briefly the numerous misstatements on the part of Dr. Bashford, who practically limits his remarks to American vital statistics, which, in his opinion, are thoroughly untrustworthy and useless for the purpose of establishing the truth about the cancer situation at the present time and in the recent past. It is to be hoped, however, that in behalf of the cause of statistical science, medical progress, and simple justice to the undersigned sufficient space will be granted to establish concisely the facts in the case. My address on "The Menace of Cancer" was first delivered, by request, before the Academy of Medicine of Northern New Jersey, and subsequently, by invitation, before the American Gynecological Society, the Clinical

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[1] THE LANCET, Feb. 7th, 1914, p. 379.

Congress of Surgeons of North America, the Eastern Medical Society of the City of New York, the Wistar Institute of Biology and Anatomy of Philadelphia, the Academy of Medicine of Pittsburgh, &c. There has not come to my notice a single qualified contradiction of a single important statement made in the address on the part of an American medical journal in a position to pass judgment upon the facts. The address was delivered for the purpose of emphasising the seriousness of the cancer problem, of illustrating the frequency of cancer occurrence, and of arousing a public interest in the necessity of educating the public in the plain facts of cancer, as a prerequisite for a nation-wide campaign for cancer control. The address was largely instrumental in bringing into existence the American Society for the Control of Cancer, which has on its board of trustees some of the foremost physicians and surgeons of America, and of the Committee of Statistics of which I have the honour and the privilege to be the chairman. To the address itself Dr. Bashford gives practically no attention, but he requires more than three pages for his bitter, unwarranted, inaccurate, and unjust attack upon American vital statistics.

1. He questions the accuracy of the assertion that the cancer death-rate of the United States has increased from 63 to 74·3 per 100,000 of population during the period 1900–11. The term "United States" is used as a matter of convenience, for the rates refer to the "registration area," which by the year 1911 included 63·1 per cent. of the population of the country. On the part of one familiar with local conditions, it is entirely safe to assume that the conclusion which applies to the registration area applies with approximate accuracy to the remainder of the country not at present under registration. For the end in view it is, however, entirely immaterial whether the conclusion applies only to the registration area or to the country as a whole. There is no reason whatever for supposing that there has not been a corresponding increase in the cancer death-rate for the remainder of the country at present not under registration. Considering that the population under registration in 1911 amounted to 59,275,977, it will be observed that the actual numbers considered were far in excess of the corresponding population for England and Wales, or, for that matter, for the United Kingdom as a whole. The numerical basis for the conclusions was, therefore, sufficiently large and representative of the United States as a whole, but aside therefrom, the statistics of large cities were considered separately and for a much longer period of time.

2. Dr. Bashford deplores the "very backward condition" of vital statistics in the United States at the present day. There is no country in the world for which accurate vital statistics are available for so large a population, thoroughly digested in detail according to age, sex, and certified causes. The area at present not under registration represents vast sections of country sparsely populated and large regions in the south with a predominating negro population.

3. Dr. Bashford deplores that centralisation for the recording of births, marriages, and deaths has not yet been effected in the United States, and that recourse must be had to the reports for the several States. This statement is misleading. Neither the United Kingdom nor the German Empire, nor many other important civilised countries. have a centralised or federal system of recording deaths, with which the present discussion alone is concerned. By an arrangement with the Division of Vital Statistics a certified transcript of every death is obtained for what is known as the registration area, which includes either entire States or cities and towns which, upon the basis of thorough investigation, have been found to maintain a system of death registration satisfactory to the Census Office. Granting that absolute accuracy is not obtainable by this method, it is maintained without fear of contradiction that the degree of accuracy is approximately the same as for other civilised countries and that a system of Federal registration is not necessary, nor would such a system provide a material increase in the accuracy and completeness of the facts.

4. According to Dr. Bashford, "in 1880 the compulsory registration of deaths, as enforced by municipal or State authority, was first introduced at Massachusetts, New Jersey, the District of Columbia, and for some cities where State control did not obtain." As a matter of fact, the compulsory registration of births, marriages, and deaths was established in the State of Massachusetts under date of March 3rd, 1842, and annual reports, with reasonable completeness, have been published for that State since that year. Registration in the State of New Jersey was established in 1848, in the District of Columbia in 1878, in the State of Vermont in 1857, in the City of Providence, R.I., in 1855, &c.

5. The statement is made that "the Southern States are still *entirely* without any sort of reliable registration." As a matter of fact. most of the large cities of the South have had in force the compulsory registration of deaths for many years. For New Orleans the statistics extend over half a century, and practically the same is true of Mobile, Savannah, and Charleston.

6. It is true that the present registration area includes only 22 out of the 48 States of the United States, but additional thereto the registration area includes municipalities of 1000 and over in the State of North Carolina and 47 other representative cities, which combined with the registration States represent 63 per cent. of the total population of the Unites States, a population sufficient for the purpose of arriving at a trustworthy conclusion regarding American mortality from all causes, as well as from cancer.

7. Dr. Bashford, on the authority of Oertel, claims that New York City "has shown that the greatest laxity and inaccuracy obtains, owing to the neglect of the medical profession and the unwillingness of the authorities to enforce the prescribed penalties." The views of Oertel have not been accepted by qualified critics, although justified to a limited extent as regards initial diagnosis in hospital practice, which has but an indirect bearing upon the terminal certification in death registration. There is no laxity or gross inaccuracy inherent in the vital statistics of the City of New York, which are accepted by every authority on vital statistics throughout the world. The compulsory registration of deaths has been in force in the City of New York since 1865, but for half a century previous deaths were recorded in a more or less trustworthy manner and probably as accurately and conclusively as for most of the large cities of the world during the corresponding period of time.

8. According to Dr. Bashford an "attempt" is made in North Carolina and the district of Columbia to enforce registration. As a matter of fact, the local ordinances governing the registration of

deaths are enforced with reasonable completeness in the towns of North Carolina, and with entire completeness in the District of Columbia, where compulsory registration has prevailed since 1878.

9. The fact that 37 per cent. of the population of the United States are not at present within the registration area has no bearing whatever upon the trustworthiness of conclusions based on the statistics for the population subject to registration at the present time.

10. The statement that previous to 1902 "no two States and scarcely any towns used precisely the same methods of certification of deaths" is, broadly speaking, incorrect. No country in the world has adopted a uniform method of "certifying" deaths and no such law could be enforced. The accuracy and uniformity of death certification depends upon the attained state of medical science and not upon legislation. The use of a standard death certificate facilitates statistical analysis and improved classification, but it has no immediate bearing upon the accuracy and completeness of death certification itself as regards the causes of death.

11. It is claimed by Dr. Bashford that the standard death certificate was "revised by Act of Congress in April, 1913." As a matter of fact, there was no such revision, and Congress has no authority under the Constitution to make the use of a standard death certificate obligatory upon the several States or municipalities having adopted a system of compulsory registration.

12. The view of Dr. Bashford that "no comparison is possible between one year and another for the United States, or even between different States," is a self-evident absurdity. For a group of States with an area larger than the United Kingdom and a very considerable population comparable statistics have been available for half a century, and for a large number of representative cities comparable records are extant for an equal if not a longer period of time. For the registration area itself a strictly accurate comparison can be made from year to year, and the changes in the death-rate from all causes or specified causes can be determined with the required degree of scientific accuracy.

13. Dr. Bashford becomes quite serious when he remarks that "it must be added *emphatically* that even the States longest under the compulsory registration law, e.g., Connecticut and Massachusetts, have not yet succeeded in enforcing registration of *all* births." Waiving the question that the registration of births has nothing whatever to do with the question as to whether cancer is on the increase or not, it may be said that the registration of births in the State of Massachusetts is probably as nearly accurate as for most of the other civilised countries of the world. In no country are "all" births recorded, and it is only within very recent years that stillbirths were required to be reported in England and Wales.

14. The total population of the United States according to the Census of 1910 is given by Dr. Bashford as 90,753,237. The correct figures for the United States, exclusive of outlying possessions were 91,972,266.

15. Dr. Bashford claims that "the infantile mortality in the registration area of the United States cannot be estimated with any approach to accuracy." As a matter of fact, the annual reports of the Division of Vital Statistics of the Census give the number of deaths at ages under 1 by days, weeks, and months, and the proportion of such deaths to the total mortality on the one hand, or to the population at ages under 1 on the other, is the usual method by which the infantile mortality is calculated. It no doubt is of value to determine the proportion of deaths under 1 to the number of births, but it is entirely wrong to say that the infantile mortality in the registration area of the United States cannot be estimated with any approach to accuracy. The question is entirely irrelevant in the discussion of the question as to whether cancer is on the increase or not.

16. Dr. Bashford observes in all seriousness that "it is also common knowledge that the age constitution of a population is determined by the birth-rate, if immigration and migration be left out of account." The age constitution of every civilised country is affected far more by immigration and migration than by the birth-rate, and the question itself is therefore irrelevant, aside from the fact that it has nothing whatever to do with the problem of cancer.

17. Dr. Bashford maintains, in flat contradiction to the facts, that "the age constitution of the United States is simply unknown." In my address on "The Menace of Cancer" hundreds of cancer death-rates are given on the basis of population by divisional periods of life, including an official table for the registration States, calculated by the Division of Vital Statistics, giving the accurate rates for divisional periods of life and the crude and corrected rates for ages 25 and over. The statement that the age constitution of the population of the United States is unknown is preposterous. The United States took a census 11 years before one was taken in the United Kingdom. Even the Census of 1790 made a distinction of the population above and below the age of 16. The Census of 1800 gave the age constitution by five divisional periods of life. Beginning with the Census of 1830, the age constitution was given by decennial periods, which for all practical purposes meets all reasonable requirements. For more recent census periods the full analysis of the mortality by single years of life has been published, in conformity to approved census methods throughout the world. The statement, therefore, repeatedly made, that the age constitution of the United States is unknown is simply additional evidence of the gross ignorance of Dr. Bashford of the facts and conclusions which he essays to discuss with pretended scientific accuracy and fairness.

18. Dr. Bashford comments upon "the confused state of affairs in the United States as regards the vital statistics of that country." There is no confusion in the minds of Americans who make use of American vital statistics and who are familiar with the facts. The confusion exists solely in Dr. Bashford's mind, who apparently considers himself immune against criticism in matters which admit of no controversy at all.

19. Regardless of the fact that in my address on "The Menace of Cancer" there are hundreds of cancer death-rates according to age and sex and a number of diagrams concisely visualising the facts, the Director of the Imperial Cancer Research Fund again maintains that no account is "being taken of age and sex." Not only does the address referred to give the rates by age and sex, but also by race and age, and by organs and parts of the body according to sex and divisional periods of life. The statement is, therefore, without qualification, in flat contradiction of the truth.

20. The conclusion that "the absence of accurate enumeration of the number of births makes it impossible to estimate the proportion of males and females" is a self-evident absurdity. The proportion of males and females has been known for the population of the United States since the taking of the first Census in 1790, or 11 years before a census was taken in England.

21. In continuation of his remarks Dr. Bashford repeats: "Since the age and sex constitution of the population is unknown, this claim (of an increase in the mortality from cancer) cannot be upheld." In reply, I quote the following from my address on "The Menace of Cancer" as a further illustration of the indifference of Dr. Bashford to the facts:—"For males the increase in cancer during the 10-year period and at ages of 45 to 54 was 21 per cent.; at ages of 55 to 64 it was 39 per cent.; at ages of 65 to 74 it was 40 per cent.; and at ages of 75 and over also 40 per cent. For females the increase in the cancer death-rate at ages of 45 to 54 was 11 per cent; at ages of 55 to 64 it was 27 per cent; at ages of 65 to 74 it was 32 per cent; and at ages of 75 and over 44 per cent."

22. Dr. Bashford maintains that my tables of cancer mortality per 100,000 of population by sex "have an appearance of accuracy which cannot be maintained." Dr. Bashford omits to say that in practically all of the tables included in the address the rates are given by age and sex, and there is no *pretended* accuracy about them whatever. The table referred to was derived from the Vital Statistics of the Census for the registration States of 1900, and the required comparison is made for the two years 1901 and 1911, with a due regard to sex and 11 divisional periods of life. No more trustworthy or conclusive table of cancer mortality is published for any corresponding number of population in the world.

23. Dr. Bashford, apparently, is of the opinion that a low cancer death-rate is an evidence of improved registration, or as indicating only the stage to which vital statistics have developed. On this assumption the highest cancer death-rate of any one county of England and Wales would be the index of impaired registration in every county with more or less decidedly lower rates of cancer frequency. Apparently the Director of the Imperial Cancer Research Fund wants the world to believe that there are no local variations in the cancer death-rate, or that, in other words, neither local conditions nor race are determining factors, but that it is simply a question of imperfect registration. The conclusion of Dr. Bashford that "an accurate method simply cannot be adopted for the United States as a whole, or even for one or two States, if, indeed, for any single city," is a self-evident absurdity.

24. Reference is made to the method of cancer classification in the reports of the State of Connecticut for 1910. Dr. Bashford must have read this report as superficially as he did my address on "The Menace of Cancer," for on p. 213 of the report the mortality from cancer is given in detail by organs and parts of the body affected and by divisional periods of life. The inclusion of cancer deaths in the division of general diseases and as a subdivision thereof is in exact conformity to international usage on the basis of the revised international classification. Since the Connecticut reports were not used in my address on "The Menace of Cancer," the reference thereto is irrelevant.

25. Similar references are made to the statistics of Rhode Island, New York City, and New Jersey, all of which illustrate Dr. Bashford's ignorance of American vital statistics far more conclusively than they demonstrate any inherent or practically important defects in American vital statistics.

26. There are numerous other misstatements, false inferences, or references reflecting upon Americal vital statistics, which it would be superfluous to discuss in detail.

Practically the entire paper by Dr. Bashford is a meaningless jumble of inaccurate, misleading, and purposeless observations regarding a subject with which he has at best a very superficial acquaintance. He refers to the abandonment of the former method of enumerating deaths upon the decennial census, which has no bearing on the subject under consideration. He refers to the cancer censuses of Germany and Hungary, which are only very incidentally dealt with in my address on "The Menace of Cancer." The practical value of cancer censuses has been by no means disproved by the superficial, inaccurate, and misleading observations of Dr. Bashford on that particular subject. No reference was made to immigration or migration, since these are but incidental factors fully allowed for in the use of accurate population statistics according to age and sex. The fundamental question as to whether cancer is on the increase or decrease in the United States is not discussed by Dr. Bashford at all. No evidence has been produced to prove that it is wrong or misleading to speak of an increase in the mortality from cancer, nor are my observations regarding the cautious use of the data made mention of in Dr. Bashford's observations. The assertion that the position taken by King and Newsholme in 1893, that the increase in cancer is only apparent and not real, "has been amply justified" is again a deliberate misuse of Dr. Bashford's opportunity to force his own opinions upon the public.

The conclusion of Dr. Bashford that "the statements of the alleged increase of cancer in America have only the value of vague rumours" is entirely unjustified by the incontrovertible fact that at least 75,000 deaths from cancer occur annually in the United States and that the time has come for a nation-wide interest in the problem of prevention and control. The work undertaken in America will be carried forward with a genuine devotion to the truth and with a due regard for all the facts and conditions affecting the cancer problem as a public question which requires to be taken into account. In any event, American students of the cancer problem will give slight consideration to the unfair, inaccurate, and misleading observations and conclusions of one who has demonstrated, as shown by the foregoing analysis, his utter unfitness to be considered a guide in cancer research from a statistical point of view.

I am, Sir, yours faithfully,
FREDERICK L. HOFFMAN.

Newark, New Jersey, March 10th, 1914.

*** Dr. Bashford's article was an uncompromising one, and Mr. Hoffman's tone, though regrettable in scientific controversy, has been inspired by that fact, as has our extension to Mr. Hoffman of a quite unusual space in which to reply. The main question at issue is the value of the machinery for collecting and collating American vital statistics, and the trustworthiness of the results obtained. To say that a district is in a "registration area" is not a conclusive reply to criticism. It is a prelude to such reply: systems of registration may have nominally existed from the earlier part of the nineteenth century and yet be practically ineffective until far more recent times. Mr. Hoffman's remarks on British administration in many directions have exactly the same justification. In places where Mr. Hoffman contradicts Dr. Bashford he is himself contradicted by the Department of Commerce: Bureau of the Census of the United States.—ED. L.

EPITHELIOMA OF THE TONGUE IN WOMEN.

To the Editor of THE LANCET.

SIR,—The case of epithelioma of the tongue in a woman referred to in an annotation in THE LANCET of March 28th is important as calling attention to the comparative infrequency of this affection in the female sex. This infrequency is not so much recognised as it should be. But besides carcinoma of the tongue it applies to cancer of all parts of the mouth, pharynx, and larynx. This is shown by the Registrar-General's reports. In the past 11 years there have been in Woolwich 182 cases of cancer of the head; face, mouth, jaw, tongue, œsophagus, pharynx, larynx, and neck among men and only 47 among women.

The connexion of cancer of the tongue with smoking is well known, though it is usually attributed specially to clay pipes. Recent inquiries made in this borough point to the fact that any kind of smoking is a cause of cancer of the mouth and throat, especially when connected with alcoholism. Of 33 persons dying from cancer of the mouth and throat 45 per cent. took alcohol excessively, and 76 per cent. smoked excessively. Of 109 persons dying at advanced ages from other diseases 17 per cent. only were excessive smokers and 18 per cent. excessive drinkers. Of 25 excessive smokers who died of cancer of the mouth and tongue 15 smoked chiefly clay pipes, 8 briar or other form of pipe, 1 cigars, and 2 cigarettes. Among the non-cancer cases there were 40 smokers (excessive and moderate); 23 of these smoked clay pipes, 16 briar, and only 1 cigarettes. Out of 33 cases of cancer of the mouth and tongue there were only two who did not smoke. One of these had bad teeth, and in the other one, as in the case reported by you, there was no obvious source of the cancer.

I am, Sir, yours faithfully,
SIDNEY DAVIES.
Woolwich, March 28th, 1914.

To the Editor of THE LANCET.

SIR,—In an annotation in THE LANCET of March 28th the occurrence in the female sex of epithelioma of the tongue is referred to as being extremely rare. This statement is hardly in accordance with the facts. Keyser[1] quotes 14 sets of statistics of epithelioma of the tongue bearing on the relative frequency of the disease in women; the highest estimate, that of Hayn. is 43 per cent., while the average of all the statistics gives a percentage of over 18. A feature of some of the recorded cases is the youth of the patient.

Keyser refers to five cases in which the patients were under 25 years of age, and in a case of my own[2] the patient, whose disease had existed for 21 months, died at the age of 26 years.

I am, Sir, yours faithfully,
C. HAMILTON WHITEFORD.
Plymouth, March 28th, 1914.

AERIAL INFECTION.

To the Editor of THE LANCET.

SIR,—The annotation in THE LANCET of March 28th on the Passing of the Doctrine of Aerial Infection raises some important questions. Whatever the danger from air-borne infection may be, it is at any rate certain that no infectious disease has been brought by precautions against it, such as isolation hospitals, under such control as has been obtained in a series of diseases, ranging from enteric to yellow fever, by other means. The advantages secured for the individual or the family are not in question, but only those for the nation.

Is it then not probable that the scheme for preventing the spread of tuberculosis devised by the Astor Commission and adopted by the Insurance Act, to carry out which sanatoriums are being built all over the country, is founded on a mistaken idea, and may even check the diminution of mortality from pulmonary phthisis which began about 1850, before sanatoriums were dreamt of, proving that there are indirect methods by which this disease may be diminished?

Few diseases are less capable of effective isolation than phthisis. Isolate as one may, the air will still contain bacilli enough to infect the really susceptible. The larger the number of cases in which an arrest of this disease is obtained the more numerous will be the descendants from the more easily infected stocks. It is impossible to abrogate the law that a race is weakened by encouraging the survival of those unfit for the conditions under which they have to live, but it is possible to improve those conditions so that more may be able to survive with advantage to themselves and others.—I am, Sir, yours faithfully,

MICHAEL THOS. SADLER, M.D. Lond.
Brook Green, S.W., March 28th, 1914.

INFANT MORTALITY AND THE WELFARE OF INFANCY.

To the Editor of THE LANCET.

SIR,—Will you allow me to say a word on the subject of your annotation in THE LANCET of March 28th on the representation made to the General Medical Council by the National Association for the Prevention of Infant Mortality regarding the necessity for including in the curriculum a course of training in infant hygiene?

Everyone will agree with you in deprecating the addition of even a feather's weight to the burden imposed upon the student, and will assent to your proposition that in a readjustment of that burden lies the true direction of reform. And in the enlightened support you give to the proposal in question you indicate that the "little more" it involves should, in fact, provide the necessary readjustment. I wish to offer testimony in favour of this view, for I believe that such training will at once vivify, reinforce, coördinate, and illuminate the whole course of academic study. I can best illustrate the point at issue by a reference to a remarkable paper[1] by Dr. James Mackenzie, in which he presses home, in a masterly way, a criticism of the prevalent tendency of the methods of clinical teaching, and points the way to a better and fuller realisation of the resources in the talents of our teachers and the material at their disposal, on which the advance of changes in the text of it in his Bill because he had been in consultation with the Privy Council and the Scottish Office and desired to meet their views. The main objects of the Bill were to provide that after 1916 no woman who was not certified as competent should take or use the title of midwife, and after 1921 further limitations were to be put on women who attended at childbirth and those who were not certified. All this was subject to reasonable provisions to protect the interest of those who were now practising. The Bill also constituted a Central Midwives Board for Scotland to carry out the Act under the Privy Council, and it set out at some length the powers and duties of the Board. There were provisions for the discipline of midwives, for expenses, and for dealing with offences. The local authorities for carrying out the provisions of the Act and for the supervision of the certified midwives would be the county councils and the town councils. When there were district committees where the counties were divided into districts these would have duties under the Bill. It was provided that the term "local authority" should have the same meaning as in the Public Health Act, 1897. The reason for that was that they were anxious to avoid the prejudice created in the minds of the medical profession and amongst midwives if they were to any extent to be put under the Poor-law. He had also been in communication with the Committee of the British Medical Association for Scotland, and he had accepted one or two suggestions which that body had put forward. The Local Government Board for Scotland were in favour of legislation on the lines of this Bill. The Medical Service Committee for the Highlands and Islands had passed a resolution strongly advocating a Bill of this kind. The medical officers of health of all the large towns in Scotland which he knew were in favour of it. The Scottish maternity hospitals for the four great centres of medical education were also in favour of it. The Nursing Association, which held an important conference at Glasgow last month, passed a resolution urging on the Secretary for Scotland the great need for an Act for the protection of women in childbed and the supervision of midwives. One of the matters which had ripened opinion in Scotland in favour of the Bill had been certain provisions of the National Insurance Act. He believed that the Insurance Commissioners also thought that the Bill was necessary for the poorest women in the community.

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[1] THE LANCET, Sept. 17th, 19[illegible], p. 822.

[2] Bristol Medico-Chirurgical Journal, March, 19[illegible], p. 45.

[1] On the Teaching of Clinical Medicine, Brit. Med. Jour., Jan. 3rd, 1914.

Earl BEAUCHAMP, on behalf of the Government, said that whilst they could not pledge themselves as to the details of the Bill, thought that it would prove of inestimable value.

The Bill was then presented and read a first time.

HOUSE OF COMMONS.

WEDNESDAY, MARCH 25TH.

Coroners' Inquests.

Mr. HIGHAM asked the President of the Local Government Board what were the new Regulations which had been issued to coroners which made it necessary for the holding of inquests in every case where the deceased might not have been attended by a regular practitioner.—Mr. HERBERT SAMUEL replied: No Regulations have been issued to coroners. The Regulations recently issued to Registrars of Births and Deaths do not have the effect suggested or in any way diminish the discretion of the coroner as to whether an inquest is or is not necessary.

WEDNESDAY, APRIL 1ST.

Nursing Home in Sierra Leone.

Mr. MACCALLUM SCOTT asked the Secretary of State for the Colonies whether, before sanctioning the proposed rule prohibiting patients in the Sierra Leone nursing home from being treated by their private practitioners, he would consider the peril to recovery which might arise through denying to patients suffering from a disease the continued medical skill of their regular medical practitioners who alone would possess the history of the case.—Mr. L. HARCOURT replied: My honourable friend may rest assured that full consideration will be given to this and all other aspects of the question.

Mr. MACCALLUM SCOTT asked the right honourable gentleman whether he was aware that a white man was recently removed to the Sierra Leone nursing home suffering from blackwater fever; that he had previously been treated by a native doctor with high qualifications in whose skill in the treatment of tropical diseases confidence was reposed not only by the native population but by many of the white population; that the patient applied to the authorities of the nursing home to allow him to be treated by his regular medical attendant, but that in view of the proposed new rule this was at first forbidden, but afterwards permitted; and whether he had received any representations of public opinion from Sierra Leone on the subject of the proposed treatment.—Mr. L. HARCOURT answered: The circumstances of the case to which my honourable friend refers are not within my knowledge. I am not sure that I understand the last part of the question, but I have received no representations of public opinion from Sierra Leone on the subject of the proposed new rule to which my honourable friend refers.

Small-pox in Germany.

Mr. POINTER asked the President of the Local Government Board to state the number of small-pox cases and deaths in the German empire and in Prussia respectively during each of the years 1892 to 1912.—Mr. HERBERT SAMUEL wrote in reply: The number of cases of and deaths from small-pox in Germany and in Prussia respectively since 1891 are given in the appended table so far as figures have been published up to the present date. The figures as to cases and deaths are obtained from the final official reports of the countries concerned. The figures as to deaths differ slightly from those published in the English Registrar-General's annual reports, which have been derived from unrevised earlier statistics.

Small-pox.

Year.	German Empire.		Prussia.	
	Cases.	Deaths.	Cases.	Deaths.
1892	?	108	?	91
1893	?	157	?	137
1894	?	88	?	77
1895	?	27	?	24
1896	92	10	70	8
1897	45	5	29	5
1898	129	15	112	12
1899	346	28	314	25
1900	392	49	349	45
1901	375	56	325	49
1902	114	15	88	13
1903	172	20	93	14
1904	189	25	122	17
1905	212	30	77	11
1906	256	47	163	30
1907	345	63	142	23
1908	434	65	390	61
1909	247	26	195	24
1910	236	34	168	24
1911	288	37	230	30
1912	279	?	170	19

Figures obtained as follows:—

German Empire, 1892-1910, "Medizinal Statistische Mitteilungen aus dem Kaiserlichen Gesundheitsamte." XVI. Band, Heft 1.
" " 1911 ditto. Heft. 2.
" " 1912 "Veröffentlichungen des Kaiserlichen Gesundheitsamtes, 1912."
Prussia, 1892-1900, "Medizinal Statistische, &c." XVI. Band, Heft 1.
" 1901-1912, "Das Gesundheitswesen des Preussischen Staates im Jahre 1912."

Funds for Sanatorium Benefit in Wales.

Mr. GODFREY LOCKER-LAMPSON asked the honourable Member for St. George's-in-the-East, as representing the National Insurance Commissioners, whether his attention had been called to the statement of the medical officer of the Welsh Insurance Commission that the number of insured cases receiving domiciliary treatment was small and did not warrant the sum spent for them—namely, 6*d*. per insured person, paid to the panel doctors; whether several Insurance Committees had found themselves short of funds for sanatorium benefit in consequence of the above 6*d*. being diverted from them; and whether he proposed to make a temporary grant to needy Insurance Committees so that consumptive insured persons might receive the sanatorium benefit which they needed and to which they were entitled.—Mr. WEDGWOOD BENN answered: My right honourable friend understands that the report contained in the honourable Member's question does not accurately represent the observations of the officer in question. These were addressed solely to the circumstances of a particular area in which domiciliary treatment had in many cases been given without formal recommendation for sanatorium benefit. With regard to the latter part of the question I would remind the honourable Member that expenditure upon domiciliary treatment is part of the committee's expenditure upon sanatorium benefit as a whole, and that extensive grants are already provided towards the cost of comprehensive schemes comprising arrangements for the treatment of insured persons.

Mr. WORTHINGTON EVANS: Has a surcharge been made in cases where domiciliary treatment has been given without advice?—Mr. WEDGWOOD BENN: No, it will depend on the circumstances of the case.

Mr. WORTHINGTON EVANS: In the circumstances of the case to which the honourable Member has referred will it be so?—Mr. WEDGWOOD BENN: I cannot say.

THURSDAY, APRIL 2ND.

The International Opium Convention.

Answering Mr. THEODORE TAYLOR, Sir EDWARD GREY, the Foreign Secretary, stated that since the end of January he had not been informed of the adherence of any Power then outstanding to the International Opium Convention. The Powers that had not yet adhered to the International Opium Convention were being constantly pressed to do so, and it was confidently hoped that the difficulties which stood in the way of their adhering might shortly be overcome. It was very desirable that the ratification of other Powers should be secured as well as that of His Majesty's Government.

Treatment of Tuberculosis in Ireland.

Mr. LARDNER asked the Chief Secretary to the Lord Lieutenant of Ireland whether any of the county authorities in Ireland, in preparing schemes for the treatment of tuberculosis, proposed to treat non-pulmonary tuberculosis; and, if so, would he state the names of such authorities and say whether such treatment was proposed to be at the patients' homes, by dispensaries, or in sanatoria.—Mr. BIRRELL *replied*: Provision for non-pulmonary tuberculosis is generally included in county schemes, and the county infirmaries of Armagh, Waterford, Louth, Londonderry, Dublin, Mayo, Queen's County, King's County, Tyrone, Carlow, Leitrim, Galway, Cork (2), Fermanagh, Sligo, Meath, and Antrim have been approved by the Local Government Board for the purpose. Treatment will be provided institutionally or otherwise according to the circumstances of the case.

Mr. LARDNER asked the right honourable gentleman what counties in Ireland were providing their own sanatoria for the treatment of tuberculosis under the National Insurance Act, Part I., and how many were contracting for accommodation for their patients in proprietary institutions; whether any of the county sanatoria were in full working order; and, if so, would he state the counties and the total number of beds provided under each system.—Mr. BIRRELL said in reply: The county boroughs of Dublin, Belfast, and Cork, and the counties Clare, Limerick, Cork, Galway, Tipperary (North Riding), Dublin, Sligo, Tyrone, Armagh, Down, and Monaghan will have their own sanatoria. Twenty-three counties are contracting for accommodation (including arrangements of a provisional character) for their own patients in other institutions. The sanatoria in Dublin county borough and county, Cork county borough and county, and Clare county are in full working order. As regards the number of beds provided, the figures (including institutions in contemplation) are: county institutions, 932 beds; contracted beds, 270.

Mr. LARDNER asked the honourable Member for St. George's-in-the-East whether any councils of counties or county boroughs in Ireland had agreed to pay half of any expenditure on the treatment of tuberculous insured persons over and above the money provided for sanatorium treatment under the National Health Insurance Act, if so, would he give the names of such authorities; would he state whether any Insurance Committees had represented to the council of their county or to the Treasury that the amount available for defraying the cost of sanatorium treatment to insured persons resident within their area was already, or was likely to be, insufficient to meet the estimated expenditure; if so, would he give the names; whether any grants under Section 17 had been made in Ireland; and, if so, would he state the amounts and the authorities to whom made.—Mr. WEDGWOOD BENN answered: Up to the present time one county council in Ireland—namely, Meath—has agreed to meet one-half of the anticipated deficiency under Section 17. The other half will be met by the Treasury in due course.

Declarations of Conscientious Objection to Vaccination.

Mr. YEO asked the President of the Local Government Board whether his attention had been called to the fact that owing to the somewhat confusing wording of the vaccination schedule which was given to parents at the time of registering the births of their children, and also on Form Q issued by vaccination officers, many parents were led to suppose they could make a declaration of conscientious objection to vaccination within four months and seven days of the birth of a child; and whether he could see his way to have the schedules and forms in question so altered as to make it unmistakable to parents that they must make their declarations within four months of the birth of their children.—Mr. HERBERT SAMUEL replied: I am aware that difficulties have arisen and I am taking steps to obviate them.

Special Nourishment for Tuberculous Patients.

Mr. CAWLEY asked the honourable Member for St. George's-in-the-East whether District Insurance Committees had power at their own discretion to allow special nourishment to tuberculous persons discharged from sanatoria, or whether such nourishment could only be allowed when a tuberculosis officer recommended it for assisting the restoration of working capacity in other than hopeless cases.—Mr. WEDGWOOD BENN wrote in reply: The powers and duties of District Insurance Committees in connexion with the administration of sanatorium benefit are determined by the scheme adopted for the area in accordance with Section 59 of the National Insurance Act, 1911, and the Regulations made thereunder. Generally speaking, accessories in the form of special nourishment may be afforded to insured persons in receipt of domiciliary treatment where recommended on medical grounds. As the honourable Member is aware, however, it is the duty of the Insurance Committee to provide treatment and not to relieve destitution.

MONDAY, APRIL 6TH.

A Milk Substitute.

Mr. CHARLES BATHURST asked the President of the Local Government Board whether he was aware that it was proposed to sell as milk, in London and elsewhere, a liquid prepared from a species of soya bean, having the appearance and, to some extent, the flavour of cow's milk, but not possessing its nutritive or other qualities; whether the Board had powers and, if so, under what statute, to prevent the sale of such a product under the misleading denomination of milk; and, if so, whether it was proposed to exercise such powers.—Mr. HERBERT SAMUEL replied: I am aware of the product to which the honourable Member refers, but I am not prepared to express an opinion as to its nutritive qualities. If an article which is not milk is sold under that name it would be open to local authorities to take proceedings under the Sale of Food and Drugs Act against the vendor.

Treatment for Tuberculosis in Dependents of Insured Persons.

Mr. ASTOR asked the President of the Local Government Board whether a dependent of an insured person, who was treated for tuberculosis by a local authority undertaking treatment of tuberculosis for the whole population with the aid of the Hobhouse grant from the Treasury, was entitled to the same domiciliary treatment as might be given if sanatorium benefit was extended under Clause 17 of the National Insurance Act to dependents of insured persons.—Mr. HERBERT SAMUEL answered: Dependents are not entitled as a right to domiciliary treatment even if an Insurance Committee has extended sanatorium benefit to such persons. The matter is within the discretion of the Insurance Committee. Local authorities generally have not so far included domiciliary treatment in their schemes. The view that has been acted on is that the institutional side of these schemes should be fully developed before the question of providing domiciliary treatment is considered.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

CRAIG, EFFIE M. D., M.B., Ch.B.Edin., has been appointed Assistant Medical Officer of Health of Birmingham.

HARBOROW, GERALD, L.D.S. R.C.S. Eng., has been appointed Dental Surgeon to the Metropolitan Hospital, Kingsland-road.

STEEL, RUSSELL V., M.B., B.S. Durh., has been appointed House Surgeon at the West London Hospital.

THOMSON, RUBY, M.B., Ch.B.Edin., has been appointed School Medical Officer for the County of Stafford.

YORKE, COURTENAY, M.D. Liverp., M.B., B.S. Lond., F.R.C.S. Eng., has been appointed Honorary Laryngologist to the Liverpool Hospital for Consumption and Diseases of the Chest.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BARNSLEY, BECKETT HOSPITAL AND DISPENSARY.—Second House Surgeon, unmarried. Salary £100 per annum, with apartments, board, and laundry.

to learn that they had been led for miles by a blind man, they being of the opinion that his eyes only looked a bit queer, as if he had been spirit drinking. A blind man who knows the road well may be a better guide in the dark or fog than a man with eyesight, but Blind Jack seems to have been better by daylight in familiar places than many with the due physical equipment.

DENTAL EDUCATION.

To the Editor of THE LANCET.

SIR,—I wish to draw your attention to two paragraphs which appear in THE LANCET of March 28th. One is on p. 911 and is headed "The Future of Dental Education," and the other appears under "News from Scotland," on p. 923.

Both these paragraphs refer to a meeting of unregistered men, who call themselves the "Incorporated Dental Society." From the publicity given in your journal I am afraid that your readers may have formed the impression that this was a society composed of dentists. I shall, therefore, be glad if you will correct this impression.

I am, Sir, yours faithfully,
FRANK J. PEARCE,
Hon. Secretary British Dental Association.
Hanover-square, London, W., March 31st, 1914.

SLEEPING SICKNESS IN NYASALAND.

Mr. H. Hearsey, principal medical officer in the Nyasaland Protectorate, in Part XXII. of his "Diary," reports that 19 additional cases of sleeping sickness were notified during the four months ending Dec. 31st, 1913: 1 from Marimba district by Dr. Morgan, 2 from Upper Shiré district by Dr. Sanderson, and 16 from the proclaimed area of the Dowa district by Dr. Conran. Six were discovered in September, 4 each in October and November, and 5 in December. These 19 cases bring the total reported up to 172, of which 64 occurred in 1913. The prominent details of the cases are given. The preventive measures in the proclaimed area of the Dowa district are reported to be attended with good results.

COCOANUTS AND COKERNUTS.

To the Editor of THE LANCET.

SIR,—Some years ago I read, I believe it must have been in a Customs tariff book, that the spelling "cokernut" was adopted by the Customs to avoid confusion with "cocoanut." I have tried to get on the track of this statement again, but although I have searched dictionaries and trade-books I cannot rediscover the printed statement which I unfortunately failed to make an exact note of. It seemed to me to be an interesting piece of information which I had not read before, and the dictionaries do not enlighten me. My memory is usually good for such facts, so I do not think that I can have imagined it. A cart passed me in the street last week with the title "Cokernut Merchant" painted on it, which recalled my fruitless search a year ago for the origin of the variant spelling, as also did the cokernut cake which the little boy Starchfield had eaten just previous to his death in the North London railway train.

I am, Sir, yours faithfully,
W. F.
London, April 6th, 1914.

THE MILWARD FUND.

Mr. William Sheen, F.R.C.S., 2, St. Andrew's-crescent, Cardiff, honorary treasurer of this fund, acknowledges a further subscription of £10 from the Blackburn Division of the British Medical Association, per J. Shearer, honorary secretary.

A REPUDIATION.

To the Editor of THE LANCET.

SIR,—My attention has been drawn to a publication in the "Parsee" vernacular paper associating my name with intracapsular extraction of cataract. I beg to state that the said article has appeared without my knowledge and consent.—I am, Sir, yours faithfully,

B. P. BANAJI, F.R.C.S.I.,
Ophthalmic Surgeon, Parsee General Hospital.
Fort, March 13th, 1914.

THE SYMBOL ℥.

Mr. Chas. Olley.—The question of the meaning of the symbol ℥ has been raised at frequent intervals. On one hand it has been argued that it signified the avoirdupois ounce of 437½ grains, and on the other that it signified the apothecaries' ounce of 480 grains. But there can be no doubt, in our opinion, that it stands for the apothecaries' ounce. In the *Pharmaceutical Journal* of Dec. 15th, 1877 (p. 477), Professor Redwood explained the legal position of the question, and his explanation left no doubt whatever that ℥i. means 480 grains. Professor Redwood's view was supported by a member of the Pharmacopœia Committee of the General Medical Council to whom he submitted his statement.

A BURLESQUE insurance policy for the benefit of its subscribers, printed in the March number of the *St. Thomas's Hospital Gazette*, will, we think, add to the reputation for wit and high spirits which this students' journal has built up during recent years. It is delightfully funny without being offensive.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced:—

April 13th and 14th (Berlin).—Thirteenth Congress of the German Orthopædic Society.
,, 13th–16th (New York).—Fourth Congress of the International Surgical Society. (*President: Prof. Depage, Bruxelles.*)
,, 15th–18th (Berlin).—Forty-third Congress of the German Surgical Society.
,, 19th–21st (Berlin).—"Jubilee" Congress of the German Röntgen Society.
,, 20th–23rd (Wiesbaden).—Thirty-first German Congress for Internal Medicine.
,, 27th–May 1st (London, Royal Horticultural Hall).—Nursing Conference and Exhibition.
May 1st–Nov. 1st (Lyons).—International Town Hygiene Exhibition.
,, 15th–Oct. 15th (Berne).—Swiss National Exhibition.
May (London, Imperial Institute).—Victoria League Imperial Health Conference.
May-October (London, Shepherd's Bush).—Anglo-American Exposition.
June 8th–10th (Berne).—Seventh International Dairy Congress.
,, 18th–24th (London, Church House, Westminster).—International Conference on the Blind.
June–July (Groningen).—University of Groningen 300th Anniversary Celebration.
July 6th–11th (Blackpool).—Twenty-ninth Congress of the Royal Sanitary Institute.
,, 8th–10th (Oxford).—Ophthalmological Congress.
,, 8th–13th (Edinburgh).—Congress of the Royal Institute of Public Health.
,, 21st–23rd (Chester).—British Pharmaceutical Conference.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

THURSDAY.
SECTION OF DERMATOLOGY (Hon. Secretaries—J. M. H. MacLeod, S. E. Dore): at 4.30 P.M.

Cases:
Dr. Graham Little: (1) Pityriasis Rubra Pilaris; (2) Von Recklinghausen's Disease with General Analgesia.
Dr. Pernet: Double Primary Chancre of the Lips in a Man.
Dr. W. Knowsley Sibley: Nævus Araneus.

FRIDAY.
SECTION OF OTOLOGY (Hon. Secretaries—G. J. Jenkins, W. M. Mollison): at 5 P.M.

Cases and Specimens:
Will be shown by Mr. H. L. Whale, Mr. G. J. Jenkins, and others.

SECTION OF ELECTRO-THERAPEUTICS (Hon. Secretaries—Cecil R. C. Lyster, S. Gilbert Scott): at 8.30 P.M.

Papers:
Dr. R. W. A. Salmond: Some Experiments on X Ray Filtration.
Dr. Curtis Webb: Electrolysis in the Treatment of Hæmorrhoids.
Dr. C. Russ: The Measurement of Radium Rays as Used Clinically.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

FRIDAY.—5 P.M., Prof. Keith: Specimens illustrating Difficulties in the Diagnosis of Sex. (Museum Demonstration.)

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. Mr. B. Harman: Diseases of the Eye.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Dr. Simson: Diseases of Women, and Diseases of the Eye.

THURSDAY.—9 A.M., Dr. Bernstein: Bacterial Therapy Department. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Mr. B. Harman: Diseases of the Eye.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear, and Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. H. B. Carlill: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Ear and Throat.

TUESDAY.—Out-patient Demonstrations:—10 A.M., Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine. 4.15 P.M., Sir Malcolm Morris: Skin.

WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. H. B. Carlill: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.——2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery.

THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. H. R. Prentice: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. Dr. A. Davies: Pathological Demonstration. 3.15 P.M., Dr. R. Wells: Medicine. 4.30 P.M., Special Lecture:—Mr. C. Rowntree: Cancer of the Rectum.

FRIDAY.—Out-patient Demonstrations;—10 A.M., Dr. C. E. Zundel: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford: Medicine. 3.15 P.M., Mr. L. McGavin: Surgery. 2.15 P.M., Special Lecture:—Sir J. Rose Bradford: Dropsy and its Treatment.

SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. H. R. Prentice: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.——10 A.M., Col. Barry: Radiography.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, Medical School, City-road, E.C.

MONDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Cardiac Department, Dr. Stott; Out-patient Department, Dr. Phear, Dr. S. Thompson. 3 P.M., Wards, Dr. Phear.

TUESDAY.—9 A.M., Laryngological Department, Mr. Mant. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department, Dr. M. Leslie, Dr. B. King; Operations, Mr. A. Evans. 3 P.M., Wards, Dr. White. 4 P.M., Wards, Dr. M. Leslie.

WEDNESDAY.—2 P.M., Wards, Dr. A. Davies; Out-patient Department, Dr. Drysdale, Dr. Kellie. 4 P.M., Wards, Dr. Drysdale. 4.30 P.M., Roentgen Ray Department, Dr. Jordan.

THURSDAY.—9.30 A.M., Dental Department, Mr. G. Thomson. 10 A.M., Cardiac Department, Dr. Stott. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department, Dr. Phear, Dr. S. Thompson. 4.30 P.M. Laryngological Department, Mr. Mant.

FRIDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Wards, Dr. Calvert; Out-patient Department, Dr. M. Leslie, Dr. B. King. 5 P.M., Lecture-Demonstration:—Mr. Thomson: The Teeth in Relation to Pulmonary Tuberculosis.

SATURDAY.—10 A.M., Out-patient Department, Dr. Drysdale, Dr. Kellie. 11.30 A.M., Roentgen Ray Department, Dr. Jordan.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.

THURSDAY.—5.15 P.M., Clinical Lecture.

LONDON LOCK HOSPITAL, 91, Dean-street, Soho, W.

Special Course of Instruction in Venereal Diseases, for Post-Graduates and Students, with Practical Demonstrations of the Various Methods of Treatment:—

MONDAY.—Clinics:—1 P.M., Mr. Ryall; 6 P.M., Mr. Gibbs.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 7th, 1914.

Date.	Barometer reduced to Sea Level and 32°F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
April 1	29·97	S.W.	...	104	67	49	50	55	Fine
" 2	29·87	S.W.	...	87	60	51	50	52	Fine
" 3	29·96	W.	...	92	60	44	45	47	Fine
" 4	29·93	S.	...	75	55	47	47	49	Raining
" 5	29·75	S.W.	0·10	81	57	46	47	49	Cloudy
" 6	29·54	N.W.	0·20	103	55	45	45	50	Cloudy
" 7	29·44	W.	0·09	99	52	43	43	45	Cloudy

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A Clinical Lecture

ON

GANGRENE OF THE LUNG.

Delivered at the Hospital for Consumption and Diseases of the Chest, Brompton, on Feb. 11th, 1914.

By H. BATTY SHAW, M.D. Lond., F.R.C.P. Lond.,

PHYSICIAN TO THE HOSPITAL AND TO UNIVERSITY COLLEGE HOSPITAL.

Gentlemen,—You will probably have asked yourselves what is the reason which has prompted me to give a lecture on such a comparative rarity as gangrene of the lung—on a disease which Eichhorst has found to occur in only 34 out of 27,472 cases coming under his clinical observation —i.e., in less than 0·1 per cent. Hensel, speaking from post-mortem experience, found it in only 83 cases out of a total of 5072 examinations—i.e., about 1·6 per cent. The answer is that until I came to study cases in the wards of this hospital I had included all cases of pulmonary disease associated with offensive expectoration under the heading of probable cases of bronchiectasis. It was not long before I had a sharp lesson as to how far post-mortem opinion may differ from a clinical one. Lastly, gangrene of the lung is a very serious malady: for, according to Lenhartz, 80 per cent. of the cases treated by medical measures die, and according to Eichhorst a smaller, but still large percentage die—viz., 53 per cent.

The sharp lesson to which I have referred came to me shortly after taking charge of beds in this hospital.

A married woman, aged 24, was admitted with a history of left-sided pleurisy eight months previously, followed by cough and hæmoptysis two months later. The cough was increased by stooping and was accompanied by night sweats; the expectoration was yellow, and occasionally very offensive throughout the six months prior to her admission. Rhonchi were heard over both sides of the chest, fine crepitations at the right apex in front, and a few friction sounds to the right of the pericardium. Six weeks after admission dulness was found at the left base, and in the same situation were some friction sounds. There were no signs of excavation anywhere, nor were tubercle bacilli discoverable in the expectoration. As the phlegm was very copious and very offensive and the fingers clubbed, and as the history of lung mischief extended over a period of nine and a half months and the expectoration of offensive sputum over seven and a half months, it seemed to me that in accordance with my out-patient practice (uncontrolled by post-mortem observation) I might reasonably believe that she was suffering from bronchiectasis, and that the cavities formed by the dilated bronchioles did not reveal themselves because they were charged with expectoration—an occurrence well known to take place in true cases of bronchiectasis. She was accordingly treated, amongst other methods, by elevating the foot of the bed so that the head was depressed, with the idea of assisting the bronchiectatic cavities to empty more easily. The result, whether post or propter, was most disastrous, for in a few days the temperature became much elevated, there was severe toxæmia, and very acute bronchitis was added to her former disabilities. These unfavourable phenomena increased and the patient died. At the post-mortem examination a patch of gangrene as big as half a hen's egg was found at the apex of the right lung, and the left lung was consolidated in its upper lobe and showed numerous small foci of suppuration and small abscesses and bronchitis in the lower lobe; there was also patchy pneumonia of the right lung. There was no trace of bronchiectasis.

Such an experience gives much food for reflection: first of all, because it is quite possible that the treatment hastened, if it did not actually cause death; and secondly, because it looks as if gangrene existed in this case for at least seven and a half months. Another case, happily alive and apparently recovered, thanks to Mr. Stanley Boyd's operation, had gangrene for over a year.

Definition.

To define what is meant by gangrene of the lung, or as it is sometimes called gangrenous pneumonia, is not a simple affair. Gangrene is another name for necrosis or sphacelation, but just as gangrene of the leg may be accompanied by no odour whatever, so gangrene of the lung may exist and yet the expectoration, if present, may be quite free from offensive odour: at a post-mortem examination gangrene may be found affecting the centre of a pneumonic lung. Gangrene of the lung has been met with post mortem, and yet during life the patient not only had no offensive expectoration, but no expectoration at all. At the bedside we must think of gangrene of the lung when we observe, in a case revealing or not physical signs of disease in the lungs, that there is a *sudden* development of horribly offensive expectoration, more offensive than that of bronchiectasis or of abscess of the lung. At post-mortem examinations gangrene may be met with, associated *or not* with offensive odour, but at the bedside we may essay to diagnose but *one* form of gangrene, and that is the offensive one: hence the reason why the qualification "offensive" is omitted, and a clinical diagnosis of gangrene of the lung implies a condition of the lung associated with the expectoration of very offensive sputum.

Causation.

In order to give more sharply the etiology of gangrene of the lung 16 specimens are brought before you from the museums of this hospital and of University College Hospital.

1. The first specimen shows the left lung of a woman, aged 42, who on admission had had chest signs for a year before death and hæmoptysis for the two months prior to death, the last attack proving fatal. The specimen shows no gangrene, but serves to remind us that fatal hæmoptysis may occur in *hydatid of the lung*, and me more particularly of the danger run by a medical friend who for two and a half years has been suffering from signs of lung disease, including hæmoptysis, from infection from this parasite in his lung. The occurrence of offensive expectoration at last forced one to recommend operation, with results which are so far highly satisfactory, and indicate that the gangrenous pneumonia which had probably been set up by his hydatid disease is cured. He had shortly before operation expectorated a large amount of pus (offensive) and hydatid membrane, which has ceased to be expectorated since the operation.

2. The second specimen is the left lung of a patient, aged 63, under the care of the late Dr. Cecil Biss. Gangrene will be seen to exist in the upper lobe, and is represented by an irregular "fluffy" substance stained black by inhaled carbonaceous

PROGNOSIS.

This is unfortunately grave, as from 53 to 80 per cent. of the cases treated by medical measures die. This high mortality is due not only to the gangrene of the lung itself, but also to the fact that gangrene is so often secondary to other grave and irremediable causes.

DIAGNOSIS.

There are no special signs in the chest peculiar to gangrene of the lung. A case of gangrene of the lung may be readily diagnosed from bronchiectasis if under observation throughout the illness which precedes the gangrene, for the sudden onset of the signs and symptoms of gangrene is so different from the more insidious onset in the case of bronchiectasis. Gangrene may last for many months, but bronchiectasis for many years. Clubbing of the digits may develop in gangrene, but the most marked cases of clubbing of the digits are seen in bronchiectasis. The presence of elastic tissue is in favour of gangrene, though its absence does not exclude gangrene. In both bronchiectasis and abscess of the lung there is freer discharge of pus, and in many cases there is a distinct sign of cavity formation. Offensive empyemata may burst into the lung and cause difficulty in diagnosing gangrene, and then an exploratory puncture may be necessary. Radiographic examination of the chest may be of the greatest help in locating the site of the gangrene, but as a means of distinguishing gangrene from conditions simulating it little can be expected. The toxæmia met with in gangrene is much greater than in abscess or bronchiectasis, and, as already noted, it is of much more sudden onset than in bronchiectasis. "Foetor ab ore" as met with in uræmia and pyorrhœa alveolaris may in a case presenting lung signs simulate gangrene of the lung, but an examination of the sputum should be of help in such cases.

TREATMENT.

This constitutes one of the most vexed problems which physicians and surgeons must share with one another. A certain number of cases recover by themselves, but the number is not so great as the recoveries following operation. We have seen that Lenhartz found that of cases not treated by operation only 20 per cent. recover; Eichhorst believes that of such cases 47 per cent. recover. Garré found that of the operated cases 66 per cent. recover, and Lenhartz 64 per cent. From a consideration of these figures operations should be carried out promptly as soon as the case is diagnosed as one of gangrene of the lung and is found suitable for operation. It is interesting to know that adhesion of the parietal to the visceral pleura is found in about 92 per cent. of all cases.

There are, however, some "ifs" which must be attended to and which constitute the real difficulty. As we have seen, primary gangrene of the lung is practically unknown. Careful clinical research and observation are needed to discover the nature of the cause at work which has led to the gangrene. In those cases in which the primary cause is a disease from which recovery may be anticipated—e.g., typhoid fever—there should be little delay in considering the wisdom of operation. But where there is some primary cause which will soon be fatal there would be no point in operating. In view of the fact that some cases do recover spontaneously some delay in operation even in favourable cases is advisable; the question is, how long a delay should be recommended? It is useless to try to find a limit from the study of cases of recovery. It is much more reasonable to be guided in each case by the behaviour of the signs and symptoms. If the patient is rapidly losing ground delay in operation should be discountenanced, unless indeed when operation is considered inadvisable by the surgeon on account of the severe symptoms. On the other hand, if the symptoms are not increasing, time should elapse before an operation is decided on.

A point of considerable interest which I have observed is this, that though successful pneumotomy is a difficult proceeding in some cases, owing to the difficulties in finding the site of the gangrene, yet considerable relief is given to the patient by the drainage of the adjacent lung by the pneumotomy wound, even if the gangrenous area is not reached. Further, it is preferable for the offensive discharge to escape through a wound in the chest than to be expectorated.

The medical measures for the cure of gangrene are small in the extreme. All that can be hoped for is to treat the patient symptomatically and to endeavour to lessen the offensiveness of the expectoration and breath by the use of creasote and other allied remedies both by internal administration, by the mouth, by inhalation, or by intrabronchial application. Rest in bed is to be recommended because it is easier then to bring up the foul expectoration from the seat of the malady. Hæmoptysis may be checked by the use of calcium salts or by the inhalation of turpentine. Operation is most likely to be successful in cases of gangrene due to pneumonia or embolism—generally speaking, in cases in which the gangrene is localised. The unfavourable cases are those in which the gangrene is widely diffused, cases dependent upon bronchiectasis, or cases following the aspiration of food.

CENTRAL MIDWIVES BOARD.—Special meetings of the Central Midwives Board were held at Caxton House, Westminster, on March 30th and 31st, Sir Francis H. Champneys being in the chair. A number of midwives were struck off the roll, the following charges, amongst others, having been brought forward: Neglecting to take the temperature of the patient, as required by Rule E. 13; employing an uncertified person as a substitute, in contravention of Section 1 (4) of the Midwives Act, 1902; neglect to wash the patient on the termination of labour, as required by Rule E. 7 (b); not adopting the antiseptic precautions required by Rules E. 3 and 7; not keeping a register of cases, as required by Rule E. 23. A child suffering from inflammation of and discharge from the eyes on and after the third day the midwife did not explain that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E. 20 (5); falsely recording in the register fictitious entries of the temperature of the patients; not possessing the whole of the appliances or antiseptics prescribed by the rules; neglect to send notification to the local supervising authority of the occasions upon which medical aid is sought for patients; tying the cord negligently and carelessly so as to endanger the life of the child; not wearing a skirt of washable material when attending patients, as required by Rule E. 1; having been in contact with a person suffering from puerperal fever attending as a midwife at confinements without having undergone disinfection of self or clothing to the satisfaction of the local supervising authority, as required by Rule E. 5; and not being scrupulously clean, as required by Rule E. 1.

The Arris and Gale Lectures
ON
THE MORPHOLOGY OF THE EXTERNAL GENITALIA OF THE MAMMALS.

Delivered at the Royal College of Surgeons of England on March 4th and 6th, 1914,

BY FREDERIC WOOD JONES, D.Sc. LOND.,
LECTURER TO, AND HEAD OF ANATOMICAL DEPARTMENT AT, THE LONDON SCHOOL OF MEDICINE FOR WOMEN.

LECTURE II.[1]

Delivered on March 6th.

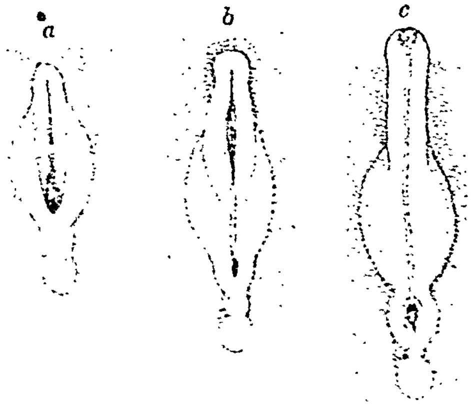
MR. PRESIDENT, LADIES, AND GENTLEMEN.—I will first deal with the developmental phases of the type which, since it will be better to treat it detached from specific examples, I will designate as Type A. In this type the dominant factor in the evolution of the adult condition is the extroversion of the cloaca.

DEVELOPMENTAL PHASES.

Type A: Male.

In the male of Type A the intracloacal genital tubercle is well developed and possesses all the characteristics described in the chelonian penis. The terminal part, which is ultimately to become the glans penis, is not invaded by the seminal groove, although upon the remainder of the penis this groove is well marked as far back as its termination behind the cloacal orifice of the uro-genital sinus. Upon either side of the seminal groove the seminal guides (now called the inner genital folds) are well developed, and they run from the anterior extremity of the seminal groove at the base of the glans to the cloacal orifice of the uro-genital sinus, and past it to the anus, so that, as in the chelonian, they merit the anatomical name of plicæ recto-urethrales. Around the opening of the cloaca run the pouting cloacal lips. (Fig. 8.)

FIG. 8.



The stages in the development of the male of Type A. In (a) the cloacal lips (outer genital folds) surround the partly intracloacal genital tubercle which presents a well-marked seminal groove and well developed seminal guides (inner genital folds). In (b) the genital tubercle is extroverted and the seminal guides are fusing. In (c) the seminal guides have fused and formed the raphé and the cloaca is obliterated. (Figured from developmental phases in *Homo*.)

The next phase in development is the elongation of the genital tubercle and its complete eversion from the cloaca, accompanied by a general shallowing of the cloacal cavity by the sinking of its roof towards the surface of the body. By a continuation of this process the cloaca, as a cavity, becomes practically obliterated, and the visceral orifices that originally opened into it come to be situated on the general surface of the body. With complete eversion of the cloaca the genital tubercle (penis) becomes fully exposed upon the "perineum," and the seminal guides (inner genital folds) begin to close together and meet in the midline, thus converting the seminal groove into a tunnel (penile urethra) by the formation of the median raphé.

Since the seminal guides meet and fuse in the whole of their length, the median raphé extends from the base of the glans penis along the whole length of the penis and into the margin of the anus. This is an important point to note. It is also obvious that with the closing of the seminal groove a channel is formed from the uro-genital sinus to the base of the glans penis, but at this point the channel ceases. It is now that the terminal epithelial ingrowth invades the glans and establishes the continuity of the seminal tunnel (penile urethra) and the terminal orifice in the glans at the fossa navicularis. This epithelial ingrowth is also concerned in delimiting that hood which, present as a fold in the chelonian, becomes the prepuce in the males of this type. This process of preputial formation has been described by Berry Hart and by myself in previous papers.

Meanwhile, with the eversion of the cloaca the prominent cloacal lips have been displaced laterally. These lips pass immediately in front of the free portion of the penis as it becomes everted from the cloaca, and then, skirting along the sides of the cloaca, pass backwards around the anus to meet behind it towards the base of the tail. The cloacal lips, or the special part of them that lies immediately lateral to the sides of the genital tubercle, become prominent and form two swellings upon the perineal surface. These swellings fade away and meet in front of the penis, they swell out and become conspicuous laterally at its base, and they diminish behind at the sides of the anus, becoming lost in the anococcygeal region. It appears to me that these cloacal lips constitute the basis of the swellings that are generally known as the labio-scrotal or outer genital folds.

Type A: Female.

In the female of Type A the intracloacal genital tubercle is small and resembles the female organ of the chelonian. The terminal glans area is differentiated as in the male; but the seminal groove is shallow and not well marked. The seminal guides when compared with the same structures in the male are trivial, and, as in the female chelonian, they do not extend back beyond the orifice of the uro-genital sinus. These reduced seminal guides (inner genital folds) become in the female the labia minora, and it is essential to regard these at the outset as being far from female perquisites, but rather as reduced and almost functionless remnants of functional male structures. (Fig. 9.)

With the eversion of the cloaca in the female the reduced genital tubercle is unfolded upon the perineal surface as the clitoris; the practically functionless seminal guides do not unite over the reduced geminal groove. but stand aside as the labia minora; the prepuce progresses but little further than the stage seen in the female *Testudo*; and the terminal ingrowth for the seminal (urethral) tunnel in the glans, though it may start to develop, does not typically produce a patent channel through the glans. The cloacal lips encircle the whole perineal area as in the male. They meet in front of the clitoris (anterior commissure), they skirt the sides of the genital tubercle (labia majora), and fade away in the anococcygeal region.

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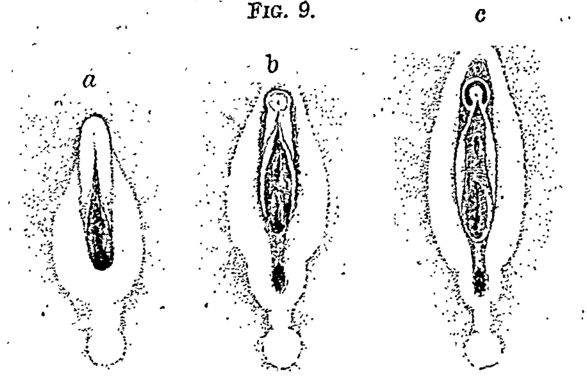
[1] Lecture I. was published in THE LANCET of April 11th, p. 1037.

It is important to repeat here and to bear in mind the somewhat changed point of view from which this account regards the morphology of the labia minora in the female. These structures in the female tortoise are obviously the somewhat degenerated representatives of the functional seminal guides of the male. In mammalian females of Type A it is equally apparent that they are in a further reduced and functionless condition, and that they never rival in their extent the similar but functional parts of the male. They do not extend back to the hind gut opening in the female chelonian, and in the mammalian embryo they fall still further short of this point. This is an important fact to realise, and it is one that will have to be reverted to in the descriptions of individual species.

FIG. 9.



The stages in the development of the female of Type A. In (*a*) the condition is practically identical with that seen in the male. In (*b*) the cloaca is becoming more shallow and the genital tubercle shows the widely separated seminal guides (labia minora). In (*c*) the parts have practically assumed their adult condition. (Figured from developmental phases in *Homo*.)

One other point needs explanation and emphasis. If all the changes in the development of Type A are initiated and accompanied by an extroversion of the cloaca, it would seem obvious that the area which we term perineum is, in this type, merely the flattened-out roof of the cloaca; this condition contrasts strongly with that displayed in Mammalia of Type B.

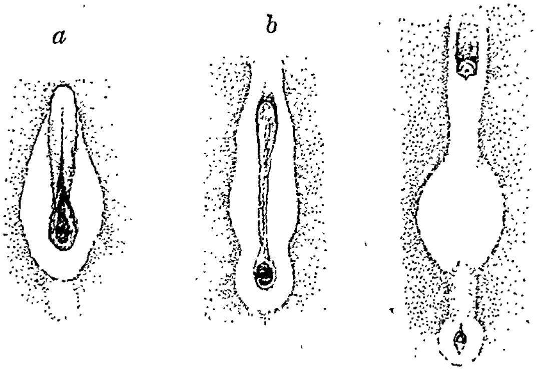
Type B: Male.

The other type which I have come to recognise as being distinct, both by embryonic development and by adult characteristics, I will, in uniformity, designate as Type B. In this type the dominant factor in the evolution of the adult form is the closing over of the cloaca by the cloacal lips—a condition that is altogether different from that described as being characteristic for mammals of Type A.

In the male of Type B the genital tubercle at an early stage possesses all the features described in the chelonian condition, and differs in no essential way from that described in Type A. There is no need to recapitulate these characters, and it is only necessary to follow the stages seen in the embryo in various phases of development. (Fig. 10.)

When the genital tubercle elongates and protrudes from the ventral aspect of the cloaca, the seminal guides close over and meet in the midline, completing the seminal (urethral) tunnel just as in Type A. But in the male of Type B when this seminal tunnel is completed the cloacal lips, or derivatives of a special portion of them, become prominent and also grow inwards towards the midline from either side. This ingrowth of the cloacal margins takes place first at the base of the genital tubercle, and the union in the midline sweeps forwards towards the tip of the genital tubercle until the genital tubercle, with the completed seminal channel (penile urethra), is buried beneath the invading cloacal margins (labio-scrotal folds). In this way the genital tubercle is first everted from the cloaca and then, secondarily, buried beneath the ingrowing cloacal margins. The ingrowth of the cloacal margins first cuts off the hind gut opening from the cloaca, and then, burying the proximal portion of the genital tubercle deeply, it ensheathes the distal portion and binds it to the ventral surface of the body. The whole of the "perineum" in such a case is therefore a derivative of the overgrowing cloacal margins.

FIG. 10.



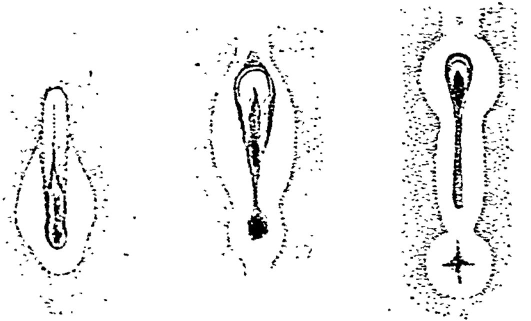
The stages in the development of the male of Type B. In (*a*) the condition is similar to that seen in Type A, but in (*b*) the cloacal margins have begun to grow towards the middle line over the genital tubercle. In (*c*) the genital tubercle is completely ensheathed in the invading labio-scrotal folds. (Figured from developmental phases in *Equus*.)

Type B: Female.

In the female of Type B the genital tubercle is at first similar in all respects to that of the female of Type A, and the seminal guides pass backwards to the opening of the uro-genital sinus. In this type the reduced female genital tubercle is never unfolded from the cloaca upon the perineal surface. The seminal guides remain ununited as the labia minora; but the whole organ is left in a deep recess of the anterior portion of the cloaca by the meeting of the cloacal margins in front of the opening of the rectum. The cloacal margins therefore make the immediate boundary of the uro-genital orifice in the female, and the body of the genital tubercle with its labia minora becomes a deeply situated structure. (Fig. 11.)

It will be readily realised from this description that in embryos of Type B, since the genital tubercle is in both sexes hidden from view within a sheath formed from the cloacal margins, there may be a great similarity between the embryonic stages (and even the adult condition) of males and females. In some animals this similarity of the sexes is very striking, and it is often almost impossible to tell the male from the female when in a fœtal stage. If the genital tubercle of the male is short, or if it is retained deeply within a recess of the ventral portion of the cloaca, the sheath formed by the cloacal margins (labia majora) may be no more prominent than the same part in the female. Again, in the females of many animals which follow this type of development the genital tubercle may be considerably elongated, and except that its seminal guides have failed to unite, it is in all respects similar to the penis of the male. In some quite exceptional instances the stages of development of the two sexes may be absolutely identical, so that in the male and the female both seminal guides (inner genital folds) and cloacal margins (outer genital folds) may meet and fuse over the genital tubercle. These extreme cases will be referred to later. It is to be noted that the similarity between the embryonic stages of the male and female is not present to the same degree in all those animals that fall into Type B. In the Ungulates the likeness between the embryonic stages of the two sexes is nothing like so great as it is in the Rodents, among some members of which order it may be very striking (compare the phases in the fœtal horse and fœtal rabbit).

FIG. 11.



The stages in the development of the female of Type B. The small genital tubercle with its open labia minora becomes buried by the overgrowth of the labio-scrotal folds as in the male. (Figured from developmental phases in *Equus*.)

From these brief descriptions of the main features of the developmental stages in the two types it will be apparent that the adult conditions arrived at will have certain special features which will help to show the line by which the external genitalia were evolved. It would at this stage be too optimistic to hope that a mere examination of the adult external genitalia of both sexes would always suffice to determine, beyond all doubt, in which class, A or B, any given animal should be placed; but, with more extended knowledge, I believe the determination could be done in the great majority of cases with the very greatest certainty. For this reason it is now necessary to outline these adult characteristics imprinted by the two types of development.

ADULT CHARACTERISTICS.

Type A: Male.

The most outstanding feature in males of this type is the complete eversion of the genital tubercle from the cloaca. As a consequence of this process the penis tends to become a free, pendulous organ attached to the perineal surface only by its "root." This character attracted the attention of Linnæus, and partly on the strength of it he included the Cheiroptera among the Primates.

The terminal portion of the penis ends as a glans, which, though it may undergo some slight specific modifications, remains for the most part small in size and simple in its characters. This glans is covered wholly or in part by a simple reduplication of the skin of the penis which constitutes the prepuce. The prepuce may be united to the under (primitive dorsal) aspect of the glans by a frenum which runs to the immediate base of the glans area, and becomes continuous with the most distal part of the united seminal guides. The free pendulous penis being a mere extroverted genital tubercle, and having *only* this intracloacal structure and the seminal guides entering into its composition, is covered, as a rule, by a very fine skin which gives rise either to no, or to few and special, hairs. The raphé, which marks the line of union of the seminal guides, is continued backwards along the penile body and across the penile root towards the anus into the anterior margin of which it extends. This feature is not, as a rule, sufficiently emphasised in descriptions; but in the majority of cases it is a very conspicuous one. In the male human fœtus (as an example of Type A) the passing of the fused seminal guides within the anal margin is very obvious; in the normal human adult the same feature is almost equally striking. This is a curious instance of the perfect retention of a chelonian feature, for in the males of these animals the seminal guides pass right back to become lost only within the lumen of the rectum.

The fine skin of the genital tubercle is the site of the deposition of pigment in most of the representatives of Type A, and in some of them this reaches a very high state of development. Upon either side of the root of this pendulous penis is a very different area—the *area scroti* of Klaatsch—which is derived from the cloacal margins (labio-scrotal folds). The *area scroti* possesses very definite characters, which in many ways are in some contrast to those of the penile area; the skin is somewhat coarser, it rests upon a more dense stratum of subcutaneous tissue, and it gives rise to hairs in greater abundance than does the penile area. Moreover, a remnant of the muscle of the panniculus carnosus generally persists in this area. It is to be noted that the actual testicular sac is not always developed at exactly the same site in the cloacal margin; and, indeed, it may occupy any portion of its length. In males of Type A the scrotal pouches are found in front and to the sides of the genital tubercle (*Tupaia*), at the sides and base (*Homo*), and still further back beside the anus or even behind it (*Cheiroptera*).

Type A: Female.

There are many very distinctive features to be recognised in the female external genitalia formed according to this type. The everted cloacal margins (labio-scrotal folds) may or may not be prominent as labia majora or outer genital folds. The development of these varies greatly in different animals all of which conform to this type of development. Well marked in some of the European races of mankind, they are by no means prominent in some African and some Asiatic races, and in many individuals would hardly merit any description as folds or ridges, being marked only by their skin characters and by the presence of the pubic hair which springs from them. Even the development of pubic hair may be extremely slight in the females of some races which do not practise epilation.

In a large number of other mammals of Type A this minimal development displayed by the human female is the normal condition typical of the adult female. In most of the Primates the labia majora are but little marked, and the presence of specialised hair alone indicates their existence in Cheiroptera.

The clitoris is fully exposed upon the surface of the perineum, and it is subject to considerable

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variations in size. Typically it is small and terminates in a small glans which is protected by a slight hood (prepuce) which secondarily joins the labia minora. In most cases this glans is solid, and unperforated by the ingrowth which forms the terminal portion of the urethra in the male. In *Myotis nigricans*, and probably in other members of the Cheiroptera, this terminal ingrowth develops, but does not constitute a functional canal. In some of the Lemurs a further development is seen.

The labia minora (seminal guides) diverge from the under side of the clitoris and pass backwards for a variable distance in different animals, and even in individuals representative of the same species. This variability is well displayed in the human female, for though these folds may at times pass backwards so far as to encircle the vaginal orifice, and meet to form a *fourchette*, it is more common for them to disappear altogether behind the urethral orifice at a point about halfway between the ventral and dorsal margins of the opening of the vagina. In some cases, not to be considered as abnormal, they do not extend so far back even as this mid-point. In some animals of Type A they are still more limited, and are practically confined to an area stretching from the under surface of the clitoris to the sides of the urethral orifice. Such a condition is seen in *Perodicticus potto*. In some Lemurs these seminal guides become again of functional importance.

It is to be noted that the body of the human clitoris is normally small, and that it is practically free from any groove upon its lower surface. In most Primates the clitoris reaches a relatively greater degree of development, and the urethral groove is more evident; and in some species the labia minora actually fuse over the groove and complete a urethral, though not a uro-genital, canal. In these animals the genital tubercle may be exactly similar in the two sexes, but the likeness is merely a superficial one, for functionally the two conditions are widely different, since in the male this completed groove forms a continuation of the uro-genital sinus, while in the female it functions as a urinary channel only.

In many of the females of Type A the uro-genital sinus is either altogether absent (the urinary and genital orifices both opening upon the surface of the perineum), or else it is not a very elongated canal. It therefore comes about that the hymen becomes a superficial and easily recognised structure, and this fact has led to the development of the erroneous idea that it is only in such females that the hymen exists.

Type B: Male.

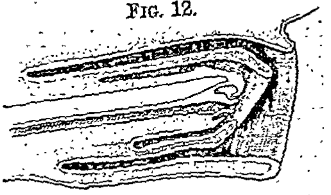
In the male of Type B the most outstanding feature is the incorporation of the penis in the skin of the pubic region. The incorporation may take place over a varying extent in different orders, in some passing as far forwards as the lower portion of the abdominal wall. The penis is no longer free and pendulous, fixed to the perineal surface only by its root, but it is bound down in the whole of its length by an ensheathing fold of the ventral skin. This at the outset constitutes a great contrast to the condition seen in Type A. The degree to which this sheath is carried forwards is, as a general rule, greater in Ungulates than it is in Rodents or in Carnivores; but whatever its extent it is always sufficient to form a complete covering for the penis in all quiescent conditions.

It must be understood that this sheath is developed from the ingrowing cloacal margins (labio-scrotal folds), and that it is therefore a part of the general body skin, or more particularly a portion of that skin in some part of which the *area scroti* is developed. The skin covering the penis in males of this type therefore partakes of the characters of the skin of the scrotal region in males of Type A; it is fairly thick, having some remnant of the panniculus carnosus persisting in it, and it is covered by the same hair that clothes the scrotum and perineum.

The actual site of the scrotal pouches varies somewhat, just as it does in the males of Type A; in some Rodents it is situated almost as far back as it is in the Cheiroptera.

Within the penile sheath the genital tubercle remains hidden. This concealed genital tubercle of course corresponds strictly to the exposed genital tubercle of the males of Type A; but it is subject to a rather wider range of variations. In the first place that portion distinguished as the glans may undergo the most marked, even fantastic, modifications; but it is, as a rule, covered by a prepuce that corresponds strictly to the prepuce developed in Type A. This prepuce is present in many representatives of most orders, but it is not invariably found in such a well-developed state as is usual in the case of the unprotected penis of Type A. This prepuce derived from the genital tubercle must be sharply distinguished from the sheath derived from the cloacal margins. It is a misfortune that the name "prepuce" has been applied without any discrimination to both these structures; even their occasional designation as "primary" and "secondary" prepuces is not a sufficiently distinct nomenclature. (See Fig. 12.)

FIG. 12.



Median section of terminal portion of the penis of a horse (from Sisson). Note the double nature of the "prepuce."

As the penis is traced backwards in its sheath it becomes buried more deeply beneath the tissues of the perineum, and, as a rule, some special development of the penile root is present to ensure full protrusion during functional activity.

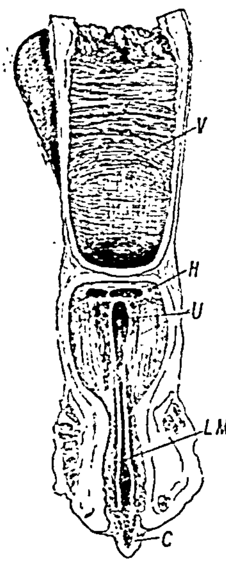
One of the modifications of the adult male condition needs some attention. In some species, especially among the Rodents, the penis sheath may be very short, and the penis so thoroughly concealed within its sheath that it is extremely difficult to distinguish the male from the female unless the genital tubercle can be everted. This condition should be compared to that in those females in which the genital tubercle and its sheath are of unusual length.

Type B: Female.

In the female of this type the cloacal margins surround a recess, which corresponds to the penile sheath of the male, and in which the genital tubercle is similarly hidden. The clitoris and its labia minora (seminal guides) are therefore concealed, and labia majora in some modified form constitute the only margins of the vulva. This vulval recess retains all the characteristics of the ventral part of the female chelonian cloaca.

The open seminal guides (*labia minora*) run upwards on the genital tubercle along the ventral surface of the vulval recess, at the apex of which is the urinary orifice, round the sides of which they pass to disappear upon its dorsal aspect. The hymen in females of this type exists in the virgin condition across the mouth of the utero-vaginal canal wherever this opens into a "uro-genital sinus." Just as the labia minora are concealed in these animals, the hymen itself lies deep within the female passages, and so frequently escapes observation. Nevertheless, all the conditions that are characteristic of the females of Type A could be reproduced simply by everting the vulva of Type B. (See Fig. 13.)

FIG. 13.



Lower end of vagina and uro-genital sinus (vulva) of a young pig. Note the concealed hymen and labia minora. V, Vagina. H, Hymen. U, Urethral opening. LM, Labia minora. C, Clitoris.

Between this vulval orifice, surrounded by its labia majora, and the anus a bridge of tissue exists which constitutes the perineum, but the anatomical basis of this perineum is quite distinct in these animals. In Type A the perineum consists of the extroverted summit of the cloaca, but in females of Type B it is composed of the cloacal margins that have met and united in front of the anus.

We have already seen that in the male of this type the genital tubercle may be so completely concealed, and the sheath be so short, that the likeness to the female may be very great. One other condition remains to be considered. Females of Type A have already been described in which the genital tubercle approaches to a masculine degree of development, so much so that in some Primates it again becomes a urinary canal by the closure and union of the labia minora. Similarly in females of Type B these approximations to the male condition occur, and in some instances are far more profound than anything previously described. In some females of Type B it is not only the urinary, but even the genital canal, that is closed in and carried to the tip of the genital tubercle; in this way the male and female condition becomes exactly similar. In some animals this condition is only temporary; in some, however, it is apparently permanent. [The condition present in the mole, the spotted hyæna, the South American hare, and some other animals was then described.]

UNIVERSITY COLLEGE, LONDON.—The report of this College of the University of London for the year ending February, 1914, which has just been issued, shows that the number of students attending during the session 1912-13 was 2083; of these, 137 attended the department of the faculty of medical sciences. For the year ending August 31st, 1913, the total revenue of the College from all sources amounted to £66,694 2*s.* 8*d.*, being an excess of expenditure over income of £173 10*s.* 4*d.* Among the new buildings that are in progress are a large block for the new chemical laboratories and the building for the purpose of housing the department of applied statistics and eugenics, including the biometric and Galton laboratories. These buildings, however, cannot be completed until adequate funds are forthcoming. The total at present needed to complete the most pressing works in hand is £58,262, of which £43,652 are required for the new chemical laboratories. A special committee, with Prince Arthur of Connaught as President and the Hon. Rupert Guinness as treasurer, is occupied in the task of raising these funds.

INTRASPINOUS TREATMENT (SWIFT-ELLIS) OF GENERAL PARALYSIS:

A PRELIMINARY NOTE ON FOUR CASES TREATED BY THIS METHOD.

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AND

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ASSISTANT MEDICAL OFFICERS, LONDON COUNTY ASYLUM, LONG GROVE, EPSOM.

SINCE the description by Swift and Ellis at a meeting of the New York Neurological Society in April, 1913, of a new mode of treatment for parasyphilitic diseases of the nervous system by the injection into the spinal subarachnoid space of salvarsanised serum, a considerable number of such cases have been treated by this method in America,[1] but relatively few have been recorded in this country. The presence of the spirochæta pallida can be demonstrated post mortem in a majority of cases of so-called parasyphilitic diseases of the nervous system, it has been cultivated from the brain tissue of the living general paralytic, and the rabbit has been infected by means of the serum of the general paralytic. These findings indicate that general paralysis is, at any rate in the majority of cases, a true syphilitic process depending upon the presence and activity of the organism itself. The difference between the course of general paralysis and that of other syphilitic lesions of the brain would appear to be due to the different distribution of the organisms in the two cases; in general paralysis they are found in the cortical and subcortical tissue spaces, away from the blood-vessels, and so, inaccessible to the influence of antisyphilitic remedies circulating in the blood stream, hence the failure of the treatment of the disease by intravenous administration of salvarsan as well as by the older antisyphilitic remedies. The cerebro-spinal fluid bears the same relation to the neurone as the lymph to the ordinary tissue of the body, and it is noteworthy that, after the mere introduction of salvarsan into the blood stream, the presence of arsenic in the cerebro-spinal fluid has never been demonstrated, whereas it is especially in that fluid that one finds chemical changes resulting from the altered metabolism of the neurone in general paralysis.

A hopeful line of treatment for this disease would seem, therefore, to be an attempt to destroy the organisms by spirochæticidal substances introduced directly into the cerebro-spinal fluid. The intraspinous injection of salvarsan itself is contraindicated by the meningitis to which it gives rise. It has, however, been demonstrated that the blood serum after intravenous injection of salvarsan possesses a strongly marked destructive action on the spirochæta—this action, in the opinion of most observers, being quite out of proportion to its actual salvarsan content—and such serum can be introduced into the subarachnoid space without any harmful effects. The readiest access for the introduction of the activated serum is afforded by lumbar puncture, this being the method described by Swift and Ellis and also that used by the present authors. Dr. Levaditi, Dr. Marie, and Dr. Martel have modified the procedure by introducing the serum under the cerebral dura through a trephine hole on each side of the skull,[2] the advantage claimed being greater assurance that it should reach the cerebral cortex. However, such heroic surgery would not appear to be necessary as Dr. Cotton, in two cases of general paralysis which died during the course of treatment by the intraspinous method, found salvarsan in the ventricular fluid.[3] It has also been shown that if phthalein be introduced by lumbar puncture into the subarachnoid space, and two hours later fluid is withdrawn simultaneously from the ventricles and through a lumbar puncture, phthalein is to be found in both, though the spinal fluid contains double the proportion found in the ventricular fluid.[4] Further, it was noted by the late Dr. Loomis that after argyrol was introduced into the spinal subarachnoid space it was to be found at necropsy distributed over the cerebral cortex.[5]

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[1] W. H. Hough and G. W. McCaskey: Journal of the American Medical Association, Jan. 17th, 1914.

The technique of the process as originally described by Swift and Ellis and as carried out by ourselves is briefly as follows. 1. The intravenous injection of 300 c.c. normal saline containing 0·4 grm. salvarsan neutralised with caustic soda. 2. One hour later the removal of 40 c.c. of blood. This is centrifugalised and 12 c.c. of the serum obtained is diluted with 18 c.c. of normal saline, the mixture being then heated for half an hour at 56° C. 3. The intraspinous injection, after removal of an equivalent quantity of cerebro-spinal fluid, of the 30 c.c. of this diluted serum prepared as above. The whole process was repeated four times at intervals of two weeks between Oct. 28th and Dec. 9th, 1913, and a final repetition was carried out on Jan. 5th, 1914.

The Wassermann reaction was quantitatively estimated at Claybury Laboratory in specimens of blood taken before and after the intravenous injection of salvarsan on each occasion, and we may here note that there was never any difference in intensity in the two specimens. A similar estimation with an examination as to the globulin and cell content was performed on samples of cerebro-spinal fluid removed before the intraspinous injection at each sitting. The method used for the estimation of the Wassermann reaction was that devised by Candler and Mann, and shortly to be published in the *Archives of Neurology and Psychiatry*, Vol. VI.

The four patients selected for the treatment were cases showing but a very slight grade of deterioration, as it was felt that if arrest of the disease could be effected the results would be of much greater value if the process of actual destruction of the nervous elements had not preceded very far.

The following is a short summary of the history of each case and of the conditions existing at the time of commencement of treatment.

CASE 1.—A male, aged 40, admitted on June 18th, 1913. Syphilis was admitted 20 years before; no treatment and no secondary symptoms. First symptoms noted two and a half years before, consisting of attacks of vertigo and anxiety, decrease of sexual appetite, and outbursts of intemperance. More recently attacks of confusion with auditory and visual hallucinations, persecutory delusions, and excitement. On admission he was in a confused state with partial amnesia for his recent excited periods, but with considerable insight into their morbid character and distress thereat. There was little genuine dementia, either intellectual or emotional. Before the commencement of treatment he varied considerably, showing at times marked confusion with hallucinations, and occasionally betrayed depression with suicidal tendencies. With regard to physical signs, speech was slow and clipped; the pupils were contracted, unequal, irregular, and both quite immobile to light; all movements were slow; there were tremors of the tongue and the hands; station and gait were both unsteady and the knee-jerks were exaggerated. The Wassermann reaction was strongly positive in blood and cerebro-spinal fluid.

CASE 2.—A male, age 33, admitted July 1st, 1912. Syphilis was admitted 13 years previously; two months' treatment. He had felt dull and anergic for two years before admission, with depression due to quarrels with his wife who drank. On admission he was still depressed, self-accusatory and apprehensive, the result of auditory and visual hallucinations. At the date of commencement of treatment he had improved remarkably, and it was difficult to determine any abnormality, either intellectual or emotional. With regard to physical signs, articulation even of test sentences was normal; the pupils were slightly irregular, rather large, and equal in size; the left reacted very slightly to convergence, the right not at all; both were quite immobile to light. There were marked tremors of the hands, tongue, and face; coördination and sensation were normal; station and gait were normal. There was marked increase of knee and supinator jerks. Wassermann reaction was strongly positive in blood and cerebro-spinal fluid.

CASE 3.—A male, aged 58, admitted on May 31st, 1913. Syphilis was admitted, but the date was not known. The first symptoms were noted 15 months before admission; there was sudden onset of marked amnesia for current events. On admission there were instantaneous amnesia, fabrication, euphoria, complete lack of insight, and tendency to make ill-considered plans for the future. There was little general dementia; he was capable of arithmetical deductions and of a correct and collected account of all events of his past, except those of the previous 15 months. At the time of commencement of treatment he showed practically no change. As to physical signs, speech was a little indistinct in articulation for consonants; the pupils were medium and unequal, the right being larger than the left, and were irregular and inactive to light. There were tremors of the tongue and hands; movement of the limbs was clumsy; station was steady, the gait a little unsteady and spastic; and the knee and supinator jerks were brisk. Wassermann reaction was strongly positive in blood and cerebro-spinal fluid.

CASE 4.—A male, age 52, admitted on August 7th, 1913. Syphilis was denied and physical signs were absent. The first mental symptoms were noted 20 months before. After a fall while at work he developed numerous disconnected delusions, and since then he had done no work and had shown marked confusion from time to time. On admission the mental state varied a good deal. At times he showed no gross intellectual defects, though he was always apathetic and lethargic. There was also a marked incongruity between his apathy and his continual complaints as to his health. No definite delusions could be elicited. From time to time, however, he displayed considerable amnesia for his past life and confusion as to his present surroundings. At the date of commencement of treatment, Oct. 28th, the confusional periods had ceased to occur, there was no amnesia, but he showed a general weakness of judgment. With regard to physical signs, the voice was monotonous, articulation was stumbling and explosive; the pupils were medium, equal, and regular; reaction to light and accommodation was very slight. There were well-marked tremors of the face, tongue, and hands; overaction of the facial muscles and clumsiness of all movements. The ordinary gait was shuffling; he could, however, walk heel-and-toe along a line with little difficulty. There was no Rombergism; the patellar and supinator jerks were very brisk. The Wassermann reaction was strongly positive in the blood and cerebro-spinal fluid.

The reaction immediately following the treatment was slight and diminished in severity with each repetition, the symptoms noted being vomiting, dizziness, slight pain in the head, neck, back, and legs. The occurrence of these, however, was not constant. A rise in temperature, maintained for 30 hours on the first occasion and diminishing in range and duration on each successive occasion, was observed. All four patients exhibited a remarkable similarity in this respect; at no time was the condition of any of them alarming.

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[2] Levaditi, Marie, and Martel: Comptes Rendus de la Société de Biologie, Dec. 19th, 1913.

[3] W. Cotton: Journal of Nervous and Mental Disease, January, 1914.

[4] W. Swift: Ibid.

[5] Quoted by W. Leszynski: Ibid.

An almost identical reaction, and no lasting change in the patients' condition, followed a set of preliminary experimental procedures on Sept. 26th, 1913. These were designed to test individually the effect of different stages of the treatment, omitting the use of salvarsan, and they were as follows:—Case 1, intravenous injection of 300 c.c. normal saline; Case 2, intraspinous injection of 30 c.c. normal saline; Case 3, intravenous injection of 300 c.c. normal saline and intraspinous injection of 30 c.c. normal saline; Case 4, intravenous injection of 300 c.c. normal saline and intraspinous injection of 30 c.c. diluted serum prepared in a manner similar to that used in the actual treatment.

The changes observed in the conditions of the patients since the commencement of the treatment may be classified under the following heads: (1) changes in the mental state; (2) change in the physical signs of the disease; and (3) changes in the Wassermann reaction.

The changes in the mental state have not been strikingly favourable. Case 1 passed through an attack of hallucinosis, both auditory and visual, without marked clouding of consciousness, immediately following the second repetition of the treatment and lasting about 14 days. Since then he has shown some tendency to euphoria, and though remembering his former hallucinatory periods and recognising their subjective character he is lacking in a correct insight into their gravity. His memory, however, remains good and he is more active and interested in his surroundings. Case 2 remains practically normal. Case 3 shows the same amnesia for current events and of all those since the manifest onset of the disease with the same tendency to fabrication. A few surprising instances of the retention of isolated memories, however, have been noticed. He looks brighter and shows no sign of progressive dementia. In Case 4 the patient's general dulness persists unchanged, without evidence of progressive dementia. Confusional periods, such as were observed previous to the treatment, have not occurred lately.

The changes in the physical signs are as follows. In Case 1 the tremors have entirely disappeared, and the station, gait, and coördination are normal. The pupils are medium in size, equal, regular, and react almost normally in speed and extent. Some analgesia is present. In Case 2 the pupils now both react slowly to convergence and the left only to light; no other change is to be noted. In Case 3, about the beginning of February the pupils were practically normal in form and reactions, but since then have shown a tendency to return to their initial condition. There has been some diminution of tremors and some improvement in coördination. In Case 4 there was a temporary improvement in the condition of the pupils, but this has again disappeared. The tremors are gone and the tendon reflexes are a little less exaggerated.

With regard to the Wassermann tests, the quantitative estimation of the Wassermann reaction in both blood and the cerebro-spinal fluid showed no change whatever: in all cases the reaction in both remains as strongly positive as it was before treatment. The cerebro-spinal fluid in addition was examined for the presence of globulin and excess of cells, and both those conditions were present throughout.

As only five months have elapsed since the date of commencement of treatment, it is obviously impossible to draw definite conclusions. While it is true that in none of the four cases has any progressive deterioration in the mental state occurred, yet it must be remembered that remissions equalling in degree those seen in our patients occur in 7 per cent. to 8 per cent. of general paralytics; moreover, the average duration of such remissions being 11 months, the arrest of progress in our cases is not yet sufficiently prolonged to constitute evidence that the evolution of the disease has been altered.[6]

With reference to the changes in the physical signs, it must be noted that alternating states of the reflex activity of the pupil to light occur in about one-third of cases during the first and second stages of the disease; too much stress, therefore, must not be laid upon such variations as have been observed in our cases.[7] The improvement in the general coördination and the diminution of tremors is only such as commonly accompanies states of remission in the ordinary course of the disease. In our opinion the persistence of the Wassermann reaction in both blood and cerebro-spinal fluid is strong presumptive evidence of the failure of the treatment, for whatever may be the actual genesis of the reaction, it is now generally accepted as indicating the continued presence of the living spirochæta. Furthermore, this persistence of reaction must be due to the presence of the organism under conditions rendering it refractory to salvarsan in the blood stream, and this is characteristic of the disease.

An analysis of cases of general paralysis treated by this method described by other observers, mainly American, shows little ground for the generally hopeful attitude adopted in regard to the treatment, for none of them appear to have produced changes in the mental or physical conditions other than such as are to be seen with almost equal frequency during the untreated course of the disease, and, while in several of the published cases changes in the cell and globulin content of the cerebro-spinal fluid have been noted, in none has any claim been made that the Wassermann reaction has been abolished in either the blood or the cerebro-spinal fluid. Even if disappearance of the Wassermann had been found during treatment, the cure of the disease would be unproven, as periods in which the reaction is temporarily absent have been shown to occur during its ordinary course.

Our thanks are due to Dr. F. W. Mott, the director of the Claybury Laboratory, and to Dr. J. P. Candler, who so kindly carried out the numerous examinations of the specimen fluids on each occasion.

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[6] H. L. Paine: A Statistical Study of Remissions in General Paralysis of the Insane, Boston Medical and Surgical Journal, 1913, p. 684.

[7] De Montyel: Archives de Neurologie, June, 1905.

ROYAL INSTITUTION.—On Tuesday next (April 21st), at 3 P.M., Dr. Walter Wahl will deliver the first of two lectures on "Problems of Physical Chemistry"—(1) "Study of Matter at High Pressures," and (2) "Study of Matter at Low Temperature." On Saturday, April 25th, Dr. T. E. Stanton commences a course of two lectures on "Similarity of Motion in Fluids"—(1) "The Theory of Similarity of Motion in Fluids and the Experimental Proof of its Existence," and (2) "The General Law of Surface Friction in Fluid Motion." The Friday evening discourse on April 24th will be delivered by Dr. Frank Watson Dyson, the Astronomer Royal, on "The Stars Around the North Pole," and on May 1st by Mr. E. F. Benson on "A Criticism on Critics."

TONSILS AND ADENOIDS IN CHILDREN:

A PLEA FOR FEWER OPERATIONS.[1]

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DURING the last year or so discussion has centred so much around the relative values of tonsillotomy and tonsillectomy that we have had no time to consider whether the total number of operations upon the tonsils or for adenoids is more than it should be.

Even though we do not *know* the function of the tonsils, faucial, pharyngeal, and lingual, we have very good reasons to *believe* that these form an early and very important line of resistance to micro-organisms which invade the body through the mouth and nose, and so when we find these organs enlarged we must not at once infer that they are the cause of any surrounding inflammation. It may be that they are enlarged in consequence of it, when our treatment must aim at removing the cause of inflammation rather than at removing the lymphoid tissue which is hypertrophied as a result of it.

I will assume that we are all agreed that the two indications for removing tonsils, faucial or pharyngeal, are because they are the cause of some inflammatory lesion, or because they are causing some mechanical obstruction to the functions of the nose, mouth, or ear. You will probably agree with me that in children the pharyngeal hypertrophy is more important than the faucial, for faucial tonsils have to be very large indeed to cause mechanical trouble to breathing, swallowing, or speaking; further, that the infective sequelæ of the adenoids are dependent upon the mechanical effects of obstruction to the posterior nares or Eustachian tube. In the faucial tonsil we recognise that the flat fibrotic organ with each crypt a bag of pus is the cause of repeated sore-throats and should be removed, but I maintain that these are not common in children, and that the number of tonsils which we see that can definitely be called the cause of sore-throats is small. Now in estimating the degree of obstruction from adenoids or the size of enlarged tonsils we must eliminate two fallacies: we must not come to a conclusion just after an acute attack has got better, nor until any other source of septic infection has been removed. Both these fallacies are, I believe, the cause of a large number of unnecessary operations. A child has a cold, the tonsils are enlarged, and he snores at night; the conclusion is at once made that he suffers from "tonsils and adenoids"; he is seen again at the end of a week, the cold is quite better, the child is well again, but the tonsils are still large, there is still a nasal intonation in the voice, and the operation is performed. If the tonsils be examined critically at this stage it is seen that they are covered with an excess of mucus, that their colour is a redder one than that of the surrounding mucous membrane, and that they have an œdematous appearance distinct from the white, firm look of the true hypertrophied tonsil. If the parents are cross-questioned you learn that the snoring has only been on while the child has the common cold, and that there have been no ear symptoms except during that time. If such a case as that is left for a month while the general health is attended to, a further examination will show in a very large number of cases that the tonsils have become quite small again, and that the adenoid symptoms have entirely disappeared. During this time there will have been time to attend to a common source of sepsis—I mean teeth. I believe that when the rule is made of having all carious teeth in children attended to before an operation on tonsils and adenoids is done, a very large number of these operations is avoided; this is so, both in the cases seen after an acute attack and in those which come up with slight symptoms of snoring and deafness from adenoids associated with enlarged tonsils. The frequency with which one sees all the permanent first molars carious before the child is 10 is a very sad thing: four carious teeth are, I am sure, enough to keep up a chronic pharyngitis which leads to a hypertrophy of the lymphoid tissues of the neck. A personal explanation of how I came to these conclusions may not be out of place at this stage.

Some four or five years ago, when the inspection of school children under the Act of 1907 was being done, but the treatment had not yet been organised, the throat departments of our hospitals were flooded with children returned by the inspectors. So many there were on the books to come into the throat beds at Guy's Hospital that they sometimes had to wait three, four, or five months before admission. During this time we had their teeth attended to; the parents taught them nasal breathing exercises, and we treated any general disorder that needed it. Time and time again, when they were admitted to the hospital, I found that no operation was necessary; sometimes they were sent out again without anything being done; often an anæsthetic was given, and on putting the finger on the nasopharynx no adenoids could be felt. These things taught me definitely that operation is not the only treatment for these conditions, and that in many cases operation was being advised where it was unnecessary. We may consider these things separately.

I have already dwelt upon the importance of carious teeth. I would now impress upon you the importance of breathing exercises. Most people agree that these are valuable; I would say they are essential. I consider that no operation is completed unless these be done regularly and deeply for two or three months afterwards. I believe that in a very large number of cases the operation is unnecessary if they are efficiently done, and that very many operations are useless unless they are done. I admit that it is tiring day after day to tell parents to teach their children to breathe through the nose when you know that in a large number of cases it is never done, but I consider it is wrong to advise an operation unless the parent is told at the time that this operation is only a preliminary, or at any rate only a part of the fuller treatment. If one holds these views as to breathing exercises one sees that it is no argument to perform an operation because the parents will not carry them out.

That dyspepsia of the second dentition which has been called by Dr. Eustace Smith "mucous disease" is another thing to which I would draw your attention. First, some of its symptoms resemble those of adenoids; the cough for which so many children are sent to have their adenoids removed is often the "stomach cough" of our grandparents; the grinding of teeth is often mixed up by careless parents with snoring at night time. Secondly, as a result of the disease the lymphoid tissue all over the body becomes increased, and the pharyngeal and faucial tonsils, which are but masses of lymphoid tissue, are enlarged also. I see no reason, except one of ease, why we should remove these in such a case any more than do a laparotomy and excise one Peyer's patch, or a thoracotomy and cut out the thymus gland. Other observers beside myself have commented upon this relationship between mucous disease and enlarged tonsils, and have said that the removal of the tonsils makes the mucous disease much better; I, on the other hand, find that by treating the mucous disease we can escape in a number of cases the operation with its attendant discomfort and risks, both immediate and remote. How, then, can we decide whether an operation is necessary or not? First, we must have some definite positive indication that the lymphoid tissue present is doing harm, and not operate merely on chance to improve the general health, because it happens to be in excess. Secondly, we must assure ourselves that this is a local disease and not a part of a general lymphoid enlargement all over the body. Thirdly, we must try to decide whether the lymphoid enlargement is a permanent one or merely a transient one due to a recent infection or secondary to carious teeth. Lastly, we must exclude any contraindication which is likely to increase the danger either of operation or of possible sequelæ out of proportion to the advantages we hope to gain.

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[1] A paper read before the Medical Society of London on March 30th, 1914.

I find some students who work under me talk of operation for tonsils and adenoids as one being devoid of any risk. So far do I disagree with this that I would say that no operation equally small carries with it so many risks. I have never met with one of the cases of severe hæmorrhage which undoubtedly occur, but the list is long enough without them. There is the undoubted risk of the anæsthetic, which is given almost universally in this country. It is useless to deny that children do become almost pulseless when the operation has been done; I ask anyone who has had much experience if he has not had many an anxious moment with these cases? I have had three times to take a patient into the hospital who had been operated upon as an out-patient, and once nearly had to do a tracheotomy for a tonsil that had slipped out of the guillotine and become impacted on the upper opening of the larynx. Further, there is a considerable number of deaths under the anæsthetic with this operation. Dr. B. H. Spilsbury has kindly lent me the manuscript of a paper not yet published in which out of 104 cases of death during anæsthesia six of them were for the operation of "tonsils and adenoids" in children. If we consider only those which have died from the anæsthetic the proportion is higher.

Infection is the cause of the other sequelæ. The least of these is a severe sore-throat which makes the child thoroughly ill for from several days to a fortnight; such a complication is sure to occur in some cases, and it is our business to make these cases as few as possible. Acute otitis media, pneumonia, and metastatic abscesses are the most serious complications. I have seen the first several times; once I saw an acute osteomyelitis of a rib in a child who had had the operation done a week before, and who was suffering from a very severe pharyngitis as a result. The history of the throat beds at Guy's Hospital exemplifies the importance of the second. When the department was first made it was in the hands of an assistant surgeon, Mr. Charters J. Symonds, who took the bigger cases into his own beds, and the "tonsils and adenoids" operations were done in the out-patient department; a series of children had to be taken into the hospital for pneumonia, which resulted in certain beds being set apart for these cases. As the department increased these became throat beds, and again operations were done in the out-patient department. I believe that if cases were more carefully followed up we should find a greater number of instances of pneumonia after the operation. Under the London County Council I am now in charge of one of their clinics attached to the St. George's Dispensary in Southwark. The cases are there followed up by lady clerks of the Council, and if the cases do not return after the operation they are traced to their homes. During the month of September I had two cases of pneumonia occurring after the operations, in neither of which had there been any raised temperature before the operation, nor had there been any acute cold or sore throat for many weeks before the operation; in one case no anæsthetic was given. These cases show that we cannot eliminate post-operative pneumonia as a factor in these operations.

Measles, scarlet fever, and diphtheria may also be looked upon as post-operative complications. I do not mean that the operation causes the acute specific disease, but rather that it is done during the incubation period. If such be the case, it is very obvious that the child runs greater risk during the disease if such an operation has been done just before.

How are we to prevent the occurrence of these acute post-operative inflammations? I find I have had far fewer since I have followed the rule laid down in Professor Killian's clinic, never to operate if the temperature be above 99° F. I believe that in this way you eliminate not only cases sickening for measles and scarlet fever, or many cases likely to get acute otitis or pneumonia, but also that you eliminate cases where the lymphoid enlargement is the result of some temporary inflammation. Everyone agrees that these operations should be done in the quiescent period, the disagreement lying in determining when the quiescent period has arrived.

I do not intend to go into the question of anæsthesia now, but I may say that I find that the bad sore-throat following the operation is much less frequent when no anæsthetic has been given; routine formalin tablets for a few days are also a good thing. Also, I think it is much better to do no operations on out-patients during the winter months. If they cannot be done at home or taken into the hospital for a night or two it is far better that they should wait until the spring than have an anæsthetic, and an hour or so later be sent out with a wound in the throat into a London fog or a drizzle of rain.

In rheumatism and allied conditions the case is different from the other acute fevers. Here, I believe, the operation determines the attack. I have had three cases of attacks of chorea definitely beginning after an operation on the throat; one was most intractable, and kept the child away from school for over six months. The complete removal of the tonsils does not prevent further attacks of rheumatism. In the adult who suffers from slight attacks of pyæmic arthritis which are called "rheumatism," removal of a septic tonsil may cure the attacks, but I do not think it is so in true rheumatism. In January, 1913, I enucleated the tonsils of a girl who had rheumatism, and the operation was followed immediately by another attack, another followed in April, another in June, and another in September. She gets her sore-throat though there is no tonsillar tissue left. "Assuming," said Mr. T. Jefferson Faulder at the Seventeenth International Congress of Medicine, "that the tonsil is the site of infection in rheumatism, &c.": I maintain that we have no right to assume it, and if this is correct there is no more reason for us to remove the tonsil than there is for the general surgeon to do an arthrectomy of the ankle-joint. At the same meeting Mr. Pybus said that he was enucleating tonsils for chorea. So far from enucleating for chorea, in a case where there is any suspicion either of chorea or of true rheumatism, I do not do an operation unless the indications are of the strongest and all other treatment has failed.

I know of no operation in surgery where so much good is so easily done to a patient as when an operation for tonsils and adenoids has been performed in a carefully selected case, and it is for this reason that I think the points that I have brought forward are worthy of consideration; for if we do the operation in unsuitable cases it will needlessly fall into disrepute. But it is not only we specialists who should pause to think whether we are doing too many operations. The general physician, surgeon, and practitioner must also review the position and not imagine that the laryngologist has a panacea for all the ills of a child whose tonsils project beyond the anterior pillar of the fauces. At the International Congress of Medicine Professor Friedreich, of Kiel, and Sir Felix Semon both laid stress on the fact that the pendulum has now swung the other way, that cases often are sent to us for operation on the tonsils to cure all sorts of diseases, and we must strenuously resist such a tendency.

In the light of such thoughts we may consider the cases which return after an operation unrelieved in their symptoms and with the lymphoid tissue grown again. We need not look upon these as being badly or incompletely done, but rather consider whether they were unnecessarily done, or that after-treatment was not done. When such a case comes to me I often find that carious teeth have not been attended to, that no after-treatment has been ordered, or if ordered has been most inefficiently carried out; and I would put it to you that in such cases we should rather stay our hands than believe that because no good has been done a further operation is necessary.

Queen Anne-street, W.

PARTIAL GASTRECTOMY FOR GASTRIC ULCER RECURRING AFTER GASTRO-JEJUNOSTOMY.

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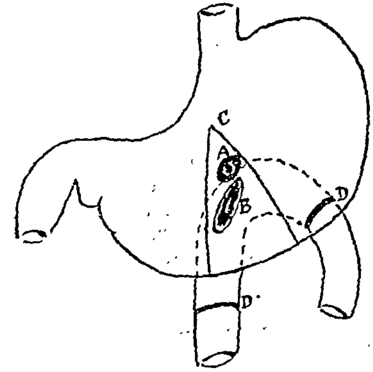
THE report of a case of transgastric excision of a gastro-jejunal ulcer by Sir Berkeley Moynihan and Dr. E. T. Tatlow in THE LANCET of March 14th makes me think it may be of interest to record a case in which I had to perform excision of a somewhat similar ulcer, though by a different method.

The patient, aged 38, was admitted to the Royal Free Hospital under my care in 1909 suffering from a perforated gastric ulcer. I opened the abdomen and sutured a perforated gastric ulcer on the anterior wall close to the pyloric end. This so narrowed the pylorus that I considered it advisable to perform gastro-jejunostomy there and then. The patient made an uninterrupted recovery and was completely restored to health, though she had been an invalid for ten years owing to the gastric ulcer. Two years later, however, she got a return of pain after food, which persisted in spite of careful diet and bismuth. Suspecting that she had developed a jejunal ulcer she was advised to undergo a strict "rest and diet" cure for two months. As she was not improved by this I advised her to submit to another operation.

On opening the abdomen I found that so far as the new opening was concerned there was no sign of contraction. (Incidentally, I may state that in no case in which I have reopened the abdomen after gastro-jejunostomy have I ever seen evidence of contraction.) The distal and proximal loops of the jejunum were certainly not the seat of ulceration. On palpating the stomach, however, I discovered that there was an infiltrated area around an ulcer situated on the posterior wall about half an inch superior to the anastomosis opening. I was then faced with the problem of what to do. Here was a patient with a perfect gastro-jejunostomy, supposed to cure gastric ulcer, and therefore still more to prevent its development. Moreover, she was not influenced by medical treatment. Excision of the ulcer thus seemed the only possible hope for her. Situated as the ulcer was, close to the anastomosis, I could not excise it without so interfering with the junction as to render it useless, even if I could have overcome the technical difficulties of such a procedure. The only possibility which occurred to me was to excise the junction and that area of the posterior gastric wall which contained the new ulcer. This involved an excision of a considerable wedge of the stomach and the loop of jejunum which took part in the anastomosis (see figure). The stomach wall was then united by two rows of continuous sutures, beginning above and leaving a sufficient opening below to permit of anastomosing the distal part of the jejunum to it. The short proximal end of the jejunum was then inserted into the side of the distal loop, thus leaving the patient with a Roux's, or Y-shaped, anastomosis. Again the patient made an uninterrupted recovery.



Diagrammatic representation of an ulcer recurring two years after gastro-jejunostomy and the operation of partial gastrectomy, including the anastomosis opening. A, Recurrent ulcer. B, The gastro-jejunostomy. C, The lines of excision of the posterior gastric wall. D, The lines of division of the proximal and distal loops of jejunum.

This operation is rather a formidable one, especially when a no-loop junction has been made and I feel that if I had to deal with a similar condition again I might be tempted to adopt the procedure suggested by Sir Berkeley Moynihan, the transgastric method.

Many years ago I adopted this mode of attack for dealing with hæmorrhage consequent upon the performance of gastro-jejunostomy. In my earlier cases I had two in which post-operative hæmorrhage occurred. I immediately reopened the abdomen, and then made an incision in the anterior wall of the stomach. By means of two fingers on the posterior gastric wall it was simplicity itself to evert the junction through the anterior wound and tie the bleeding point, which in each case was a vessel (probably half divided) at the pyloric end of the wound. Each made a perfect recovery. The method is so simple compared to interfering with the junction from the outside and possibly getting leakage that I should always adopt it if such an accident should occur again. I think it taught me, also, that the most likely reason for hæmorrhage is a largish vessel at the pyloric end, partially divided, and since I have taken special precautions to stitch very closely at that point I have not had a case of hæmorrhage.

The transgastric method of excision of a recurrent ulcer had not seemed to me advisable on account of the difficulty of putting in the peritoneal continuous Lembert suture if the anastomosis had not been previously excised, but Sir Berkeley Moynihan's adoption of a temporary gastrostomy with the tube going into the distal loop of the jejunum apparently overcomes what might appear to be not an ideally water-tight method of union. The lesser severity of the transgastric method, however, appeals to me as possibly the best measure to adopt in most cases.

Upper Wimpole-street, W.

CONTRIBUTION TO THE TREATMENT OF DUODENAL FISTULA;

WITH THE REPORT OF A SUCCESSFUL CASE.

BY CHARLES A. PANNETT, B.Sc., M.D. LOND., F.R.C.S. ENG.,

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A YEAR ago a paper was read before the Surgical Section of the Royal Society of Medicine[1] in which a new and simple method for the treatment of perforated gastric and duodenal ulcers was described. It was named by its author "treatment by tamponade." The novelty of this treatment resides in the fact that no attempt is made to suture the perforation: the aperture in the ruptured viscus is merely plugged with a strip of gauze which is allowed to emerge from the abdominal wound. In this paper it was stated that the method had been employed in 15 cases, that no deaths had occurred in this series, and that no fistulæ had resulted. Its originator, after a further trial, has recently[2] again advocated the adoption of this procedure, only, however, citing two cases of ruptured stomach, in one of which a gastric fistula resulted, but healed in ten days.

To discredit the value of the operation in the treatment of perforated gastric ulcers because a fistula occasionally develops after it would be wholly unjustified, unless it could be shown that there do not exist compensatory advantages of greater weight. But in the case of the duodenum no possible advantages could counterbalance the serious drawback of an increased incidence of fistula formation following operation. A gastric fistula frequently closes spontaneously, and even if it never closes life may be maintained for years, as was illustrated in Alexis St. Martin. And this is not altogether exceptional, as the results of gastrostomy for fibrous stricture of the œsophagus have demonstrated. As far as can be ascertained from the writings of the last ten years, a duodenal fistula never heals without surgical aid, and if left is invariably fatal. Moreover, death may be exceedingly rapid. Thus Berg records a death which occurred three days after the establishment of a fistula. Just how frequently a fistula occurs after the suture of a perforated ulcer is difficult to gauge accurately, as there are no statistics available. Such failures are apt to remain unrecorded. The case described here is an example. Struthers[3] refers to 2, Dickie[4] mentions 1, and 2 are described by Berg.[5] Many such must have occurred. But it is probable that the frequency of fistula formation would be greater if no attempt were made to suture the ulcer. Thus in the collective report on perforating duodenal ulcer at Edinburgh[6] there were only 3 fistulæ in 200 cases, and these were the only 3 cases where the ulcer was not sutured. The patients all died in a few days. Recovery from a duodenal fistula, even with adequate surgical treatment, is a rarity. Only 3 cases are to be found in the writings of the last ten years. They were cases treated by Berg,[5] Knaggs,[7] and Souttar.[8] In none of these successful cases was the surgical treatment identical with that pursued in the following case:—

The patient, a thin man, aged 45 years, was admitted to St. Mary's Hospital on Jan. 23rd, 1914. He had a history of an illness of five months' duration. Pain occurred two hours after meals and was relieved by taking food. Occasionally there was vomiting and once there was melæna. Twenty-four hours before admission to hospital the patient was seized with agonising pain in the upper abdomen. Vomiting occurred several times at the onset of the attack and then ceased. The pain had gradually got better and the patient felt so well that he could with difficulty be persuaded that there was anything serious amiss. The abdomen was rigid all over, but muscular spasm was most marked over the upper part of the right rectus. Tenderness, whilst present to some extent all over the abdomen, was most marked over the left upper rectus; the next most tender area was the right iliac fossa. Very unusually, although the recto-vesical pouch of peritoneum bulged, there was no tenderness per rectum. Dulness was present in each flank and in the hypogastrium. The liver dulness was not obliterated. The pulse was 120 and the temperature 98·4° F. The diagnosis of perforated duodenal ulcer was made, and the abdomen was opened through the right rectus muscle. Some free gas escaped. The abdominal cavity was filled with thin purulent fluid. A perforation with a diameter rather less than that of a lead pencil was found in the centre of a large ulcer situated in the anterior wall of the first part of the duodenum. Two Pagenstecher thread sutures were passed through the whole thickness of the edges of the hole and tied. A vertical row of Lembert thread sutures buried the perforation. The closure appeared secure. A gauze drain was carried down to the site of the perforation and a tube inserted into the pelvis. All went well until the fourth day after operation (Jan. 27th), when the gauze emerging from the upper wound was withdrawn. It was followed by a small amount of thin sour discharge. Next day the discharge increased greatly in amount and was bile-stained. After this the discharge of green bile-stained fluid was very profuse. Food was withheld by mouth, an attempt was made unsuccessfully to feed rectally, and glucose and saline injections were administered freely. Milk given by the mouth was seen emerging from the fistula within a few minutes. The rectal washings contained very little fæcal material, and this was pale in colour when the fistula was fully established. On the fourth day after the development of the fistula (Jan. 31st) the condition of the patient was desperate. He lay with sunken cheeks and eyes, his voice was hoarse, his eyesight was failing, and the temperature was subnormal. Emaciation was extreme. He was thought to be dying. The wound was widely gaping, the edges were infected and partly digested by the pancreatic fluid. On this day the abdomen was opened through the left rectus muscle. Crile's anoci-association technique was employed locally. The anæsthetic was ether, and was given in very small quantity. The duodeno-jejunal flexure was identified, and a loop about 8 inches from this drawn out of the wound. The afferent and efferent limbs at the base of this loop were made to communicate by a lateral anastomosis. A rubber catheter was sutured into the efferent limb of the loop according to the technique of Witzel for gastrostomy. The bend of the loop was then sutured to the parietal peritoneum and the wound was closed. On the table 10 ounces of peptonised milk containing a raw egg were poured into the intestine through the catheter. The operation was followed by no shock. Feeding through the jejunostomy opening was performed regularly, and food was also given by mouth. The condition of the patient improved rapidly and the fluid coming from the fistula was rapidly diminished in quantity, so that in ten days' time there was no bile staining to be seen. Next day the jejunostomy tube was removed. No leakage ever took place from the jejunostomy wound. The subsequent course to recovery was interrupted by the development of a parotid abscess which had to be opened twice, but otherwise progress was satisfactory, and the patient left the hospital on March 26th cured.

The problem of the treatment of a duodenal fistula is not a simple one owing to the very slight tendency manifested to spontaneous healing. This is largely due to the fact that in a duodenal fistula practically all the ingested food in addition to the gastric, pancreatic, and biliary secretions escapes. The result is a condition of starvation and consequent grave interference with the reparative powers of the body. Whether the loss of the duodenal secretions themselves plays a part in causing death is open to question. It appears strange that, as in the case here recorded, so much bile should escape from a comparatively small aperture situated at some distance above the opening of the common bile-duct. It would appear as though there were some hindrance to the onward passage of the duodenal contents beyond the opening of the common bile-duct. Ochsner[9] has described a sphincter muscle in this region, and such a muscle contracting would cause the necessary obstruction. It is true that Boothby[10] has denied the anatomical existence of such a muscle, but it seems probable that there is a physiological contraction in this region, for Cannon and Blake[11] have noticed segmentation of the contents of the duodenum after a bismuth feed, and state that food is delayed in the duodenum by circular contractions of the muscular coat. We know, too, that after pylorectomy circular constrictions of the duodenal wall have been proved to take place and to some extent vicariously perform the function of the pylorus. It seems, indeed, that chyme passing through the pylorus is retained in the duodenum before being passed onward into the jejunum until it has been intimately mixed with the duodenal fluids. In such facts may lie the explanation of the profuse loss of bile-stained fluid from a duodenal fistula.

Interest in the treatment of duodenal fistula was first aroused by Berg,[12] who suggested that the correct line to adopt should be gastro-jejunostomy combined with occlusion of the pylorus. This has been accepted by surgeons as the proper procedure. The number of successful cases, however, as stated above, is small. Berg's first case, which occurred after a cholecystenterostomy, was a success, although the patient died from the exhaustion, associated with carcinoma of the pancreas, 17 days later. The discharge from the fistula had ceased. His second case illustrates the futility of suturing the opening in the duodenum to check the outflow of its contents. In this case a fistula occurred seven days after the suture of a perforation. Immediately a posterior gastro-jejunostomy was performed and the ulcer was resutured. Two days later leakage occurred again. Another attempt was made to close the opening in the duodenum when finally the pylorus was occluded, but the patient died next day.

Souttar's case is interesting in that the fistula resulted from the perforation of an ulcer of the duodenum following an extensive burn in a child. Bile and pancreatic juice escaped for nine days. The abdomen was explored, the ulcer found and sutured, posterior gastro-jejunostomy performed, and finally the pylorus infolded. The child recovered. In Knaggs's case gastro-jejunostomy with infolding of the pylorus was successful.

Berg's treatment has the advantage that the gastro-jejunostomy may lead to the permanent healing of an ulcer that would otherwise remain open. It has the disadvantages that an infected area of the abdomen has to be opened up, and that much difficulty may be met with in gaining access to the pylorus through the numerous adhesions. When the pylorus is occluded the amount of bile and pancreatic juice poured into the duodenum is lessened because of the loss of the stimulus of the acid chyme coming through this opening. The consequent diminution in the quantity of fluid discharged from the fistula would at first sight appear to act very advantageously for the closing of the fistula. But a moment's reflection will show that the closing of a fistula, if there is no obstruction to the outlet of the viscus into which the fistula leads, depends scarcely at all upon the amount of escape from the opening. A suprapubic fistula closes when there is no urethral obstruction; a gall-bladder closes when the common duct is open. Failure to close, even when there is no obstruction, however, occurs when the fistulous tract becomes lined with epithelium continuous with that of the surface of the body, or when infection of the wall of the tract cannot be overcome. The closure of a fistula actually depends upon reparative changes in its wall, whereby scar tissue is produced with its tendency to contract and obliterate the channel. The longer the tract is the greater the chance of closure. The duodenum lies high up under the liver, so that the path to the surface is long. In addition the contents of the duodenum contain but few organisms. The tendency to healing would thus seem to be theoretically great. But there are two unfavourable influences: first, the digestive power of the pancreatic juice; and, secondly, the enormous interference with nutrition. If the resources of the body be maintained at as high a level as possible by introducing food into the bowel beyond the duodenum, reparative activity is stimulated and the antitryptic and bacterial defensive powers of the serum are increased. For these reasons the plan adopted in the case here reported seemed to be sufficient. It has the advantages, too, that it is technically a much simpler operation, because there are few or no adhesions to be dealt with; a septic area of the abdomen has not to be opened up; the normal functioning of the pancreas is not interfered with by hindering the formation of the hormone of the pancreas (secretin), which occluding the pylorus does. The disadvantage lies in the fact that a subsequent gastro-jejunostomy, should it become necessary, would be a very difficult and complicated procedure. Nevertheless, I think that this operation will become the method of choice, and Mayo has found that very few perforated duodenal ulcers subsequently need a gastro-jejunostomy.

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Devonshire-place, W.

TRAUMATIC DISLOCATION OF THE HIP-JOINT

OCCURRING IN A BOY 10 YEARS OLD.

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DISLOCATION of the hip-joint of traumatic origin is a very uncommon condition in children. The kind of violence that in the adult produces dislocation must be supposed to produce in children, very much more commonly, separated epiphysis or fracture. As I cannot hear of any such case or find an account of any in the literature,[1] I think the following is worthy of record.

The patient, a boy aged 9 years 9 months, was admitted to the Adelaide Children's Hospital on Jan. 4th, 1914. The history of the accident was as follows. He was sitting on a moving truck filled with clay in a brickyard. He was struck on the left hand by a stone thrown by another boy. He turned and fell off the truck, a height of about 5 feet, and, as he asserts, "turned two somersaults before he hit the ground." The truck, which weighed, according to the father, some 5 cwt., came in contact with the upper and outer part of the boy's left thigh below the great trochanter as he fell. "The truck went half over him." In the boy's fall the first part to strike the ground was the upper and outer portion of the left thigh. He was unable to rise, and his "left leg felt as though it had gone to sleep."

It is thus by no means clear what the exact mechanism of the production of this injury was in the present case. The account given by the boy is vague, and it has varied from time to time. But as far as a connected statement can be obtained from him there seems no reason why a separated epiphysis or a fracture should not have occurred in this as in most other cases. That is to say, no explanation of the dislocation is afforded.

On admission to hospital the left thigh was found to be flexed at the hip-joint to about 45° with the horizontal, and was adducted and rotated inwards. The great trochanter was from an inch to 1½ inches above Nélaton's line. The head of the femur could be felt on the dorsum ilii. The joint was rigid. There was no crepitus along the course of the femur or in the pelvis. Except for an abrasion some 6 inches by half an inch crossing the lumbar spine obliquely, no other injury, external or internal, could be discovered. The case was regarded as a typical dislocation on to the dorsum ilii. But a careful watch for visceral injury was maintained for 12 hours after reduction. Under chloroform anæsthesia induced by Dr. W. T. Simmons, the house physician, the dislocation was reduced without difficulty. Nothing more was necessary in the way of manipulation than weak traction in the line of the misplaced femur, followed by slight increase (about 10 degrees) of flexion. The ease with which reduction occurred was no doubt due to (1) the weak musculature of the young child, (2) the fact that the dislocation was only about three and a quarter hours old, or perhaps also (3) extensive injury to the capsule of the joint.

A radiograph was taken in order to exclude the possibility of further bone injury, such as separation of the epiphysis or injury to the acetabulum. This showed that no such other injury had occurred.

In the after-treatment passive movement was begun on the seventeenth day (rotation, abduction, and adduction), but flexion through more than 5° was delayed until a week later, when active movement was also commenced. The patient was allowed to put weight on the limb on the twenty-eighth day. The result was apparently perfect on the patient's discharge from hospital.

Adelaide, South Australia.

Medical Societies.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Exhibition of Specimens.—Enlarged Gall-bladder.—Shockless Surgery.

A MEETING of this section was held on March 20th, Dr. R. D. PUREFOY, the President, being in the chair.

Mr. A. BLAYNEY showed a specimen of Cancer of the Gall Bladder from a woman aged 42, who since last Christmas had suffered from distension and pain in the epigastrium and to the right side, with anorexia and occasional vomiting. Examination revealed a tumour in the region of the gall-bladder. On operation it was found that the fundus of the gall-bladder presented a distinct tumour, somewhat nodular on the surface, and involving the liver. The gall-bladder was removed with the object of diminishing the pain. Some gall-stones were found, as is usual in cases of carcinoma. The patient had done well and the pain was relieved.

Mr. S. PRINGLE showed an Ulcer excised from Hour-glass Stomach in a woman who had been sent to hospital with a provisional diagnosis of gastric ulcer. There was a history of symptoms extending over several years. For three weeks preceding admission she complained of very great pain, not regularly after food, but persisting all the time; vomiting was frequent, and for four days before admission almost constant. There was tenderness in the epigastrium to the left of the middle line. On opening the abdomen a very tight hour-glass constriction was found in the middle third of the stomach, immediately above which there was a hard mass adherent to the pancreas. The stomach was divided between two clamps, and on lifting it up the ulcer was detached from the anterior surface of the pancreas. After the ulcer was passed another clamp was put on the stomach, and an end-to-end suture of the two halves of the stomach was done. A drain was put in, which was removed after two days, and the patient made an uninterrupted recovery.—Mr. Blayney thought no operation but the one performed by Mr. Pringle would give a good result.—Mr. W. I. de Courcey Wheeler said that every case of this kind would suggest its own treatment. He had experience of three such cases, and in each of them he decided to do a different operation. One was stricture of the pylorus, and in this case it was easy to anastomose; in the second case it was found easier to do a Finney's operation; and in the third the stomach was resected, and an end-to-end anastomosis was done. In each case the patient did well.—Mr. H. Stokes said he had seen two cases in which a gastro-enterostomy had previously been done to the lower pouch. The patients were not improved, and on reopening the abdomen it was found that the anastomosis had been done to the lower end of the stomach. In both cases another gastro-enterostomy had to be performed.

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[1] The only other at all similar case that I have been able to find in medical literature is that recorded by the late Mr. Walter Rivington (THE LANCET, 1878, vol. ii., p. 321). But in that case the condition occurred in a considerably older child—a girl aged 13 years. "Under ether it reduced itself." The ease of reduction was thus a comparable experience to that in the present case. I should add, however, that I have not been able to search the literature at all thoroughly.

Mr. R. Atkinson Stoney described a case of Enlarged Gall-bladder with unusual signs. A woman, aged 37, was admitted complaining of a painless lump in the abdomen, which she had noticed for about a year, and which had been increasing in size. On examination there was a lump of about the size of a lemon in the right abdomen, which could be pushed nearly entirely under the ribs and down to the umbilicus; there was very little lateral movement. It seemed immediately under the anterior abdominal wall. Bimanually it slipped up under the ribs with the sensation of a movable kidney, but did not entirely disappear. An incision was made in the loin and a movable kidney found, and a nephropexy was performed. When dressing the case a fortnight later the tumour was again found, if anything larger than before. An abdominal incision was made and a greatly distended gall-bladder found adherent to the inner surface of a well-developed Riedel's lobe. A large round stone was felt impacted in the cystic duct. The gall-bladder was removed and the patient left hospital three weeks later. The gall-bladder was full of opalescent mucoid fluid, and a second stone was found loose, about the same size as the impacted stone, and with a facet on either end, each of which fitted exactly the facet on the other stone. The physical signs were explained by the presence of the two conditions.—Mr. Pringle said this case was another example of the difficulty of diagnosis of these tumours, and pointed out that mistakes were very likely to be made. In such a case he would have performed cholecystectomy, whereby the whole organ could be completely taken away without the risk of infecting the peritoneum.—Mr. Blayney said he had at present under his charge a patient presenting all the signs enumerated in this case—namely, movable kidney and distended gall-bladder. She was aged 30, and had been treated for duodenal ulcer. He made a diagnosis of tumour in the gall-bladder. The anterior surface of the tumour came close to the abdominal wall and to the umbilicus, which was a condition not met with in movable kidney.—Mr. D. Kennedy recalled a specimen, shown by him five years ago, of gall-bladder filled with calculi down as far as the pelvis, and said it was only when an incision was made down on the gall-bladder he found it had reached into the peritoneum. He considered it difficult in some cases to distinguish between tumour of the kidney and tumour of the gall-bladder. In cases where the gall-bladder was removed at operation difficulty was experienced in draining the bile-ducts.—Mr. Stokes mentioned that although these tumours of the gall-bladder might not be malignant, papillomata were usually met with, and it was often very hard to decide whether they were malignant or not.

Mr. Wheeler read a paper illustrated with lantern slides on Crile's Method of Shockless Surgery (Anoci-association).[1] He reviewed his own experiences for the past few months, and while admitting that the theory and practice were not ideal at present, a remarkable advance had been made towards the prevention, either transient or permanent, of ill effects from operations. In many cases after prolonged major operations the patients had little or no sensation of pain, there was no reactionary rise of temperature, no quickening of the pulse, and no manifestation of shock, great or small. It was likely that Crile's discoveries would mark a new era in surgery, and that a development of the principle of anoci-association would be as definite a milestone in surgical progress as the control of hæmorrhage in the days of John Hunter and the triumph of asepsis through the efforts of Lister.

Mr. Wheeler stated that for ten years he had used novocain in conjunction with general anæsthesia, and for the past two years had, in addition, administered omnopon and scopolamine prior to operation. For the last few months he had been converted by the work of Crile and the advocacy of Moynihan to a very systematic infiltration of the tissues and to the employment of urea and quinine.—Mr. Stoney said he had no practical experience of the subject, but while anoci-association was very sound in theory he considered in practice it was slightly different. The operations which he found associated with shock, and where shock was sometimes fatal, were cases of emergency abdominal operation, especially those of strangulation or obstruction, and in such cases he did not see how anoci-association could be carried out, as one of the reasons for the shock was the handling of the intestines, and he suggested that unless one infiltrated the whole of the root of the mesentery a great deal of the shock could not be done away with. This procedure he held to be impracticable in such a case on account of the time necessary to carry it out. In extensive amputations or removals of large tumours one might be able to improve the patient's chances by adopting anoci-association, but for general operative treatment, or where the number of operations to be performed on the same day was large, it was not practicable.—Mr. Wheeler, in replying, said he was aware that one could, of course, get on tolerably well without this procedure, but so much did the patients think about the operation that they often afterwards dated every occurrence from the time of operation. He held that a slight rise of temperature was due to shock. Crile's idea was to have no shock. He agreed as regards the cases of intestinal obstruction. The faster and less complicated the operation in these cases the better would be the result. He agreed that excitement was caused by omnopon if the patient was wakened up. Moreover, it was hard to give ether after omnopon, as the patient breathed very slowly. Urea and quinine did not cause necrosis of the tissues. Local anæsthesia without general anæsthesia was not anoci-association at all. In reply to the President, he was of opinion that strychnine was bad to administer in any case of shock, although he recognised that there was much diversity of opinion in the matter.

SECTION OF MEDICINE.

Carbolic Acid Poisoning.—Incontinence of Urine in Nervous Diseases.

A meeting of this section was held on March 27th, Dr. J. F. O'Carroll, the President, being in the chair.

Dr. Walter G. Smith (the President of the Academy) related the case of a woman, aged 34, seven months pregnant, who accidentally swallowed about a teaspoonful of liquid carbolic acid. She quickly lost consciousness, and was brought to hospital in a comatose state. After some hours, under appropriate treatment, she recovered consciousness, and made a good recovery. The urine, drawn off by catheter about two hours after taking the poison, was dark yellow, and after a while darkened to a cairngorm brown colour. Some of the vomited stuff was distilled off H_2SO_4, and the clear distillate gave evidence of presence of phenol by the following tests, which were shown: (*a*) Fe_2Cl_6; (*b*) precipitate with bromine water; (*c*) red with Millon's reagent; and (*d*) blue with NH_3 and Br (indophenol). Reference was made to the excretion of phenol, which is, mainly, as paired (conjugated) compounds of glycuronic and sulphuric acids, and partly as di-hydric phenols (hydrochinon and pyrocatechin). The colour changes are due to unknown products arising from oxidation of these substances. The slight reducing power sometimes observed in carboluria is due to the glycuronic acid compounds. Glycuronic acid is a carbohydrate derivative. The excretion of phenol as phenyl-sulphates which are relatively innocuous has two consequences—(*a*) utility of freely administering sodium sulphate so as to favour formation of phenyl-sulphate; (*b*) diminished precipitate upon adding $BaCl_2$ to the urine because the SO_4 is locked up in the complex ion, phenyl-sulphuric, whose Ba salt is soluble.—The President complimented Dr. Smith on his interesting paper, and said most of the senior Fellows present had seen black urine during their student days in people who had been plentifully treated with carbolic acid. He had seen it following treatment with pyrogallic ointment.—Dr. R. Travers Smith inquired what would be considered a safe intravenous dose of phenol. He remembered some cases of tetanus that had been treated by the President by intravenous injection of phenol, and he was anxious to know in bad cases where the treatment might require to be pressed to what point it might be safely done.—In connexion with Dr. Travers Smith's remarks, the PRESIDENT said he did not think the dose was given intravenously, and as well as he remembered the strength of the solution was 1 in 200 c.c. given twice daily into the tissues.—Dr. T. P. C. KIRKPATRICK said he would like to know if, as long as the ordinary sulphates were present in the urine, the patient was unlikely to suffer from carbolic acid poisoning. He also inquired as to the utility of alcohol in these cases of carbolic acid poisoning.—Dr. W. BOXWELL also spoke of the utility of alcohol in cases of carbolic acid poisoning, and said he had experience of a number of cases treated in this way at the Meath Hospital.—Dr. G. E. NESBITT corroborated Dr. Travers Smith's testimony as to the utility of phenol in cases of tetanus administered subcutaneously.—Dr. W. G. SMITH, replying, said he was much interested in the subject of carbolic acid being given in large doses, and pointed out that it would be impossible to inject anything in the way of strong carbolic acid into the veins without injury. Referring to Dr. Kirkpatrick's remarks regarding sulphates, he said if the case was a slight one, and it was found that the urine gave no reaction with chloride of barium, it showed that the sulphate was locked up by the carbolic acid. It would do a patient no harm to give an extra dose of sulphate of sodium. He agreed that alcohol was a valuable remedy, and thought that the best thing to do would be to wash out the stomach with alcohol.

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[1] The Lancet, July 5th, 1913, p. 7.

Dr. BOXWELL read a paper on Incontinence of Urine in Nervous Diseases. He contended that the sharp distinction between the so-called "active" and "passive" incontinence did not exist either in the forms or under the circumstances usually set forth in medical text-books. This he thought particularly evident in the behaviour of the bladder in cases of myelitis at different levels in the cord. He thought that the statement of the *modus operandi* of this organ, and the theory invented to explain it, were both open to question. The existence of any "bladder centre" in the cord was extremely doubtful, and as to the conducting tracts controlling such a centre there was nothing whatever known about them. Dr. Boxwell favoured the view propounded by Müller, that the real centre was in the hypogastric plexus. He thought that micturition was a compound process, involving a true peripheral neural reflex for evacuation of the bladder over which we had no control, and accessory coördinate reflex acts of the abdominal and perineal muscles over which we had control, and which supplemented the act of evacuation, allowing of its consummation in a neat and satisfactory manner. In support of the view that the true centre was in the pelvic plexus Dr. Boxwell adduced (1) the acknowledged existence of the peripheral peristaltic reflex—for which no centre in the cord was claimed; (2) that recent embryological research pointed strongly to a common developmental origin for the bladder, rectum, colon, cæcum, and lower ileum, and it was, therefore, reasonable to suppose that they should all have a similar nervous mechanism; (3) that the existence of very large numbers of nerve cells in the pelvic plexus made the existence of such a peripheral reflex possible. For the anatomical observations in support of this view Dr. Boxwell was indebted to Professor A. F. Dixon.—The paper was discussed by the PRESIDENT, Dr. W. G. SMITH, Dr. PURSER, and Dr. TRAVERS SMITH.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.—A meeting of this society was held on April 2nd at the Great Northern Central Hospital, Dr. T. Wilson Parry, the President, being in the chair.—Dr. H. C. G. Semon showed a case of Hydroa in a boy aged 8½ years. The eruption, which was limited to the face, ears, and backs of the hands—namely, those parts of the body exposed to light—had been present for a year and had been equally troublesome both in the summer and winter, thus differing from the type of case described by Hutchinson under the name of summer prurigo. The condition had not been improved by any of the remedies recommended in the literature, but inasmuch as these cases almost invariably recovered of themselves towards puberty the prognosis was good.—Dr. C. M. Hinds Howell showed a youth suffering from Juvenile Tabes, who came under observation for a broken leg in November last. The fracture was quite painless and united firmly. The symptoms presented were fixed pupils, some slight atrophy of the thenar muscles, particularly on the right side. In the lower extremities there was general muscular hypotonia with double pes cavus, marked loss of deep and common sensibility in both legs, with absence of deep reflexes. The Wassermann reaction was positive.—Dr. Harry Campbell showed a woman, aged 26, in whom all the Subcutaneous Fatty Tissue had disappeared above the level of the pelvis. The atrophic process began in the face at the age of 6, and had since steadily spread downwards. Over the affected area the skin was unusually greasy, suggesting that the disappearance of the fat might be due to excessive activity of the sebaceous glands.—Mr. G. B. Mower White showed a man, aged 62, with Double Femoral Hernia, in whom another hernia, a left inguinal, had supervened. Reference was made to 831 cases of femoral hernia collected by Berger, 506 of which were simple (335 on the right side and 171 on the left), 215 bilateral, and the remainder, 110, were associated with other hernias.—Dr. Dan McKenzie showed a patient whose larynx had been removed for epithelioma 15 months previously. The expectation of life in such cases did not naturally amount to much, as the cancer was advanced before such an operation was undertaken. In early cancer of the larynx, on the other hand, the prospects after thyrotomy were as favourable as those of cancer of the lip after removal. —Mr. Cecil Rowntree showed a specimen of Carcinoma of the Rectum, which was remarkable for the presence of a large number of polypoid adenomatous tumours varying in size from that of a pea to a walnut. On microscopic section several of the polypoid tumours showed carcinomatous changes. The rectum had been removed by the late Mr. Cecil Leaf by the combined abdomino-perineal operation; the patient recovered well and returned to work, but ultimately developed recurrence and died two years after operation.—Dr. P. R. Ingram showed a Plated Fracture of the Femur, which broke three months after the plating operation owing to a sudden strain. The patient ultimately made a good recovery with extension treatment; the broken plate was not removed. It was evident that plating sufficiently accurate to produce complete immobility of the broken ends delayed union. It was better in these cases to give extra time and care in the after-treatment.—The President showed a specimen of fistulous opening between the sigmoid flexure and the bladder. The specimen was removed by Mr. Mower White from a man, aged 65, who, after suffering for many years from constipation, had an acute attack 2½ years ago, with pain, tenderness, and a swelling nearly the size of the closed fist in the left iliac region a little to the left of the middle line. The patient refused medical aid, and the illness dragged on for a considerable time. On Nov. 16th last the temperature, which had never been normal, began to run a septic course. The urine gave a marked cloud of albumin, pus cells were plentiful, and there were a few hyaline and granular casts. On cultivation the bacillus coli communis was grown in abundance. A vaccine prepared by Mr. Ernest Shaw was injected once a week from Nov. 19th. The bladder was washed out daily. On Feb. 18th fæces and gas were passed with the urine. This occurred for nearly six weeks, when an operation was performed. Mr. Mower White separated the bladder from the sigmoid flexure, stitched up the opening in the bladder, and removed a large inflammatory mass from the sigmoid, bringing the two ends of the bowel together and uniting them. The patient was making an excellent recovery.—Mr. Ernest H. Shaw showed several specimens of Diverticula of the Sigmoid Flexure and made a few remarks on the pathology of this condition. They occurred in persons usually at middle age and later, usually in obese individuals and most commonly in men. The common situation for these pouches was the sigmoid, but they also occurred in other parts of the large bowel, including the vermiform appendix—rarely found in the rectum and small intestine. In the sigmoid there might be a few or they might be present in large numbers. He showed a sigmoid flexure containing 75 of these pouches.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on April 3rd, Dr. David Ross, the President, being in the chair.—Dr. Philip Hamill read a paper on the Clinical Aspects and Treatment of Disordered Action of the

Heart, in the course of which he said that some 10–15 per cent. of all adult patients on the medical side complain of symptoms referable or referred by them to the heart. One of the commonest symptoms is palpitation, or a consciousness of the heart beat with associated discomfort. This symptom is most marked in patients in whom there is flatulent distension of the stomach; it is frequently associated with disturbances of the cardiac rhythm. The cardiac discomfort experienced by athletes and those engaged in laborious occupations, who have been attacked by some febrile illness, is characterised by slow return of the pulse-rate to normal after exertion and by the occurrence of premature contractions. Great slowing of the rate of the heart, apart from jaundice, is not infrequently seen. It is natural to some individuals, especially athletes; it also occurs in convalescence from certain fevers and in the condition known as complete heart-block in which the communicating path between auricles and ventricles is divided as the result of disease; the ventricular rate is then usually about 30, whilst the auricular rate is normal. The distinction between slowing of the whole heart and complete heart-block is of clinical importance; for the latter condition indicates a much damaged myocardium. Apart from instrumental methods and those cases in which the auricles can be heard to beat with a different rhythm, the two groups can be distinguished by the effects of excitement and exercise, which in heart-block leave the ventricular rate unaltered. Extreme rapidity of the heart's action is also met with, especially in Graves's disease and paroxysmal tachycardia, though some individuals, apparently normal otherwise, may have a pulse-rate as high as 300 per minute. In auricular fibrillation the pulse-rate is sometimes very high. Irregularity of the heart beat may arise from various causes. 1. The whole heart may beat normally, but with an irregular rhythm. This condition is common in children and has no clinical significance. It is well exemplified in dogs. 2. Certain beats arising at the sinus may cause contraction of the auricle, but the wave may fail to reach the ventricle. This condition of partial heart-block is not uncommon in fevers, especially rheumatic fever, pneumonia, and diphtheria, and indicates serious involvement of the musculature of the heart. It is important that it should be distinguished from the first variety, for it requires complete rest in bed. 3. Abnormal, premature beats may arise at foci other than the normal pacemaker and disturb the rhythm of the heart; they are followed by a compensatory pause. Such premature beats are usually feeble and may not eject sufficient blood to cause a pulse wave palpable at the wrist. Premature beats are often associated with a peculiar sensation of void followed by a thumping in the chest and feeling of sinking. They occur occasionally in almost all normal individuals, particularly in those who smoke to excess. The pulse irregularity which they produce disappears on exertion sufficient to cause the rate to rise to about 120. By themselves they have probably no special significance, but in a heart already damaged by disease they probably indicate the presence of foci of irritation and thus aggravate the severity of the prognosis. They are best treated by reassuring the patient, removing the exciting cause, and by attending to dyspepsia and flatulence; bromides are very useful. 4. Paroxysmal tachycardia consists essentially of a series of premature beats arising in the auricle. The pulse-rate is usually over 140 per minute, and the condition is often readily distinguishable by the constancy of the pulse-rate regardless of posture. Attacks if prolonged may prove fatal from heart failure, but they usually terminate abruptly with great relief. Prolonged attacks may be associated with epigastric tenderness and rigidity, but may be distinguished from acute peritonitis by the constancy of the pulse-rate and enlargement of the liver. Treatment is unsatisfactory; some patients can terminate the paroxysm by pressure on the abdomen or by adopting some particular posture. Drugs are of little avail. Prognosis depends on the frequency and severity of the attacks and the presence of valvular lesions. 5. Auricular fibrillation is responsible for the "pulsus irregularis perpetuus." It is present in a very large proportion of failing hearts, and is usually permanent when once it sets in. The patient does not usually survive its onset by many years. Treatment is most successful in cases with a high pulse-rate. Digitalis is the most useful drug, and should be given in full doses until the desired effect is produced. In urgent cases intravenous injections of strophanthus work wonders. Care must be taken to stop the drug should coupled beats of the ventricle appear. 6. Pulsus alternans or alternate large and small beats usually need a pulse tracing for their recognition. They are of dire prognostic significance, for they indicate an exhausted myocardium.—A specimen of Atheroma of the Coronary Arteries from a patient who died suddenly was shown for Dr. A. F. S. Sladden.—Mr. J. J. Udale showed a Heart weighing 21 oz. from a man, aged 46, having a vertical patch of calcification.

West London Medico-Chirurgical Society.—A clinical meeting of this society was held on April 4th at the West London Hospital, Dr. F. S. Palmer, the President, being in the chair.—The President showed a case of Wasting of the Muscles of the Shoulder-girdle of nine months' standing in a man. Fibrillary tremors excluded a myopathy, and suggestions as to the diagnosis were asked for. Syphilis was denied.—Dr. E. G. Fearnsides suggested the probability that the lesion was due to syphilis, and advised that a Wassermann reaction should be carried out.—Dr. J. M. Bernstein showed cases of Polycythæmia with splenic enlargement in husband, wife, and son; also a case of Myxœdema in a woman whose daughter was attending Dr. G. Pernet for Alopecia Areata. Both cases were controlled with the administration of thyroid extract.—Dr. Bernstein also showed a case of Splenic and Hepatic Enlargement in a sailor. The Wassermann reaction was positive, and Dr. Bernstein intended to show the patient at a subsequent meeting after treatment with salvarsan.—Dr. E. A. Saunders, Dr. D. N. Nabarro, Dr. S. Wyard, and Mr. H. Tyrrell Gray discussed these cases.—Dr. Pernet said that the daughter of the myxœdematous patient under Dr. Bernstein's care improved as regards the alopecia with the administration of thyroid extract, but relapsed when this drug was discontinued.—Dr. L. C. T. Dobson (for Mr. Donald Armour) showed a case of Syphilitic Disease of the Cervical Vertebræ in a man; also a case of Enlarged Liver and Spleen in a boy whose Wassermann reaction was positive. Salvarsan was given a week ago, and, though the splenic and hepatic enlargement had not altered, the temperature was now normal, and the general condition had greatly improved. Dr. Dobson also showed (for Mr. Armour) a case of Complete Excision of the Tongue, with intelligible speech, and a case of Multiple Gummata of the Tongue.—The notes were read of a case of Cruroscrotal Hernia under the care of Mr. W. McAdam Eccles.—Dr. H. J. Davis showed a case of Chronic Œdema of the Eyes and Nose with pus in the antrum.—Dr. Saunders showed a case of Congenital Syphilis with Recurrent Periostitis of both Tibiæ and Ulcerating Gumma of the Palate.—Dr. Pernet showed a case of Double Primary Chancre of the Lips and a typical secondary rash. There was no lesion of the external genitalia. Dr. Pernet also showed a case of Angioma Serpiginosum.—Mr. N. Bishop Harman showed a Horn of the Lower Eyelid; some Types of Hair; a case of Coloboma of the Iris; and a case of Embolism of the Central Artery of the Retina in a man in whom no primary lesion could be discovered.—Dr. T. Grainger Stewart showed a case of Toxic Polyneuritis and a case of Hysterical Paralysis. The cases were discussed by Mr. H. S. Souttar.—Mr. Tyrrell Gray and Dr. Nabarro showed a Sarcoma in a Keloid of the Eyebrow (exhibited at a previous meeting) cured with one application of radium. Dr. Nabarro showed sections of the tumour which proved the growth to be a small round-celled sarcoma.—Mr. Souttar showed the following cases of nerve injury: 1. Paralysis of the Deltoid from direct injury. 2. Injury of the Posterior Interosseous Nerve, with recovery after operation. 3. Injury to the Posterior Cord of the Brachial Plexus, the result of dislocation. 4. Paralysis of the Fifth and Sixth Cervical Nerves in a child, the result of anterior poliomyelitis. 5. Paralysis of the Ulnar Nerve after injury, the paralysis remaining at present being probably functional.

Erratum.—On p. 1039 of The Lancet of last week, on the twelfth line from the foot of the second column, occurs a clerical error in our account of the proceedings of the Medical Society of London. For "Mr. H. W. Carson spoke," read "Dr. J. G. Garson spoke."

Reviews and Notices of Books.

The Fæces of Children and Adults: their Examination and Diagnostic Significance, with Indications for Treatment.

By P. J. CAMMIDGE, M.D. Lond. London: Simpkin, Marshall, Hamilton, Kent, and Co.; Bristol: John Wright and Sons. 1914. Pp. 516. Price 17*s*. 6*d*. net.

THAT much valuable information as to conditions prevalent in the alimentary canal might be obtained from examination of the fæces has long been evident, but though knowledge has so far come wisdom has lingered, in that no very satisfactory methods of study have been available, the bacterial flora in particular being so abundant as to render accurate differentiation of individual organisms a matter of the greatest difficulty. Even now we can claim little more than that a beginning has been made and some progress effected by the work of such observers as Herter, Hecht, Schmidt and Strasburger, and others, towards laying the foundations of a scientific study of this field.

Dr. Cammidge's book will be welcomed both as the production of one who is himself an authority on the subject and as giving a convenient epitome of the existing state of knowledge. The introduction deals with the method of collecting fæces for examination and with their general characters. The next two chapters are devoted to naked-eye and microscopical examination of normal and pathological stools, while the fourth treats of animal parasites and pseudo-parasites, a useful plate being given showing the commoner objects which may counterfeit parasites, such as cotton threads and débris from various vegetables. Chapter V. deals with bacteriological examination and with the classification of the organisms present in the fæces, more information being apparently obtainable from a general study of the type of bacteria present in any case than from a detailed investigation of the individual species. The Gram method of staining, for example, affords a useful means of dividing the mass of germs into two categories and of obtaining a general idea of the most prevalent varieties. The fæces of breast-fed and bottle-fed babies show a sharp differentiation by this method. Some good coloured plates are employed to illustrate this section. Chapters VI. and VII. contain an account of the chemical analysis of the fæces, in the moist and in the dry condition respectively, and Chapter VIII. treats of the various calculi which may be passed. It is interesting to note that if a very digestible diet is given the fæces passed consist almost entirely of bacteria and matters derived from the intestinal walls. From a medical point of view, perhaps, the two concluding chapters are the most interesting, as they deal with the diagnostic value of examination of the fæces and with the indications for treatment derived from them. It would seem that a complete alteration of diet may be followed by almost as complete a change in the flora of the intestine, and that useful therapeutic measures may in time be devised and controlled on such a basis.

Schemes of dietary are given in an appendix to this book, which is also furnished with a full index and with bibliographies to the separate chapters. There are many illustrations throughout besides those which we have already mentioned, and the print and paper are excellent. We commend the book to all who are interested in the scientific side of our profession as a stimulating contribution to a comparatively little-known province of physiology and medicine.

La Lèpre à Travers les Siècles et les Contrées.

Par le Dr. DEMETRIUS AL. ZAMBACO PACHA (de Byzance). Paris: Masson et Cie. 1914 Pp. 864. Price 12 francs.

LEPROSY, according to modern research, is a disease which goes back to prehistoric times and one which has everywhere excited fear, repulsion, and, to the credit of Christianity be it said, sympathy. Dr. Zambaco Pacha, who devoted most of his life to the study of leprosy and who died just as the work now before us was being prepared for press, has produced a most interesting book even if it be one which, like many a work written by an enthusiast, contains statements for which there is insufficient evidence. Had he lived to see a second edition there is little doubt but that he would have modified some of these.

His thesis is that leprosy originated somewhere in Central Asia, probably Northern India. Thence it spread to Egypt, where the Jews contracted it; but the main agents of its transmission throughout the world were the Phœnicians, who were without doubt daring and intrepid navigators. So far we can agree with Dr. Zambaco, especially as Hippocrates calls the "leuke," or white leprosy, the "Phœnician disease." But when in his eagerness to prove his thesis he argues that the Argonauts were all infected with leprosy which they and their ancestors had received from the Phœnicians we are fain to call a halt, for the statement is made without the slightest evidence to support it, unless, indeed, we allow that because leprosy was known to exist in ancient times throughout the countries traditionally visited by the Argonauts, therefore the Argonauts had carried the infection. Dr. Zambaco quotes the account of the visit of the Argonauts to Lemnos, and their dealings with the Lemnian women. These women, he says, may easily have been infected by their lovers, and he then calls to mind the tradition that the Lemnian women were attacked with a form of ozæna. The tradition undoubtedly exists, but the ozæna was inflicted as a punishment by Aphrodite long before the arrival of the Argonauts.

To pass to historical times. Dr. Zambaco, to make a rhetorical point, says (p. 77), "Le christianisme et la lèpre firent ensemble leur entrée solennelle à Byzance." Then he quotes as a legend "borrowed in a small degree from history" the story of Constantine being a leper, a story which has long been exploded, while on p. 79 he allows that leprosy existed in the country before the installation of Constantine at Byzantium. The disease continued to be a scourge throughout the Eastern Empire, and in 372 A.D. the great St. Basil erected a lazar house, or rather town, outside the walls of Caesarea, a description of which has come down to us in the pages of Sozomen, and in the funeral oration on Basil delivered by St. Gregory Nazianzenus, who refers to the institution as follows: "Why should I compare with this work Thebes of the seven portals [then he mentions the remaining seven wonders] or the size and beauty of shrines which are no more. ...... There is no longer before our eyes that terrible and piteous spectacle of men who are living corpses, the greater part of whose limbs have mortified, driven away from their cities and homes and public places and fountain, aye, and from their dearest ones, recognisable by their names rather than by their features ..... no longer the objects of hatred instead of pity, on account of their disease; composers of piteous songs, if any of them have their voice still left to them."[1] From this vivid picture we can form an idea of the lot of the leper before charity came to his aid, and even after an asylum was provided for him in some places many a leper had to "dwell without the camp," though the Church provided a form of putting away in which kindliness took the place of hatred. Dr. Zambaco (p. 123) gives the form in use in France, in the diocese of Troyes, about 1425. Those who care to study the Sarum Use will find it given in Appendix A of Miss Rotha Mary Clay's "Mediæval Hospitals of England."

Dr. Zambaco calls his book an anthology, and it is, in fact, rather a series of papers on various aspects of leprosy than a continuous work, such papers being arranged in a somewhat confused manner. Some of his theories, though plausible, will not meet with general acceptance; such, for instance, is his statement that Morvan's disease, syringomyelia, morphœa, and sclerodactyly are all forms of aborted or attenuated leprosy. He considers that leprosy is a bacillary disease, and that the specific bacillus is that discovered by Hansen, but he is also of opinion (p. 747) that leprosy with all the classical clinical symptoms can exist without the bacillus being discoverable, and he gives as a reference (p. 156) in support of this theory an admission by Hansen in Virchow's *Archives* for 1902. Much of the work is taken up with a survey of leprosy as it exists at present in nearly every country of the world, and these sections contain a mass of statements and statistics. Other sections deal with the bacteriology, the contagiousness, and the curability of leprosy. Dr. Zambaco does not hold with the contagiousness, and does consider the disease curable. There is no need to be afraid of leprosy, but lepers are best treated in agricultural colonies, where they can live under good hygienic conditions, and where wholesome work prevents them dwelling upon their unhappy condition.

In the concluding section of the book Dr. Zambaco reverts to his favourite Phœnicians, and in an illuminating essay upon the megalithic monuments of Brittany adduces an elaborate argument to show that the Phœnicians colonised what is now Brittany at a very early date; that they built the megalithic monuments the inscriptions on which are derived from various symbols which they had met with in African and Asiatic lands; and finally, that they introduced leprosy, the morbus Phœnicicus, into ancient Armorica, as they did into all the other lands they visited, where it exists more or less widely to-day.

Although Dr. Zambaco's views may be considered visionary here and there, yet none the less his work is of great interest and is evidently the result of the labours of a lifetime.

Localisations Cérébelleuses.

Par ANDRÉ-THOMAS et A. DURUPT. Paris: Vigot Frères. Pp. 197. Price 6 francs.

IN 1897 Dr. André-Thomas published an important memoir on the cerebellum. Along with A. Durupt during the last two years more work has been done in the laboratory of Professor Dejerine on cerebellar localisation, and the result is before us. The first part deals shortly with the history of cerebellar research, the comparative anatomy and physiology of the organs, including Bolk's nomenclature, as well as with the actual state of our knowledge on cerebellar localisation. In the second part the authors give an account of their own researches on the dog and monkey. Injuries of various portions of the cortex were made and the effects, immediate and remote, observed and studied. In all, the results on 11 dogs and four monkeys are given.

A special chapter is devoted to observations made on monkeys immobilised in various ways with a view to studying the action of various groups of muscles, according to the animal's position. In the third part the authors review these experiments and proceed to interpret their results. They conclude that there are centres in the cerebellar cortex which affect limited regions of the body. In the cerebellar cortex are represented the musculature of different parts of the body. The vermis contains the centres for the muscles of the head, neck, and trunk. Each hemisphere contains centres for the limbs of the same side, and there is a centre associated with the upper limb, and another and distinct centre for the movements of the lower limb. Each centre is made up of secondary centres in relation to the movements at each joint by means of a special coördination of muscles, e.g., extension, flexion, abduction, and so on—that is, they are *centres of direction*. A considerable number of photographs, both of dogs and monkeys, elucidate the text.

This brochure is a welcome contribution to our knowledge of the organ which lies astride the junction of the cord with the brain. The facts observed stand well in harmony with clinical observation as well as with the facts of pathology. Physiologists and clinicians alike will be glad to have this succinct *résumé* of the facts relating to cerebellar localisation.

Syphilis and the Nervous System.

By Dr. MAX NONNE, Chief of the Nervous Department of the General Hospital, Hamburg-Eppendorf. Authorised translation from the second revised and enlarged German edition by CHARLES R. BALL, B.A., M.D., Chief of the Nervous and Mental Department, St. Paul Free Dispensary, St. Paul, Minnesota. With 98 illustrations in the text. London and Philadelphia: J. B. Lippincott Company. 1913. Pp. 406. Price 18*s*. net.

Dr. Nonne's book on syphilis and the nervous system is already familiar to many neurologists, both in this country and in America. Its high merits have won it a permanent place in neurological literature. The present edition, in English, has on the one hand been rendered somewhat shorter than the German edition by the omission of a number of case histories; on the other, it is an improvement on the last German edition, inasmuch as Dr. Nonne has taken the opportunity herein provided of rewriting the original chapters on the so-called "four reactions," and he has added a chapter on salvarsan therapy. In this way the English edition has been brought up to date, an important matter when the rapid strides at present being made in syphilology are taken into account.

The volume under consideration supplies elaborate and detailed descriptions of both the clinical and the pathological sides of syphilis of the nervous system. Interstitial syphilis, in the form of syphilitic endarteritis, meningo-myelitis, meningitis, and cerebro-spinal syphilis, and parenchymatous syphilis—viz., tabes dorsalis and general paralysis—are fully discussed. There are chapters on syphilis of the peripheral nerves, hereditary syphilis, neuroses and psychoses in syphilitics, and syphilis of the base of the brain; indeed, there appears to be no section of the subject of which the author has not taken cognisance. The book has entailed a vast amount of clinical and pathological research, but it is well put together, and the important principles of the invasion of the nervous system by syphilis are not lost sight of in a multiplicity of detail.

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[1] Library of Nicene and post-Nicene Fathers, vol. vii.

Several statements of the original author are open to criticism. In view of the work of Marie, Léri, and others of the French school it is misleading to say that "there is nothing in the literature concerning syphilis as a causative factor of amyotrophic lateral sclerosis." Recent advances have made the statement obsolete that "general paresis is not a specific syphilitic disease of the brain." It is said that "with a loss of the light reaction on one side and an optic neuritis on the same side, one may safely diagnose the case as brain lues," but it would be unwise, in our opinion, to go so far as this.

The translation has been on the whole well done. The word spirochæte, however, is not always treated consistently. Thus "spirochæte" is apparently used as a plural. We note "autopsy" used as a verb and "residual" as a substantive. There is a reference to "retinitis albuminuria." There is also a curious and frequent tendency to insert the article "the" inaccurately, as in the following: "Uhthoff from his material found the homonymous hemianopsia 11 times." The reader finds himself pulled up by such sentences as "the changes resemble those found in the posterior column degenerations in humans." It is regrettable that references to the figures are frequently omitted in the text. There is no explanation of Figs. 56–59, which, by the way, are the same as Fig. 53. Figs. 84–90 are identical with Figs. 51 and 52, but the latter are not explained. There are many evidences of careless reading of the proofs, for instance, "thickening of the neurologia" occurs.

These and other criticisms that might be advanced are mentioned solely because the neurologist gladly admits the excellent qualities of the book now offered to a wider public, and it is a pity it should be disfigured by these minor blemishes, which we trust will disappear in subsequent editions.

Manual of Surgery.

By ALEXIS THOMSON, Professor of Surgery, University of Edinburgh; Surgeon, Edinburgh Royal Infirmary; and ALEXANDER MILES, Surgeon, Edinburgh Royal Infirmary. Vol. III., Operative Surgery. Second edition. With 255 illustrations. London, Edinburgh, and Glasgow: Henry Frowde and Hodder and Stoughton. 1913. Pp. 620. Price 10s. 6d. net.

THE third volume of this valuable manual of surgery deals only with the operations, and it contains all that is usually included in such works. We agree with the authors, that in spite of the fact that nowadays arteries are seldom ligated in their continuity, the tying of arteries provides an excellent means for the student to acquire practice in operative manipulations, and furnishes a ready means of testing his dexterity and his anatomical knowledge, and therefore we are glad to see that the authors have retained this section. The whole book has been written by surgeons who appreciate fully the needs of students and the real requirements of operative surgery. The volume is very fully illustrated and we cannot imagine a more useful treatise for the student. It is inevitable that in a work of this kind there should be much that might be discussed, but such discussions would be really out of place in a review of a work intended for students.

The Respiratory Function of the Blood.

By JOSEPH BARCROFT, M.A., B.Sc., F.R.S., Fellow of King's College, Cambridge. Cambridge: At the University Press. 1914. Pp. 320. Price 18s. net.

THE author tells us that "the purely personal point of view from which this volume has been written demands the treatment of the subjects in a personal way." It includes the story of the author's physiological "ventures," and any merits which attach to the narrative—and the merits are many and varied—lie in the fact that it is in some sense first-hand. That which the author has not actually touched he has refrained from discussing, so that such subjects as the relation of narcosis to oxygen-want and the properties of intracellular oxidative enzymes find no place in this volume. The author's desire was to call the book "what it frankly is—a log" (of course, in the nautical sense), but in the end "a less exact though more comprehensive title" was chosen.

The text is divided into three parts. Part I. deals with the chemistry of hæmoglobin (pp. 1–72); Part II., the passage of oxygen to and from the blood (pp. 73–217); Part III., the dissociation curve considered as an "indicator" of the "reaction" of the blood (pp. 218–289). The remainder of the text is taken up with appendices chiefly devoted to an account of methods.

The "specific oxygen capacity" of blood or hæmoglobin—i.e., the number of c.c. of loosely combined oxygen corresponding to each gramme of iron in the compound—is first dealt with. Hæmoglobin may differ in different species, but it is a unique compound, and the author suggests that "but for its existence man might never have attained any activity which the lobster does not possess, or had he done so, it would have been with a body as minute as the fly's." Blood carries about 40 times as much oxygen as the same volume of plasma. This we may remember, but anyone wishing to follow intelligently the author's narrative should make himself acquainted with the modern methods of gas analysis of the fluid of the body, where everything depends upon working with the minimum quantity of gas. A few drops of blood suffice, so accurate is the present technique. Next follows a discussion on the dissociative curve of hæmoglobin, the effects of temperature and electrolytes on the affinity of hæmoglobin for oxygen, and the effect of acid on the dissociation curve of blood. The effect of increased acidity is to lessen the effective concentration of the oxygen in the solution which contains the hæmoglobin.

Part II. begins "with the call for oxygen by the tissues"—i.e., what is called "internal respiration." It is the cell that primarily determines not only its own nutrition but also its respiratory wants. The author elaborates the theme that there is no instance in which it can be proved that an organ increases its activity under physiological conditions without also increasing its demand for oxygen. This theme is elucidated by the results of gaseous exchanges in skeletal muscle, in which, as in other organs, the increased oxygen consumption survives the increased functional activity. Similar results are obtained with the heart and its gaseous exchanges. The results obtained with adrenalin, pilocarpine, atropine, and chloroform are both striking and convincing. The author professes himself an enthusiast for the beautiful work of Rohde on this subject. After contractile organs, the best attested case of functional activity going hand-in-hand with oxygen consumption is the kidney. Then follows a review of similar work on the salivary gland, pancreas, and liver. However these organs are excited it is shown that in no organ excited by any form of stimulus is it found that positive work is done without the blood supply having to respond to a call for oxygen. The call for oxygen is then considered as a physiological test, and in this relation diuresis and the kidney are considered. As to the metabolism of the blood itself, an interesting observation of Morawitz is made much use of —viz., that the blood of anæmic animals has a very considerable metabolism, which is due to the fact that in such animals young unnucleated red corpuscles are present in large numbers. This matter is discussed in relation to an increased formation of red corpuscles at high altitudes.

A very interesting chapter is that on the regulation of the supply of oxygen to the tissues. It is remarkable to note that the oxygen used by the liver is unaffected if the portal vein be ligatured altogether and its blood diverted into the general circulation without passing through the liver. Are there local chemical products the result of metabolism—e.g., CO_2, lactic acid, which have the power of distending blood tissues? The answer is yes. The evidence is very carefully and judicially considered as regards the submaxillary gland, pancreas, and heart. Next the author deals with the unloading of oxygen from the blood, and the rate of exchange between the blood and the tissues. The two chapters on the acquisition of oxygen by the blood in the lungs are amongst the most interesting in the book. In them the author gives a masterly analysis of the diffusion and secretory theories as they apply to the gaseous exchanges in the lungs. The effect of diet and of high altitudes on the dissociation curve of blood, exercise, acidosis, and some cognate matters are then discussed.

Every physiologist will welcome most warmly this most interesting and largely personal narrative of a masterly series of observations. Many secrets still lie hidden in this mysterious and as yet but partially explored "internal medium," to use the apt phrase of Claud Bernard.

Genito-urinary Diagnosis and Therapy for Urologists and General Practitioners.

By Dr. ERNST PORTNER, Specialist for Urology, Berlin. Germany. Translated and edited by BRANSFORD LEWIS. M D., B.Sc., Professor of Genito-urinary Surgery, Medical Department of St. Louis University, St. Louis. With 43 illustrations. London: Henry Kimpton; Glasgow: Alexander Stenhouse. 1913. Pp. 221. Price 10*s.* 6*d.* net.

THERE are many affections of the genito-urinary system met with in general practice the treatment of which is fully within the range of the modern general practitioner, but the subject requires more attention than is usually paid to it by the student. This small book has been written exactly with the aim of providing those in general practice with the help they need; it lays stress on the practical points of this department of surgery, and indicates the way of carrying out the necessary procedures. It does not go too deeply into matters which are outside the practical sphere of the general practitioner, who has not wards, laboratories, and operating theatres at his back, but the author is very complete within the limits which he has set himself. We are pleased to see that a special chapter has been provided containing an account of the affections of the female urethra; this is too often omitted in works on genito-urinary surgery. The translation is good. An appendix has been added on the serological diagnosis and specific treatment of gonococcal infections, which is interesting, but a little beyond the scope of the rest of the work.

LIBRARY TABLE.

Flying. By GUSTAV HAMEL and CHARLES C. TURNER. London: Longmans, Green, and Co. 1914. Pp. 341. Illustrated. Price 12*s.* 6*d.* net.—It is not necessary to be an aviator to recognise in M. Hamel's flying those characteristics, so difficult to describe, which are summed up in the phrase "a good style." There are an appearance of ease, an elegance, a happy sense of mastery about his management of an aeroplane, which are obvious to all beholders. Whether he or Mr. Turner is mainly responsible for the literary form of this joint work it is not essential to inquire very closely, but certainly there is a simplicity and directness about it such as few amateur writers can impart to their books. The style is not so arresting as that of M. Hamel's flying, but at least it is quite fairly good. The treatment is thoroughly practical throughout, and technicalities are either avoided or rendered intelligible to terrestrials. No attempt, in fact, is here made to write an advanced text-book for fliers; but a very readable and informing account, illustrated by a series of splendid photographs, is provided for those whose interest in the subject is mainly that of admiring spectators. The medical aspect of aviation is dealt with in a separate chapter by Mr. J. E. Adler, and here the essentially practical tone of the other chapters is very little in evidence. The greater part of the chapter consists of a *résumé* of the physiological (or pathological) effects of high altitude upon the human organism, expressed in scientific terms calculated to make the information quite unintelligible to the laity.

Handbook of Photomicrography. By H. LLOYD HIND, B.Sc., F.I.C., and W. BROUGH RANDLES, B.Sc. With 44 plates, 85 half-tone reproductions of photomicrographs, and 71 text illustrations. London: G. Routledge and Sons, Limited. 1913. Pp. xii., 292. Price 7*s.* 6*d.* net.—The authors in their prefatory note point out that this book is the outcome of a series of articles originally published in the *Photographic Monthly*, and intended as an introduction to photomicrography from a photographer's point of view. It is, in fact, a technical handbook which deals with all that is of practical value to those desirous of acquiring skill in photomicrography. The elements of the work are fully dealt with under the headings of photomicrographic apparatus, the microscope, lamp, and illuminants. There is a chapter on the experiments of illumination, as regards both critical light and dark ground illumination, and another on the photographic methods applicable to low power work and high magnifications. There are special chapters on colour photography and the reproduction of opaque objects which are of special interest to the metallurgist, and a final chapter deals with the applications of photomicrography in medical practice and the various arts. Throughout there are numerous illustrations showing to what a stage of perfection photomicrography has reached. The medical reader will be especially interested in the beautiful plates of bacteria and protozoa as well as in the coloured reproductions of chromogenic bacteria. Here we note that the authors fall into a common error and talk about flagellæ. The illustrations include some fine kinematograph films of live organisms taken by Messrs. Pathé Frères. There is a useful appendix on histological methods and formulæ for staining and for the various photographic processes. We have merely outlined the scope of this work, but we can highly recommend it as a useful handbook of the technique of photomicrography.

Astrology in Medicine. The FitzPatrick lectures delivered before the Royal College of Physicians of London on Nov. 6th and 11th, 1913. With Addendum on Saints and Signs. By CHARLES ARTHUR MERCIER, Fellow of the College. London: Macmillan and Co., Limited. 1914. Pp. 100. Price 2*s.* net.—Dr. Mercier's lectures have already appeared in abstract in our columns, but their publication in book form will render them accessible to those members of the general public who are not likely to read a professional journal. He treats his subject in a somewhat Labouchерian vein, and we think that he might have made rather more of the historical and medical side of it. His words of warning on p. 75 are very sound, but the "Addendum," which we are glad to see was not delivered as a FitzPatrick lecture, is surely unworthy of the writer.

Lunacy Practice. By WILLIAM H. GATTIE, of Gray's Inn, Barrister-at-Law. Second edition. London: Shaw and Sons. 1914. Pp. 60. Price 2*s.* 6*d.* net.—Mr. Gattie issues the second edition of his "Practical Guide for the Certification and Detention of Persons of Unsound Mind" in a similar form to the first—that is to say, it consists of short notes or abstracts giving the essential parts of the Lunacy Acts so far as they govern certification and detention, accompanied by all necessary forms. The forms have the advantage of being filled up with imaginary names and details concerning imaginary patients, which renders them easier to follow than those which are given in blank. A chapter has been added dealing with summary reception orders. The print is large and easy to read, but smaller type and a smaller page might be found more convenient to handle, or, on occasions, to put in the pocket. Perhaps Mr. Gattie will consider the point in any subsequent issue.

Jahrbuch für Orthopaedische Chirurgie. By Dr. PAUL GLAESSNER. Berlin: Julius Springer. Pp. 110. Price 6 marks.—A most useful little work of reference on recent orthopædics, giving full references to the literature in England, Germany, France, America, and other countries for 1912, with a brief abstract of the various works.

MISCELLANEOUS VOLUMES.

A BOOK that in its German form has attracted much attention is *Spiritual Director and Physician*, by Father V. RAYMOND, O.P., Chaplain to the Kneipp Institute at Woerishofen, an English translation of which (London: R. and T. Washbourne, Limited. 1914. Pp. 334. Price 5*s.* net), by Dom ALOYSIUS SMITH, C.R.L., has recently been published. The original book received the warmest endorsements from Dr. Masquin, Dr. Bonnaymé, and Professor Dubois, of Berne. The book is divided into three parts. In Part I., after a general introduction on suffering, the subjects of neurosis, hysteria, and psychasthenia are dealt with. In Part II. scruples and the confession of the scrupulous, temptation and sin, temptations and purity, and difficulties in prayer are considered. The third part is largely theological, save for the chapter on the treatment of neurosis. So far as the subject matter is concerned, despite the fundamental difference of point of view, Professor Dubois, in his prefatory words, speaking as "a freethinker brought up in Protestantism," is yet able to say: "I shall make a point of placing your book in the hands of those of my patients who suffer from religious scruples, however little religious faith they may have, and you will be an aid to me in my work." The tact of the author is exemplified in the preface, in his answer to the criticism that the question of personal responsibility has been omitted, and thereby the scientific value of the book diminished. To this Father Raymond replies: "This matter was designedly left aside. It is a problem that is calculated to embarrass the best equipped and most balanced minds, whereas these pages must be of such a nature that they can be safely placed in the hands of persons who are nervous and scrupulous, and whose imaginations are beyond all control. Being victims of fear, they are liable to see and retain whatever is likely to trouble them. Place before them any theory regarding responsibility and they would only be impressed by the thought of the obligations and their serious consequences. The cases which exempt from responsibility would escape their notice altogether." The book is worthy of study by clergymen of all denominations and by medical men.——Prayer as a therapeutic agent has been much in the forefront of late. While, as Sir Dyce Duckworth expressed it at the Church Congress in 1910, the medical profession can neither act as thaumaturgists nor sanction any such efforts in substitution for scientific treatment, it will gladly welcome any inspiration and assurance that may come from appropriate ministration at the hands of any Christian minister as a reinforcement of its professional efforts. In reviewing previous books on this subject we have disclaimed any idea of minimising the power of prayer or the consolations of religion to those to whom they appeal. A little book, entitled *Prayers for Healing from the Ancient Liturgies and Other Offices of the Church* (London: H. R. Allenson, Limited. Pp. 96. Price 1*s.* net), compiled by E. B. H., has a suggestive value in this respect, in that it discloses two very important differences in character and tone between the prayers of the early Church in respect of sickness and those of later date. These ancient prayers in no case adopt the depressing assumption that sickness is a divine chastisement, a suggestion which of itself is an anti-therapeutic agent, but, on the contrary, speak always in stimulating and tonic terms of faith and confidence, without any trace of such a limiting clause as "if it be Thy will," the early Church, as the author says, appearing to have entertained no doubt about God's will in the matter of sickness. Herein, we venture to submit, is a possible ground for the greater reputed effect of prayer against sickness in the early Church. No less than 21 different liturgies—i.e., Eucharistic offices—dating from those of St. Mark and St. James in the second century to the 1662 revision of the Book of Common Prayer, are drawn upon.——In view of the exceptionally temperate and obviously sincere and earnest character of *A Plea for the Thorough and Unbiassed Investigation of Christian Science* (London: J. M. Dent and Sons, Limited. 1913. Pp. 204. Price 1*s.* net), by AN ENQUIRER, we mention the receipt of this book here. We have read it carefully from cover to cover and we are unable to see that it advances a single new point or one that has not already been amply considered and, in our opinion, confuted. But in any case we cannot open our columns to a discussion that must be profitless, since argument between people who cannot agree upon the fundamental axioms is futile.

A little book that deserves particular mention at this season of the year, when people are planning what to do during their annual vacation, is *Cheap Continental Holidays* (London: The Scientific Press, Limited. Pp. 172. Price 1*s.* net), by GRACE VALLOIS, who is described as the *Nursing Mirror* Travel Correspondent. In THE LANCET of Jan. 17th last we noticed a good little book, "First Steps in Collecting," by the same lady, and now after reading "Cheap Continental Holidays" we begin to realise how she managed to pick up such extensive practical knowledge of the way to do things. Madame Vallois first shows how it is that some foreign holidays may be made cheaper than those in England. She next makes clear to "all fellow travellers with slender purses" how far £5 can be made to go. Some useful hints to travellers and some admirable remarks on clothing follow. The following trips are described: *The Ardennes, *The Bay of St. Malo, Mont St. Michel, Amsterdam, Lucerne, *Bruges, Caen and Bayeux, the Rhine, Florence, *Ghent, Western Flanders, Caudebec-en-Caux, The Hague, and *Brussels, those marked with an asterisk being places where a short holiday, including travelling, may be spent for £5. These articles are no dryasdust rehash of other guide-books, but are full of the author's personal hints and experiences, with much of history and literary sidelights not to be found in the school-books and guides.

We have received two excellent books on matters relating to household economy. *The Kitchen Garden and the Cook* (London: Smith, Elder, and Co. 1913. Pp. 283. Price 5*s.* net), by CECILIA MARIA PEARSE, is an exhaustive and detailed description of the methods of growing kitchen vegetables and of more excellent ways of cooking them when grown than can be found in any book we have seen. The profusion of methods of cooking is almost bewildering. There is also an excellent chapter on cakes and puddings without eggs, with some hints on cooking in paper bags.——The other book is *Foods and Household Management: a Text-Book of the Household Arts* (New York: The Macmillan Company. 1914. Pp. 402. Price 5*s.* net), by HELEN KINNE and ANNA M. COOLEY, B.S. It is a scientific and clearly and comprehensively written book on food and food values. It contains some 160 carefully selected and tested recipes, with clear directions for cooking not only the things customary among all Anglo-Saxon peoples, but also many American specialties. Reasons are given for all ways of preparing food. The book is full also of practical hints upon housekeeping—accounts, electricity and gas, kitchen apparatus, cleaning fabrics and furniture, how to buy, housewifery, "laundering" and dry cleaning, and so forth. For English readers, however, the section on the household budget will be of little use, being based on an American standard of prices. Moreover, the methods of cutting up a beast differ not a little in America and England. But the English housewife can learn a lot from the book.

JOURNALS AND MAGAZINES.

Quarterly Journal of Medicine. Edited by WILLIAM OSLER, J. ROSE BRADFORD, A. E. GARROD, R. HUTCHISON, H. D. ROLLESTON, and W. HALE WHITE. Vol. VII., No. 27. April, 1914. Oxford: At the Clarendon Press. London, Edinburgh, New York, Toronto, and Melbourne: Humphrey Milford. Subscription price, 25*s.* per annum; single numbers, 8*s.* 6*d.* each.—The contents of this number are: 1. Observations on Paroxysmal Tachycardia, by H. G. Butterfield and G. H. Hunt. The term is restricted to cases of rapid and regular tachycardia, where the impulse causing contraction arises at some focus other than the sino-auricular node. In two of the cases described in this article the ectopic focus lay in the auricle, in one in the ventricle, and in the fourth either in the auricle or junctional tissues. The special interest of the paper is due to the fact that in three of the cases post-mortem examinations were made, and the histological investigation corroborated the diagnosis made from the electrocardiograms. 2. Cholesterin: An Account of the Relations to Pathology and Physiology, by J. W. McNee. An interesting review of the literature of this subject is given, together with an account of some experiments. The methods of determining the cholesterin content of the blood serum are briefly discussed. A marked increase in the cholesterin in the serum is found almost constantly in cases of arteriosclerosis, in chronic Bright's disease, jaundice, diabetes mellitus, xanthoma, and pregnancy, while it is decreased in almost all febrile diseases except enteric fever, in tuberculosis, and in old age. It has been found that in jaundice a marked change occurs in the proportions of cholesterin and cholesterin ester. Normally cholesterin ester forms much the larger part, while in jaundice a great increase in free cholesterin is found. The changes in cholesterin metabolism during pregnancy are discussed in relation to the special liability of women to gall-stones. The hypercholesterinæmia during pregnancy is a considerable one, and Dr. McNee has found that there is also a marked increase in the cholesterin of the bile during pregnancy. 3. Bilateral Salivary Swellings (Mikulicz's Disease): A Clinical Review, by Hugh Thursfield. A fatal case of this condition is recorded, and a case in the literature recorded by von Brunn is referred to. Both of them are regarded by Dr. Thursfield as atypical (aleukæmic) leukæmia. Dr. Thursfield refers to eight groups of cases in which bilateral swellings of the salivary glands form the most characteristic symptom. He gives a review of the literature and discusses the pathology of the more important groups. 4. On the Prognosis of Acute Articular Rheumatism, by Charles G. Kemp. A series of cases is analysed to determine what proportion pass through the illness to complete convalescence without showing clinical signs of cardiac involvement, and further, what proportion having shown such signs during the acute stage of the disease progress to complete cardiac recovery. 5. Critical Review: Anaphylaxis and its Bearing on Medicine, by James McIntosh. An interesting and suggestive summary of the phenomena of anaphylaxis and their applications is given, together with the theoretical explanations which have been propounded. 6. Critical Review: Bacterial Endocarditis, by Irving Simons. This is an important and instructive analysis of cases of endocarditis associated with the presence of bacteria in the circulating blood during valvular lesions and in the life.

The Modern Hospital.—This is a monthly journal devoted to the building, equipment, and administration of hospitals, sanatoriums, and allied institutions, and to their medical, surgical, and nursing services. It is published at St. Louis, Mo., and, like most American periodicals, is well printed and illustrated, and contains American views, and descriptions of American procedures, that may be valuable to British workers. The first number opens with an article on the Dividing Line between General Hospital and Hospital for Insane, by Dr. W. A. White, superintendent of the Government Hospital for the Insane, Washington. The author makes a strong plea for the recognition of the fact that insanity is a disease "in a practical manner by admitting people for advice and treatment to the various institutions conducted by medical charity on the same basis as patients are admitted for other maladies." He deplores the fact that the mental patient has, in all countries to some extent, to undergo the tedious and humiliating process of the law which brands him with legal disability before he can obtain relief. He says: "The city that fails in its general hospital scheme to provide for a psychopathic ward loses a golden opportunity."—Dr. W. P. Gerhard, consulting sanitary expert, New York, contributes the first part of a serial on Recent Examples of Hospital Construction in Europe, the result of inspection in a number of German cities of the latest examples of hospital planning, equipment, and construction. In this number he describes the Hospital and Sanatorium at Beelitz, near Berlin. The article is profusely illustrated by plans and views. Some, such as "lavatory with special bowls for mouth gargling," are most instructive.—Miss E. M. Lawler, superintendent of nurses and principal of the training school, publishes a fourth paper on the Organisation of the Nursing Department of Johns Hopkins Hospital. Taking for her motto, "All hinges on attention to details," she minutely describes the system of this famous hospital.—Dr. J. W. Fowler writes about the newly erected Municipal Hospital at Louisville, of which he is superintendent. One of the architectural difficulties was the duplication of the wards, dining-rooms, &c., in order to separate the coloured from the white patients.—Dr. J. F. Clarke discusses the Advantages and Disadvantages of a Small Home Hospital. The new "Iowa idea," by which the people of rural communities are building hospitals for themselves, is spreading rapidly over the United States and is arousing much comment. The medical profession in the cities frowns upon such institutions, but Dr. Clarke believes that they will be universally adopted. He concludes that the balance is in favour of the small hospital near the patient's home. In addition to convenience of access it provides better air, greater quietness, and purer and fresher food, and trains the local practitioners. The individuality of the patient is more recognised and he does not become a "number" as in a large institution. For maternity cases a small hospital is, Dr. Clarke thinks, vastly superior to the patient's home.

British Dental Journal.—In the issue for March 16th Mr. Octavius R. Ennion gives an account of an interesting case of Necrosis of the Mandible. The patient, a girl 11 years of age, had suffered from scarlet fever, the convalescence from which was considerably delayed by a septic condition of the throat. The necrosis of the mandible apparently started from infection through a carious right second premolar. The periosteum was from time to time stripped of the necrosed bone and the buccal cavity drained through an opening behind the angle of the jaw. The entire mandible, with the exception of a small portion of the left ascending ramus, eventually necrosed and was removed, the child making an excellent recovery. Photographs of the necrosed mandible and a skiagram showing the hard bone formation are given. Mr. Claude G. Colyer writes on Periodontal Disease, and Mr. H. E. Fullerton records a case of Cobalt Poisoning, the drug having been used to devitalise the pulp of a tooth.—The issue for April 1st contains a paper on Dental Education by Mr. W. Simms. The author favours the establishment of a representative dental council to control and overlook dental education. He considers that there is no subject included in the present curriculum which could be eliminated as unnecessary. With regard to the teaching in dental mechanics in the schools, he considers that there is a lack of constant authoritative supervision, and he advocates the appointment in dental schools of at least one individual who would devote his entire time to the development of dental science and teaching. Mr. David Rankin contributes a paper on Affections of the Naso-pharynx which cause deformation in and about the mouth.

CREMATION SOCIETY OF ENGLAND.—The annual general meeting of members of this society was held on April 7th in the West Lecture Hall of the Royal Society of Medicine. The President, Sir Charles Cameron, Bart., M.D., took the chair, and in his opening remarks pointed out that the society did not complain of the stringent precautions which were enacted in the case of cremation, but they did protest against the exclusive application of these to cremation, while nothing was done to remedy the scandalously lax requirements of the burial laws. The annual report for the past year, which was approved and adopted on the motion of the chairman, showed that during 1913 the total number of cremations carried out in Great Britain was 1183, as compared with 1134 in 1912. Of these more than half took place at Golders Green. Dr. Herbert T. Herring proposed and Sir John Tweedy seconded the election of Sir Malcolm A. Morris as a member of the council, and this was carried unanimously. On the motion of the chairman, the names of 21 persons who have rendered distinguished service in the cremation movement abroad were submitted to the meeting for adoption as honorary members of the society, and this was also carried unanimously, while a vote of thanks was accorded to the Royal Society of Medicine for lending their hall. Mr. Evan [illegible] proposed a vote of thanks to Sir Charles Cameron. Dr. James Stewart, in seconding, said how much any reform movement depended upon its figure-head, and the society was to be congratulated upon having such a man as its President.

Reports and Analytical Records

FROM

THE LANCET LABORATORY.

OPTOCHIN.

(WIDENMANN, BROICHER, AND CO., LIMITED, 1, FENCHURCH-AVENUE, LONDON, E.C.)

Optochin is the name given to a white crystalline powder which is the chloride of ethyl-hydrocuprein. Ethyl-hydrocuprein is a derivative of quinine, which it resembles in regard to its chemical reactions. Optochin hydrochloride dissolves in water, forming a blue fluorescent solution when acidified with sulphuric acid. Caustic soda precipitates the base, which is soluble in chloroform. The solution also shows the green colouration characteristic of salts of quinine when treated with chlorine and ammonia. Ethyl-hydrocuprein differs from quinine in containing a C_2H_5 instead of CH_3 group, and there are present also two more atoms of hydrogen in the basic group. Recent chemico-therapeutic researches have shown this preparation to have a remarkable check action in pneumococcal infection, and a series of cases is quoted illustrating the applications of the drug in pneumonia and ophthalmic practice. It is administered in doses of from 1½ grains to 7½ grains by the mouth, the daily dose not exceeding 22½ grains.

VIROLAX.

(VIROL, LIMITED, 152 TO 158, OLD-STREET, LONDON, E.C.)

Virolax offers an agreeable means of administering liquid paraffin for laxative purposes. It has the appearance of concentrated malt extract, and the microscope shows that the mixture is perfectly homogeneous. On the addition of water it turns milky, due to the separation of oily globules. It has an agreeable flavour, and the presence of some lemon juice is an advantage in this connexion. There are present the constituents of the well-known restorative food virol. The moisture amounted to 10·19 per cent. and the mineral matter to 1·19 per cent. Analysis gave 36 per cent. of total unsaponifiable oil (petroleum).

CANADIAN CLUB WHISKY.

(HIRAM WALKER AND SONS, LIMITED, 20, COCKSPUR-STREET, TRAFALGAR-SQUARE, LONDON, S.W.)

This whisky has characteristics of its own which distinguish it from the distilled products of Ireland and Scotland. The flavour is peculiar, but the whisky is smooth to the palate, bearing evidence of a matured spirit. Its analysis presents also some differences compared with Irish or Scotch whisky. Thus the higher alcohols commonly known as fusel oil occur to a far less extent, and the furfural amounts to about a third of that present in all-malt pot-still whisky. The amount of secondary products found in 100,000 parts of alcohol present were as follows: aldehydes 13·2, furfural 1·30, ethers 84, and higher alcohols 80 parts. The amount of alcohol present was a little over 50 per cent. by volume. The extractives amounted to 0·17 per cent., and these contained some tannin and a substance which reduces Fehling's solution. The volatile acidity reckoned as acetic acid amounted to 0·042 per cent., the fixed acidity reckoned as tartaric acid to 0·0075 per cent., and the mineral matter to 0·04 per cent. The character of the extractives indicates storage in cask, and thus justifies a statement made to this effect.

(1) "TABLOID" OPHTHALMIC ZINC SULPHATE COMP.; (2) "TABLOID" HYPODERMIC EMETINE HYDROCHLORIDE; (3) "VAPOROLE" EMETINE HYDROCHLORIDE.

(MESSRS. BURROUGHS, WELLCOME, AND CO., SNOW HILL BUILDINGS, LONDON, E.C.)

(1) The tabloid ophthalmic zinc sulphate provides an obviously useful formula in ophthalmic practice. It contains zinc sulphate 1/5th grain, boric acid 1/20th grain, tincture opium 1/15th minim, and epenine, the synthetic hæmostatic behaving like suprarenal extract, 1/10th grain. The formula has been particularly valuable in relieving painful and troublesome conjunctivitis caused by dust, as, for example, in the case of motorists and others. (2) The tabloid hypodermic emetine hydrochloride introduces a new strength of this drug, which contains 1 grain of the salt; and (3) the sterile solution (vaporole) also contains 1 grain in a convenient form for hypodermic injection. It is desirable, of course, in employing this remarkably useful drug in the treatment of amœbic dysentery to determine and to secure its accurate dosage.

STANDARD PHARMACEUTICAL PREPARATIONS.

(MESSRS. CORBYN, STACEY, AND CO., LIMITED, 673, COMMERCIAL-ROAD, LONDON, E.)

We have received from the above firm some specimens of pharmaceutical preparations manufactured under certain modified processes that add to the elegance of the product, while preventing a loss of therapeutically active principles. They are standardised in accordance with the requirements of the Pharmacopœia. Amongst the preparations which we examined were tincture of opium and tincture of ergot, both of which are perfectly bright and permanent fluids. Other preparations were an infusion of buchu and of gentian, both of which are concentrated, and for use require dilution to 1 in 7.

UNG. "CYCLOFORM" (BAYER).

(THE BAYER COMPANY, LIMITED, 19, ST. DUNSTAN'S-HILL, LONDON, E.C.)

This is a yellowish-white homogeneous ointment contained in a collapsible tube, and its chief application appears to be in hæmorrhoids and pruritus. Its suitability for such purposes will be understood from its composition. The ointment basis contains some zinc oxide, but the important constituents are cycloform (the iso-butyl ester of para-amino benzoic acid), a local analgesic, and extract of witch hazel, well-known as a styptic and astringent.

ULTRA-VIOLET RAY WATER STERILISER.

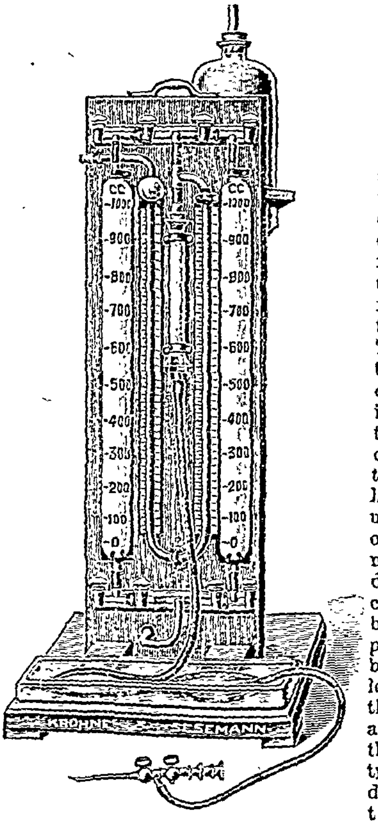
(THE WESTINGHOUSE COOPER HEWITT COMPANY, 80, YORK-ROAD, KING'S CROSS, LONDON, N.)

This ingenious apparatus provides for a regulated flow of water under a bombardment of ultra-violet rays from a powerful quartz vapour mercury lamp. There is an automatic cut-out which comes into operation should the lamp go out. This we found to work quite satisfactorily. The maximum capacity of the apparatus is about two litres per minute. The makers state that this type is suitable for industrial use and may be employed in schools, business premises, or factories. The water, of course, undergoes no perceptible chemical change. We have made experiments in regard to its sterilising power, and the results were striking. A heavily infected water was employed, the control showing on gelatine plates 6400 organisms per c.c. In the first experiment the rate of flow was 500 c.c. in 50 seconds. Bacillus coli was present in 1 c.c. of the ingoing water, but the total number of organisms found in the effluent was 23 per c.c.; there were, however, no bacilli present in 100 c.c. In the second experiment the rate of flow was increased, that is to say, to 500 c.c. in 25 seconds; the total organisms per c.c. was 38, but again bacillus coli was not present in 100 c.c. These experiments show, apparently, that the bacillus coli is quite killed off. The complete annihilation of bacillus coli and the reduction of from 6400 to 38 organisms per c.c., illustrate the remarkable bactericidal action of ultra-violet rays.

New Inventions.

A GAS INJECTING APPARATUS.

THE illustration shows a new form of apparatus which is now in use at the Pinewood Sanatorium, Wokingham, for injecting nitrogen or oxygen gas into the pleural cavity. Hitherto I have used, for the production of artificial pneumothorax, Morriston Davies's first modification of Kornmann's apparatus. This I have simplified as follows:—*a.* Two 1000 c.c. cylinders are provided, one for oxygen and one for nitrogen. Each has a "T" connexion both above and below, with a simple tap on each side. The upper outside tap is opened for filling with gas; the upper inside tap for allowing the gas to pass to the needle. The lower outside tap is for emptying only; the lower inside tap for letting the water pressure on to the gas in the cylinder. This last is the only one utilised once the operation is commenced. *b.* The displacing fluid is contained in a large bottle reservoir placed on a shelf behind, above the level of the top of the gas cylinders, and connected to them below by a tube which runs down the back of the stand. *c.* A glass tray is provided to hold the tube and needle. *d.* A second tap has been added to the needle, thus giving complete control in case of emergency without taking the hands off the needle.



The controlling taps on the apparatus (the lower inside ones) are not comfortably accessible as shown, and should run from before back instead of from above down. With this alteration the apparatus will be found to be very easily worked, and to be as nearly as possible fool-proof.

The apparatus is made by Messrs. Krohne and Sesemann, Duke-street, Manchester-square, London, W.

F. KINCAID ETLINGER, M.R.C.S. Eng., L.R.C.P. Lond.

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DRS. MIETTE and TRUFFIER.

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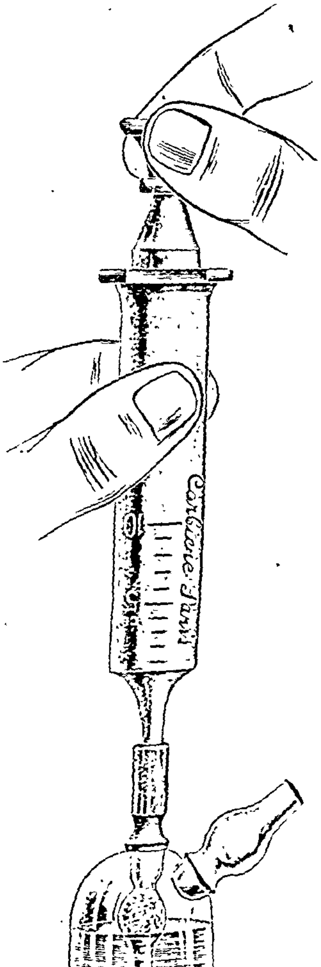

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THE LANCET.

LONDON: SATURDAY, APRIL 18, 1914.

Medical Aid Institutes.

IN the Supplement to the *British Medical Journal* of Saturday, April 4th, there is published a memorandum by the joint Medico-political and Hospitals Committees of the Association concerning the question of medical aid institutes, and it merits the close attention of the medical profession. The memorandum defines roughly what is meant by a medical institute as follows: It is an association which provides medical attendance for subscribing members, as a rule through whole-time medical officers paid by salary, and which collects regular contributions from its members, either directly or by deduction from wages. The memorandum proceeds to trace the origin of these institutes, quoting their early history as given in the investigations undertaken by THE LANCET 19 years ago under the title of the "Battle of the Clubs." Those articles, written under this collective title by our Special Commissioner, showed clearly that persons by joining such institutes could obtain medical service upon a more or less charitable basis to which they were not entitled owing to their pecuniary position, while further investigation proved that the membership of the institutes was recruited by a system of canvassing which brought their medical officers into an unprofessional and unethical position. Some of these officers were actually sweated, being entirely at the mercy of lay organisations, which paid inadequate salaries and retained money due to the medical profession, inasmuch as it had been received in return for medical benefit and earned by medical effort. The attitude of the medical profession towards these institutes, when their real meaning and the abuses that were rife under them had been made clear, rapidly became one of general antagonism. This is not to deny that sometimes the institutes were quite properly managed, for often the managing committees and the members of these institutes were on perfectly good terms with their medical officers. There is no desire to conceal the fact that a certain number of medical men, and, curiously enough, not always the best paid, appeared to be perfectly satisfied with their plight, while in some cases medical men frankly allowed that employment by the institutes was very serviceable to them. But the fact that here and there the institutes appeared to work satisfactorily had no weight in general professional opinion against the view that such working for laymen under contract was an inherently vicious scheme. The medical officers of these institutes were, as a rule, badly paid; they were at the beck and call of lay employers; and they were asked to undertake a mass of work which it was certain could not be properly discharged under modern conditions of scientific medical practice. Such was the feeling among medical men when the scheme for national insurance was first made public, and the most valuable argument which Mr. LLOYD GEORGE could bring forward in support of the National Insurance Act was the abolition of the abuses existent under contract practice of this sort, even though panel practice under the Act could not appear in any other guise than as a vast extension of contract practice. One of the main promises of the Act, as set out by the promoters of the legislation, was the introduction of a state of affairs under which the medical practitioner would receive what he earned, and would be free from lay control in professional affairs.

Until recently the medical profession has been content to believe that under the Act, free choice of doctor being allowed to insured persons, the danger of sweated medical service was overpast. The "Battle of the Clubs," however, is not yet won by the medical profession, and it is to prove this point that the memorandum in the supplement of the *British Medical Journal* has been issued. As is well known, medical institutes which were in existence at the passing of the Act have been permitted to provide medical benefit to their members, subject to the approval of the National Insurance Commissioners. There are as yet not many of these institutes; Wales and the Welsh border appear to be their principal home. But it is necessary to recognise that under the amendment in question any of the old medical aid institutes may be resuscitated, and, if the organisers of the movement in this direction can obtain medical officers short-sighted enough to play into their hands, a serious condition of affairs may be brought about. Last November[1] our Special Commissioner, in the course of reporting upon medical practice under the National Insurance Act in various localities, pointed out that at Chesterfield serious competition had been set up against the medical men upon the panels of the National Insurance Act by a district medical association definitely formed to compete with them. The Chesterfield District Medical Association, working under Section 15, clause 4, of the Act, had recruited many insured members to what was essentially one of the old medical institutes, and according to our Special Commissioner had not been particularly scrupulous in the methods employed. At the time when he wrote the Chesterfield Medical Association had upon its books a large number of patients who, under the generally understood meaning of the National Insurance Act, should have been panel patients, and the needs of these patients were being met by an inadequate medical staff. A similar condition of things he found to have arisen at Derby, where it was estimated that about 4000 patients, of whom half were insured under the National Insurance Act, were members of an Amalgamated Friendly Societies Medical Aid Association and were attended by medical officers employed by that association; the members whereof were thus unable to exercise the free choice of doctor which was promised under the Act. At Swansea a similar movement owed its failure probably to the strong action of the Swansea Division of the British Medical Association, and in particular to the refusal of the staff of the Swansea General Hospital to treat patients, except in cases of grave urgency, that were not sent to them in the ordinary way by panel practitioners. On this point the memorandum of the joint committees of the British Medical Association states that although they do not consider the position of the present institutes strong, yet "they are bound to regard the recent tendency to the spread of 'systems' in South Wales as a real danger unless a more active attitude of opposition to all such institutions is adopted by the profession throughout the country."

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[1] THE LANCET, Nov. 15th, 1913, p. 1373.

We cordially agree with the memorandum, but cannot believe that the mischief will spread. For this reason we suggest that overt moves against practitioners who choose to take the pay of medical institutes will be attended with some risk. Chesterfield, Derby, and the South Welsh districts have revived the old club evils; more enlightened communities see the comparative advantages offered by the medical service of the panel practitioners. We do not anticipate much backsliding, relying here upon the good sense of the Commissioners in the advice that they will be called upon to give to the Insurance Committees. Our Special Commissioner's reports upon the working of the Act are at the present moment dealing with London, and he has nowhere recorded any organised attempt on the part of medical aid institutes to defeat the object of the Act or to oppose the working of the panels; and in the article next to appear, which deals with panel practice in Stepney and in such a typical outlying district as Enfield, he states expressly that both the public and the medical profession appear satisfied with the conditions under which medical benefits are administered.

The Need for Inspection of the Slum Laundry.

THE importance of the laundry as a sanitary institution can hardly be exaggerated, but it is, of course, desirable that the operations should be conducted within a sanitary environment. This can be managed with power laundries where facilities for keeping a clean bill of health exist, but where the work is done by hand sanitary requirements are often neglected. When the linen is sent to be washed at a power laundry the risk of the things receiving infection of any kind is comparatively small. The premises are used for no other purpose but laundering and are kept reasonably clean; there are no children running between the laundry and the school, interchanging infections; the workers employed are kept under scrutiny by the manager; whilst in his own interest the manager or proprietor is very careful not to accept soiled linen from any house where epidemic disease is in progress. Moreover, linen treated at a power laundry passes through processes which should go a long way towards sterilising it. The linen is treated in a closed machine, where, after a short preliminary soaking, it is washed with soap and soda at a low temperature; then boiled with fresh water and more soap and soda; then rinsed three times, the machine containing from 30 to 60 gallons of clean water for each rinse, so that 100 to 200 gallons of water are used for washing each machine load of linen. Suitable rooms for ironing and packing are provided usually, for a large number of power laundries have been built and equipped specially for the work they have to do; and it is an axiom of good laundry practice that the clean linen should never come into the neighbourhood of the soiled linen at any part of its career through the laundry.

In a well-equipped hand laundry the conditions may be satisfactory—it would be a very formidable state of affairs otherwise. The packing and sorting are often done under careful arrangements, and the linen is boiled in a copper; but there is not the facility for rinsing possessed by the power laundry, and, as the premises have not usually been designed for the purpose, it is more difficult to keep the clean and soiled linen rigidly separate. But below the level of the well-conducted hand laundry there are the small laundries of washerwomen who take in work from perhaps half-a-dozen customers, where all the rules of hygiene are ignored. Between these so-called "cottage," but in reality "slum," laundries and the well-conducted hand laundry no comparison is possible. They are commonly situated in some corner in a back street, and there is usually no sign by which they can be distinguished from the adjoining houses, except, perhaps, in dry weather, when some linen is hung out in the backyard. The house itself is usually old and more or less dilapidated. The work is carried out as often as not in the rooms where the proprietors live and sleep. The workers take their meals in the midst of the clean and the soiled linen, and in wet weather the washed linen is hung up to dry in the living and sleeping rooms. The workers themselves often belong to a low class, and there are sometimes numbers of children running about the place. No attempt is made to keep the clean and soiled linen from close proximity, nor is it possible to do so. The proprietors of the establishment are poor, and if infectious disease should appear in the house it is, where possible, carefully concealed, because its disclosure would entail loss of livelihood. And whereas in the case of a properly equipped and conducted laundry linen from an infected house would be rigidly excluded, the temptation to take such linen at a good price would be too great to be resisted by one of these slum laundries. There are even worse conditions obtaining in some slum laundries. In large towns where public washhouses are provided by the municipality for the benefit of working-class women who possess no conveniences for the purpose in their own homes, these washhouses, the cost and upkeep of which are paid for out of the rates, are employed by professional washerwomen who take their customers' goods there. These women often live in the most wretched surroundings, and after the linen has been washed in the municipal washhouse it is taken back to the dangerous dwelling to be ironed and finished. These facts are notorious at every public washhouse, and municipalities are making efforts to cope with the evil by instituting an ascending scale of charges for the use of the washhouse after the first few hours, so as to discourage the professional washerwoman, but the evil still remains. And that the danger is not theoretical is known to medical men, for cases of the spread of epidemic disease have been definitely traced on many occasions to the insanitary conditions of the premises occupied by washerwomen.

It is clear that the average housewife cannot protect herself or her household. Very few women realise the risk they are running in respect of their arrangements for the family wash, or take the trouble to visit the premises of their washerwomen. All they usually know is that a cart or, perhaps, a barrow comes to the door, takes the soiled linen away, and in due course brings the "clean" linen back. So long as it is returned at the expected time, looking sufficiently clean, and the price for the washing is reasonable, all appears well. It is certain that better protection is required than can be afforded by the care of the householder. The Factory Act is useless here, because in the first place it only deals with questions of hours of employment, guarding of machinery, and sanitary conditions so far as the workers are concerned, although incidentally the inspection under the Act tends always to the raising of the general standard of hygiene. But these little unhygienic laundries barely come within the scope of the Act, and both in theory and in practice they entirely escape any kind of inspection. They are on no register, and their very existence is unsuspected even by municipal authorities. At the Home Office and the Board of Trade it is generally known that the staff is numerically incapable of dealing with more than the power laundries and the larger hand laundries which are readily open to inspection. At the inquiry before the Select Committee of the House of Commons last year into the proposal to apply the Trade Boards Act to certain departments of steam laundries, the Board of Trade admitted that it was impossible to undertake the gigantic task of the regulation of all laundries. It was even declared that the subject was so large that it was only proposed to deal with two departments of steam laundries, whilst other laundries were quite out of the question. Judging from the answer given by Mr. JOHN BURNS to a question in the House of Commons recently, the bureau over which he now presides is still of the opinion that inspection of all laundries cannot be undertaken. Let it be admitted then that the little laundries are so numerous that it would be out of the question for a Government department to deal with them directly: then the proper way of approaching the matter is through local authorities. To continue to do nothing is wrong. The necessity for the prevention of the evils consequent upon insanitary laundries is urgent. No time should be lost in making and enforcing regulations ensuring that persons who take in washing for profit, even if it be only for one customer, should be registered at the office of the local sanitary authority, and obtain a certificate from the medical officer of health that the premises and working conditions are hygienically satisfactory.

Procedure in the Coroner's Court.

THE comments made by Mr. Justice ATKIN upon the procedure followed by the coroner at the inquest on the poor boy STARCHFIELD raise issues wider than those of the actual incident. The learned judge expressed his disapproval of several steps that were taken, including the putting of leading questions to witnesses, the signing of depositions by the latter at their houses, and the fact of their being allowed to make corrections in the written copies submitted to them. For several reasons the strictures appear to have been based upon unfamiliarity with coroners' courts and were unduly severe, especially when applied to a coroner with a reputation so high as that of Dr. WYNN WESTCOTT, with a period of 30 years' admirable service to his credit. In the first place, Mr. Justice ATKIN seems to have assumed that definite rules of procedure for the examination of witnesses exist in the coroner's court, whereas it has frequently been admitted by judges of the High Court that the law of evidence need not be observed during the conduct of an inquest. Again, the coroner is only bound by the Coroners Act, and while this Act requires that depositions shall be signed by the witnesses and by the coroner, it does not say that they must be signed "in court." The procedure adopted may have been unusual, but it was not illegal, and was followed in this case, we can readily believe, for the purpose of economising time. The evidence was taken down in shorthand, and it was necessary to transcribe this before it could be signed. If the statements of the witnesses had been taken down in longhand, the inquest, which as it was lasted for three days, would have been seriously prolonged. But perhaps the point deserving closest attention is the assumption underlying the whole of Mr. Justice ATKIN'S criticism of Dr. WYNN WESTCOTT'S conduct, that more or less rigid legal procedure can be observed in the coroner's courts. The learned judge does not appear fully to have realised the difficulties attending a preliminary inquiry where almost nothing is known of the circumstances at the commencement. At a trial in the High Court counsel has details of the alleged occurrences in his brief, and can obtain information from witnesses without putting leading questions; while the witnesses have already gone through several examinations and know what questions are likely to be put by their own side, and have their answers more or less clear in their minds. But the coroner has no prepared brief; he may know little or nothing of the evidence that is going to be adduced, and his inquiry must necessarily be more or less of a "fishing" character. Add to this the fact that he frequently has to deal with ignorant and illiterate witnesses who, if not closely questioned, might omit essential facts as seemingly unimportant, and it will be realised that the eliciting of a connected story with strict avoidance of leading questions would be a cumbersome and difficult process. And in the inquest on the boy STARCHFIELD, whether the procedure was irregular or not, no substantial effect was produced upon the course of justice, for the prisoner was committed by the magistrate and was tried on the magistrate's warrant. Moreover, the Recorder, in his charge to the grand jury, expressed the opinion that the case was a proper one to go for trial.

The question as to what rules of evidence should prevail in the coroner's court leads up to a larger question—What is the essential purpose for which an inquest is held? This question was very fully discussed at two meetings of the Medico-Legal Society last year, and the debate will be found in Vol. X. of the Transactions. At these meetings it was pointed out that while the original function of the coroner was to collect the KING'S revenues and to inquire into deaths for the purpose of ascertaining whether or not there was property which escheated to the Crown (which would occur if the deceased was an outlaw or felon), these duties, except in the case of treasure-trove, have now disappeared, while nothing has been definitely substituted for them. The evidence which was given before the Departmental Committee on Coroners' Law showed that most coroners consider their chief function to be the detection and prevention of crime; on the other hand, many attach equal, if not more, importance to the medical and scientific side of their inquiries. Recognition of the fact that a coroner has both legal and medical duties has led to the practice during recent years of appointing to the more important coronerships men who have had trainings in both law and medicine. But this only partially meets the difficulty. If the inquiry into the circumstance of a death is essentially for legal purposes, perhaps in connexion with crime, and perhaps in relation to questions of compensation, it may be convenient that the laws of evidence should prevail, and that legal procedure should be followed, but even here many coroners would prefer that the evidence should be tendered in any manner which makes for the discovery of truth.[1] On the other hand, if the chief object of the inquest is to determine the pathological cause of death, the coroner should be a medical man and should be entirely free to take any evidence he may think of value. Always the dual nature of the coroner's duties and responsibilities has to be thought of.

Of course, both aspects of his functions are of the highest importance to the community, but without expressing any strong opinion as to which should be adopted as the guiding principle, it may be pointed out that the legal side is already fully dealt with by other tribunals, while the medical side is scarcely provided for at all. The magistrate conducts a preliminary inquiry in accordance with the law of evidence into charges of murder. The existing double inquiry may be superfluous or actually prejudicial to the cause of justice —the risks have to be balanced against the added opportunities for getting at the truth. The jury at the trial may be biased by the fact that a definite verdict against the prisoner has already been returned at the inquest, and they may, through the medium of the newspapers, have become cognisant of matters which they ought not to know, which have not been legally established, and would not have been brought out at an inquiry where the law of evidence prevailed. Again, the coroner's verdict does not settle claims for compensation, and such questions must be investigated *de novo* in the county courts and higher courts. But the importance of obtaining scientific information relating to the pathological conditions underlying deaths from causes other than natural steadily increases. Such information is wanted for legislative and administrative purposes in connexion with the prevention of industrial diseases, accidents, overlying, improper feeding, and other causes of infant mortality. It is also urgently needed for the advancement of scientific medicine. It is understood that sooner or later the Home Office will introduce a Bill for amendment of the Coroners' Law. We venture to express the hope that before framing their measure they will consider carefully the two aspects of an inquest, so well and terribly illustrated in the STARCHFIELD case, and will endeavour to increase the usefulness of the inquest as a means of obtaining scientific knowledge.

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[1] THE LANCET, May 24th, 1913, p. 1465.

Annotations.

"Ne quid nimis."

ETHERISATION BY COLONIC ABSORPTION.

IN 1847, the year in which Sir James Young Simpson revealed the possibilities of chloroform to a world expectant of the ultimate conquest of pain by the inhalation of anæsthetic vapours, Pirogoff, the great Russian surgeon, then in his thirty-seventh year, declared that the system of pulmonary anæsthesia would soon be wholly superseded by rectal etherisation! Roux was equally enthusiastic, but Magendie was the first to indicate that injecting ether into the bowel was at least dangerous and would be usually fatal. The mishaps, and they have not been few, which were recorded by those who attempted to employ the rectal mucous membrane as the area of absorption, are explicable by the work of the great physiologist. When this method of introducing the ether vapour allows condensation into liquid to occur in the bowel, proctitis, meteorism and paralytic distension, even fatal ulceration of the mucous membrane, may occur. Buxton, who introduced the method into this country some 20 years ago, was alive to this danger, and guarded against it by devising a special apparatus which he believed prevented any liquid ether entering the bowel. However, other methods of promoting the entrance of ether by this route have been suggested. Arnd employs a 5 per cent. solution of ether shaken up in warmed saline, but the procedure has not proved wholly successful, and it is not certain whether it possesses inherent advantages over the direct introduction of ether vapour by a suitable apparatus. We possess at the present time possibilities, by using an electric motor, of propelling heated air mixed with warm ether vapour into the bowel in definite proportion and at a given rate. The most recent development of colonic etherisation we owe to Dr. J. T. Gwathmey,[1] an account of whose pioneer work in this direction appeared in THE LANCET last year.[2] His experiments made upon dogs convinced him that an oil and ether mixture offered a reliable means of introducing the anæsthetic by colonic absorption, and that this method obviated some of the assumed dangers of inhalational methods. We are often struck by the fact that each new suggestion with regard to anæsthesia is commonly heralded by somewhat alarming statements of the perils of the established procedures. However, Dr. Gwathmey's plea for colonic etherisation possesses claims more valid than those which rest upon mere depreciation of the older methods of giving ether. Although his experiments and hospital cases have been free from dangerous complications, he frankly draws attention to the possibility of such occurring, due, as he pertinently puts it, to the extreme simplicity of the method and of the technique by which it is put into practice. It is necessary to cleanse the bowel, and this having been carefully carried out, the technique consists of injecting into the rectum one hour before the operation a mixture of 2 to 4 drachms of ether with an equal amount of pure olive oil in which are dissolved 5 to 10 grains of chlor-butyl. Then half an hour before the operation a hypodermic injection of morphine and atropine is given. Fifteen minutes before the operation the patient is placed on his left side in a modified Sims's posture and a mixture of 75 parts of liquid ether well mixed with 25 parts of olive oil is slowly introduced into the bowel by means of a rectal tube 28 inches in length with a diameter of one-fourth of an inch; this is clamped and fed from a glass funnel connected with a Lockwood tube 30 inches in length and three-eighths of an inch in diameter. One ounce is required for each 20 lb. of the patient's body weight, and this quantity (℥i) is injected each minute until the requisite amount has entered. As in the case of rectal etherisation by ordinary methods, the utmost care has to be taken to secure the patency of the air-passages, while should evidence of over-narcotisation appear the bowel is emptied of the ether mixture and the colon irrigated with oil or cold water to excite expulsive action. Massaging the colon from right to left assists in expelling the ether-oil mixture. Dr. Gwathmey regards his experience and that of others who have adopted his procedure as being, so far, quite encouraging. Undesirable sequelæ have been absent in his personal practice, while although some dangerous cases have been reported, he believes these are due wholly to errors of technique or to neglect of obvious precautions. He states that he has had 200 successful cases, but adds that in 100 of these a supplementary inhalation anæsthetic was required because the ether-oil narcosis proved too light for these particular cases. No doubt wider experience is necessary to perfect the technique of what appears to be a method offering obvious advantages in suitable cases. However, it has yet to be seen whether, when a larger number of patients have been subjected to this procedure, dangers and difficulties may not arise such as we know to have arisen when extensive trials have been made of the older plans of achieving ether anæsthesia by rectal absorption. The bland nature of olive oil and its avidity for ether would, however, lead us to hope that such sequelæ may be absent in the method we have described. Dr. Gwathmey states that he is experimenting with other drugs besides ether for use by colonic absorption, but it is at present premature to discuss the possibilities these present or to offer criticism until our knowledge is more extended and more precise.

ALCOHOL AND LONGEVITY.

IT is frequently asserted by the more extreme opponents of the dietetic use of alcohol that the evidence of insurance statistics establishes beyond all cavil the advantages accruing to health from the practice of total abstinence. The ground for this assertion is the fact that insurance societies which have a separate section of total abstainers find that the mortality in that special class is considerably lower than in the general mass of policy-holders. For instance, in the United Kingdom Provident Institution, whose records are most often quoted in this connexion, the ratio of actual to expected claims, calculated over a considerable term of years, works out at 70·47 per cent. in the temperance section, while in the general section it comes to 95·14 per cent., and very similar results have been noted in the case of other large societies here and in America. Statistics of this sort are admittedly unbiased, and their accuracy will not, of course, be disputed. But what is by no means equally evident is the soundness of the conclusions founded on them by the advocates of total abstinence. In an article published in the *American Underwriter* for July, 1913, and now issued in pamphlet form,[1] Mr. Phelps, the editor of that journal, and a well-known authority on insurance questions, draws attention to what he very reasonably regards as the most serious source of fallacy in this particular statistical argument—namely, the possible differences in other respects besides drinking habits between the contrasted groups of abstainers and non-abstainers. As supporting his criticism, he quotes the results of an investigation carried out by Dr. Dwight, medical director of the New England Mutual Life Insurance Company, who found that total abstinence from tobacco appeared to have almost exactly the same relation to longevity as total abstinence from alcohol. This fact suggests the need of extreme caution before we assume that the lower mortality of total abstainers is wholly due to their avoidance of alcohol. Possibly we should be nearer the truth in adopting the view put forward tentatively by Mr. Phelps that abstainers, whether from alcohol or from tobacco, are as a class of somewhat different type or live under different, and on the whole less strenuous, conditions as compared with the general run of persons who indulge in these luxuries. At all events, it is clear that insurance statistics cannot be regarded as furnishing any legitimate ground for the assertion that the moderate use of alcohol is injurious to health, and the attempt to represent them as proving such a statement can only do harm to the cause of true temperance.

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[1] New York Medical Journal, Jan. [illegible] and March [illegible], 1914.

[2] THE LANCET, Dec. [illegible], p. [illegible]

SKIAGRAPHY OF THE FALLOPIAN TUBES.

THE investigation of the ureter and pelvis of the kidney by means of X ray photographs following the injection of silver salts (collargol especially) is so successful and so generally practised by urologists that the extension of the same principle to the Fallopian tube must have occurred to gynæcologists as practicable. Dr. W. H. Cary, of Brooklyn, has carried out the idea, and reports his experience in the March issue of the *American Journal of Obstetrics*. In a patient who complained of continuous pelvic pain without any gross physical signs to account for it he injected 10 c.c. of collargol solution through the cervix under anæsthesia. He then opened the abdomen and found the solution oozing from the right tube, but none flowing from the left one. After freeing some adhesions the latter was removed; it appeared to be normal until dissected afterwards, when it was found to be completely occluded near the uterine end. This occlusion was well shown by the X ray photograph taken just before opening the abdomen. It is clear that this method, if it proves to be safe, may influence very markedly the diagnosis of the cause of sterility and its treatment in cases where Fallopian obstruction is shown to exist. The process is contra-indicated whenever recent pelvic inflammation or any form of infection exists. Dr. Cory suggests that at least three months of freedom from acute inflammatory symptoms should elapse before undertaking it. Retro-displacement of the uterus or prolapse of the adnexa may cloud the picture; the former should be corrected before the injection is made. The patient is placed in position with the X ray apparatus and plate all ready for action. By speculum and tenaculum the cervix is exposed and steadied. A glass intra-uterine instillation tube is passed through the os, which it should fit closely; the silver solution is then slowly injected and the skiagram immediately taken. The average content of the uterine cavity is stated at eight minims. It remains to be seen whether this procedure is free from risk, and also whether the collargol has any beneficial action on tubal infections.

THE VICTORIA HOSPITAL, BLACKPOOL.

THE regrettable dispute between the medical men at Blackpool and the board of management of the hospital appears to be no nearer a settlement. The circumstances out of which it arose were described in THE LANCET of March 21st, p. 867. Since then, at the annual meeting of donors and subscribers to the hospital, after a prolonged discussion a resolution, based upon a suggestion of Dr. T. Carr, was carried unanimously to the effect that the medical men of the town should appoint a committee of six to explain what reorganisation and changes the medical practitioners would be prepared to accept. At a subsequent meeting, however, of the medical profession practising in the town it was resolved to forward a letter to the board stating that until the medical men's demands for two seats on the board, for the resignation of the matron, and for the resignation of a medical practitioner still on the board were complied with, the medical men refused to meet the board. The letter was forwarded, and in reply the board has stated that the matron has resigned and that the board has received her resignation with regret, but that the board has no power to comply with the request for two seats, as its members are appointed by the donors and subscribers. The medical member of the board was appointed by the donors, and the board had, they said, no power to call for his resignation even if it wished. It would seem, and it is a matter for extreme regret, that a deadlock has arisen without full discussion and at a point at which discussion might have resulted in a way out of the difficulty being found. That the difficulty is one not easily to be arranged, even after each side has had the opportunity to express its views, is only too evident. The medical men on the one side possess full sympathy not only from the members of their profession, but from a large section of the lay public. They are seeking nothing for themselves, but primarily have espoused the cause of two nurses whose treatment meted out to them by the board, under the immediate observation of the medical staff of the hospital, has appeared to that staff to be harsh and unjust. It may here be said that from all accounts of that treatment which have been made public it was such as might well justify the attitude of the medical men, and it must be remembered that, whatever there was in the conduct of the nurses which the board resented, the dispute arose out of complaints with regard to the feeding of the nursing staff, as to the justice of which the medical staff was well able to form and express an opinion. Again, in connexion with the constitution of the board, the medical men of the town are certainly entitled to hold opinions, and to have those opinions carefully and sympathetically weighed by the subscribers to the hospital. At the same time, a board may naturally hesitate to admit itself at the outset of a discussion to have been wrong in the initial stages of the matter to be discussed. The affair has reached a stage at which every attempt should be made to bring about a settlement, and, if this cannot be obtained by the parties meeting, it may be suggested that they should refer their differences to arbitration. It should not be difficult, or at any rate not impossible, to find persons of experience in hospital management absolutely independent of local prejudice or interest, and having the necessary judicial qualities, who would be willing to give careful hearing to both sides, and be able to decide in the best interests of the hospital what the future constitution of its board should be—and this may now be regarded as the essential matter in dispute. A pronouncement as to the incidents which have been referred to in connexion with the nursing staff could be added. It would, however, be necessary for both sides to agree to abide by the arbitration.

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[1] The Supposed Death-rates of Abstainers and Non-abstainers and their Lack of Scientific Value. By E. B. Phelps, M.A., F.S.S. New York: Thrift Publishing Company. 1913. Pp. 30.

A NEW CUTANEOUS REACTION IN PREGNANCY.

IT is now generally recognised that the process of gestation is associated with general changes in the organism as well as with the growth of the fœtus and the local alterations in the uterus. It has been proved that some of the glands with internal secretions show definite histological changes, and numerous observers have found that in pregnancy protein substances foreign to the normal blood are in circulation. Abderhalden has further proved that the organism produces defensive ferments to break such proteins down. He has applied this observation to develop a test for pregnancy, which is at present on its trial. The idea occurred to Dr. Ernest Engelhorn, of Erlangen, that it might be possible to demonstrate the presence of these substances by inoculation, on the analogy of the tuberculin reaction of von Pirquet, the luetin reaction of Noguchi, and the trichophyton reaction employed by dermatologists. As a consequence he has made some observations in collaboration with Dr. Hermann Wintz, and these are published in an interesting preliminary note in the *Münchener Medizinische Wochenschrift* of March 31st. Starting with the assumption that materials from the placenta must enter into the general circulation of the pregnant woman, they have prepared a placental extract to which they give the name "placentin." They do not give the details of its preparation, but simply state that it is a somewhat complicated process and that they are engaged in experiments with a view to its simplification. They have used this substance exactly in the same manner as tuberculin is employed in von Pirquet's reaction. The site of inoculation is inspected at 12, 24, and 35 hours afterwards. A positive reaction consists in an inflammatory swelling and reddening of the inoculated areas, with a light brown staining around them. In every case two places were inoculated with the placentin, a third line being simply scratched with the lancet as a control. In cases showing a positive result the reaction is usually most distinct after 36 hours. In 70 pregnant women the test was positive in every case, the pregnancies being of all stages from the second month to full term. The reaction was tried in 54 non-pregnant patients, including children and 13 men. In all adult persons it gave a negative result, save that in three women who were inoculated very shortly before the expected onset of the period a slight irritation of the inoculated area occurred, but so slight that in comparison with the reaction in pregnant women it could only be called negative. Dr. Engelhorn and Dr. Wintz point out that this result may be of some interest in the light of the recent observations of Kjaergaard to the effect that before the period there is an increase in the proteolytic power of the blood serum in women, and that the serum under these conditions may give a positive Abderhalden's pregnancy reaction. One peculiar result was obtained with the inoculations of placentin, in the case of a child, aged 6 years, with an affection of the bladder, the reaction being positive. The authors are now engaged in further investigations. They make no claim as yet for the practical value of their reaction as a diagnostic measure, but hold that it is at least of theoretical interest. It is, further, of some significance that very shortly after parturition a negative result is obtained.

THIRD INTERNATIONAL CONGRESS ON DISEASES OF OCCUPATION.

THIS Congress will be held in Vienna from Sept. 21st to 26th, and the arrangements in connexion with it are now being rapidly completed. In our own country a very powerful committee has been got together for the purpose of obtaining contributions and promoting efficient representation at the deliberations. The Home Secretary, the Right Hon. R. McKenna, is Honorary President; Sir Thomas Oliver, President; whilst the members are Sir John Collie, Sir Thomas Flitcroft, Professor John Glaister, Professor Sheridan Delépine, Professor Eurich, Dr. H. Langley Browne, Dr. J. Hedley, Dr. J. Dallas Pratt, Dr. W. Hamilton, Dr. F. Shufflebotham, Dr. Herbert Jones, Dr. C. H. Milburn, Dr. T. D. Lister, and Dr. R. W. Edginton. Dr. T. M. Legge is chairman of an executive committee, to which Mr. W. F. Dearden is acting as honorary secretary. The Home Office will be represented at the congress by Dr. Legge, and various medical associations have intimated their intention of sending delegates. Discussions will take place under eight separate headings, and papers which come within the scope of any of these are cordially invited. They are: (1) fatigue; (2) work in hot and humid atmosphere; (3) industrial anthrax; (4) pneumoconiosis; (5) effects of electricity industrially; (6) occupational poisonings—lead, &c.; (7) ill-effects of occupation on hearing; and (8) general communications. Papers will be printed in the language in which they are written, with an abstract in both French and German, and the general proceedings will be published in the two languages mentioned. Contributors are therefore requested to send their matter typewritten, along with an abstract. As translations will take a considerable time papers should be sent to the general secretary, Dr. E. Teleky, Turkenstrasse, 23, Vienna, IX., on or before May 1st. The meetings will be held in the House of Parliament, and there will be an exhibition illustrating the methods of preventing occupational disease adjacent. Although the subjects under discussion are treated from the medical aspect membership of the congress is not confined to medical men; any persons or association interested in this branch of study can attend the congress or subscribe for the proceedings. The subscription is £1. Those who wish to send in communications, attend the Congress, or take advantage of arrangements for combined travel and accommodation at a reduced rate, should communicate with Mr. Dearden at 168, Trafford-road, Salford, Manchester, at an early date.

RECENT RESEARCHES ON THE CONDITION OF THE CEREBRO-SPINAL FLUID IN NERVOUS DISEASE.

OUR knowledge of the intimate relations between certain nervous diseases and the condition of the cerebro-spinal fluid is steadily increasing, and recent investigations have served to bring some points into clearer light. It is known that normal fluid contains from 0·03 to 0·06 per cent. of albumin, which is made up of globulin and of albumose. In pathological conditions much more attention has been devoted to the globulin content than to the other; but the latter is undoubtedly often of diagnostic importance. Dr. A. Myerson, of the Taunton State Hospital, Massachusetts, discusses its significance in the March number of the *Journal of Nervous and Mental Disease.* A routine quantitative examination of the albumin content should never be omitted, though hitherto most observers have been satisfied with an investigation that does not go beyond the so-called "four reactions" (Wassermann test for the blood, the same for the fluid, the Nonne-Apelt globulin test of the latter, and the cytological condition). Dr. Myerson measures 2 c.c. of the fluid by a graduated pipette into a narrow test-tube: the fluid is then heated short of the boiling point, and 6 drops of a 33⅓ per cent. aqueous solution of trichloracetic acid are added. Normally a diffuse cloudiness appears, and after about half an hour a flocculent precipitate will have settled to the bottom of the tube, which it just covers. When there is albumin increase, however, a dense cloud appears which at once becomes flocculent, and may fill the tube to a depth of perhaps 0·5 cm. from the bottom. By employing identical quantities and tubes, and always using the same rigorously exact technique, it is easy to determine important differences between various cerebro-spinal fluids. Some of Dr. Myerson's results may be briefly alluded to. In general paralysis there is always a marked increase of albumin which is usually parallel to the globulin increase. During treatment by the salvarsanised serum method the albumin content varies to a much less extent than the Wassermann reaction, the cell count, or the globulin content, which suggests that albumin increase is a more constant sign of the pathological process underlying general paralysis than any of the other signs. In alcoholic polyneuritis and psychosis, the Korsakoff syndrome, those cases in which mental symptoms preponderate show greater increase in the albumin content than do those with more pronounced neuritic symptoms. There is in this condition a definite dissociation between the globulin and the albumin content, the former being little if at all increased. Other data are quoted which go to show that augmentation of the quantity of albumin in the cerebro-spinal fluid is an early and constant reaction in certain conditions, and the exact determination of its significance is a task worthy of neurological investigation. In a recent number of the *Nouvelle Iconographie de la Salpêtrière* Professor G. Marinesco and Dr. A. Radovici, of Bucharest, discuss the diagnostic value of the syndrome of xanthochromia and spontaneous coagulation of the cerebro-spinal fluid mentioned for the first time by Froin in 1903. By xanthochromia is meant a yellowish colouration of the fluid, due doubtless to the invasion of the subarachnoid spaces by blood pigment. Coupled with these two conditions is a third—viz., a practically normal cell count. The chief pathological states in the course of which the syndrome may occur are meningo-myelitis, compression of the cord, ascending paralysis, and generalised meningitis. In almost all the recorded cases there has been paraplegia either of spastic or of flaccid type. The level of the process may be high or low in the spinal cord. The explanation of the coagulation is to be found in the presence, in altogether abnormal quantity, of fibrinogen and fibrin ferment. These are not present in normal fluid, in which, for that matter, albuminoid substances occur only in minute quantity. It is probable that inflammation of the subarachnoid endothelium is one of the common causes of hyper-albuminosis of the fluid, but the latter may be provoked by other pathogenic mechanisms. Nonne considers that hyperalbuminosis with a normal cell count is pathognomonic of medullary compression from spinal tumour. The various pathological processes enumerated above have this in common for the production of the syndrome—that the subarachnoid spaces are invaded in such a way that a portion of the circulating fluid is isolated in a more or less closed cavity. Professor Marinesco and Dr. Radovici are of the opinion that minute capillary hæmorrhages, repeated at intervals, and an inflammatory state of the meninges are sufficient to account for the coagulation and the xanthochromia in most cases; in others—e.g., the tumour cases—toxins derived from them may irritate vascular surfaces, while stasis of the fluid favours fibrinous exudation. It is true that in cases of meningeal hæmorrhage the fluid withdrawn does not coagulate spontaneously, but the explanation is that fibrinous coagulation has already taken place at various points on the surface of the nervous system, and the fluid withdrawn has no fibrinogen in it, all of the latter having been deposited in the form of fibrin in the subarachnoid spaces.

CHANGES IN THE BASE OF THE SKULL IN PAGET'S DISEASE.

IT is a somewhat curious circumstance that since Sir James Paget's original description in 1876 of the disease which bears his name, the chief contributions to its study have emanated from continental schools. In the last number of the *Nouvelle Iconographie de la Salpêtrière* is a paper by Professor A. Léri, of Paris, which adds considerably to our knowledge of the cardinal clinical features of osteitis deformans. It has long been recognised that the disease is an osteopathy affecting more particularly the trunk, the long bones, and the cranial vault; but the idea that the condition is thus usually limited is erroneous. Alterations in the small bones of the hands and feet are far from uncommon, and Professor Léri has now demonstrated that certain changes in the base of the skull are not only constant but characteristic. His paper is based on the study of no fewer than seven cases, of which two are personal; the other five are those whose skulls are preserved in Dupuytren's museum in Paris. Further, Professor Léri has found identical appearances in the skulls from which Sir James Paget drew his description, skulls preserved in the museum of the Royal College of Surgeons of England. The alterations in the cranial base may be present, although the cranial vault is unaffected and although the long bones may reveal no pathological changes that are clinically discoverable. In the first place, there is hypertrophy of the bones of the base; as a result, the basal foramina, both vascular and nervous, are reduced in size. There is also a constant deformation of the base; this consists in an upward projection of the bones in the immediate neighbourhood of the foramen magnum. As a result of this alteration the anterior and middle cranial fossæ are deepened, while the transverse diameter of the cranial cavity is increased. This compensatory dilatation counteracts the loss of volume sustained by the cavity from diminution of its vertical diameter, hence its cubic capacity remains practically unaltered. Radiographic examination of the skull in cases of Paget's disease will determine the regularity with which such changes occur. The posterior fossæ are relatively shallow, and the upward deformation of the base ("convexobasie") results in a sort of levelling up of the base as a whole ("platybasie"). Further, the "orbito-petrous angle" formed by the orbital plate (posterior margin) in front and the superior margin of the petrous bone posteriorly is always more obtuse in the case of Paget's disease than in normal skulls, averaging 137° in the latter and 170° in the former. With these data it may be possible to come to an accurate diagnosis, though other signs of the disease are wanting. The suggestion is made that the diminution in calibre of the various basal foramina is responsible for some of the nervous, vasomotor, and trophic symptoms that occur in Paget's disease; the deformations of the base certainly explain some of the facial and other cranial changes recognisable by the clinical observer.

OX-GALL AS AN APERIENT.

THE use of ox-bile in medicine dates back to somewhat remote times. By the earlier physicians many virtues were claimed for it, but nowadays it is rarely prescribed. It is known, however, to be a valuable chologogue, and it is usual to administer it in capsules coated with keratin or in pills. At one time it was not uncommonly prescribed in the form of an enema as a purgative, but it is said to possess little or no advantage over soap, and latterly one seldom hears of the use of ox-gall in this form. But it is interesting to observe that in an address recently delivered before the Carlisle Medical Society Dr. William Murray referred to the remarkable aperient effects of ox-gall suppositories. They seemed, he said, to produce an easy, rapid, and effectual movement of the bowels in cases of constipation, their action being mollified by the addition of oxide of bismuth and intensified if administered in conjunction with the ordinary glycerine suppository. It would therefore appear that the aperient effect of ox-gall when administered in this form is much more pronounced than when it is applied in an enema, the explanation probably being that peristalsis is increased to a greater extent by the application of the substance in a solid form. A suitable suppository could be made with cacao butter, each suppository to contain, say, 5 grains of fel bovinum purificatum; if it were desired to produce the mollified effect mentioned by Dr. Murray 5 grains of bismuth oxide could be incorporated in each suppository. On the other hand, if it were desired to produce the intensified effect a suppository could be prescribed containing 5 grains of purified ox-gall with glycerine suppository as the base.

SPONTANEOUS RUPTURE OF THE TYPHOID SPLEEN DIAGNOSED AND TREATED SUCCESSFULLY.

THE operation of splenectomy has attracted a good deal of attention in recent times, and it is now possible to enumerate quite a formidable list of recognised indications for its performance. It is not altogether to be wondered at that these lists do not usually make any allusion to rupture of the typhoid spleen as one of the conditions in which excision of the offending organ is imperatively demanded, for it appears that this accident has only been recorded 13 times, and in nine of these as a surprise at necropsy. Four times it has been discovered during life, in three of these cases at an operation undertaken for supposed intestinal perforation, while in only one has a correct diagnosis been made and a successful splenectomy performed. The fortunate patient in this last case was a medical man aged 36, who came under the care of Dr. Lewis A. Conner and Dr. W. A. Downes in the New York Hospital, with a diagnosis of probable typhoid fever. He had been ill a week, and the day following admission was suddenly attacked by severe pain in the left hypochondrium and left shoulder. This was accompanied by vomiting with collapse; the left hypochondrium was rigid and tender, and the splenic dulness increased in area. The patient rallied for a day or two from these serious symptoms, the cause for which was not obvious, especially as at this time the Widal reaction was still negative. Two days later, however, the same symptom-complex reappeared with manifold intensity. The left side of the abdomen and the left flank were dull, but the rest of the abdomen was soft and the liver dulness was normal. A consultation resulted in a diagnosis of ruptured spleen, and the blood was examined to see whether it gave any indications of severe internal hæmorrhage, but without any positive result. However, an immediate laparotomy was performed, the first discovery being the presence of a large quantity of fresh and clotted blood (one and a half to two quarts) in the peritoneal cavity. The spleen was seized and delivered through the incision (a vertical one down the middle of the left rectus muscle), a large rent being found in its capsule along the posterior border. The pedicle was tied off, the spleen removed, and the abdomen closed rapidly. The operation, which was undertaken less than six hours after the onset of the second bout of symptoms, occupied no more than 20 minutes. The patient recovered well from the laparotomy, and the fever ran a normal course, though there were evidences of median basilic thrombosis with pulmonary infarction. There was a temporary anæmia with leucocytosis following the operation, but the blood picture gradually returned towards the normal. The excised spleen displayed nothing of note apart from a laminated clot on its diaphragmatic surface, of such an age as to support the belief that the first bout of acute abdominal symptoms was due to a rupture of the spleen prior to that which was the immediate occasion of the laparotomy. It is suggested by Dr. Conner and Dr. Downes that this second rupture was caused by coughing. It seems, therefore, that spontaneous recovery from rupture of the typhoid spleen is conceivable. This extremely interesting case, which is reported fully in the *American Journal of the Medical Sciences* for March, with a summary of the other cases referred to, constitutes a true advance in the art of healing; for the first time rupture of the typhoid spleen has been correctly diagnosed, and the patient's life has been saved by a timely splenectomy.

THE committee of the Cambridge Research Hospital is making a special effort to raise an endowment fund of £10,000, and the executors of the late Sir William Dunn, Bart., have, after giving special consideration to the needs and work of the hospital, sent a donation of £2500.

PLEA FOR AN INTERNATIONAL ANATOMICAL TERMINOLOGY BASED UPON THE B.N.A.

BY WM. CUTHBERT MORTON, M.A., M.D. EDIN.,
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THE present state of anatomical terminology in Britain is deplorable in the extreme. The German speaking anatomists, realising the importance of uniformity, spent much time and money in evolving for themselves a Latin nomenclature which since it was adopted in 1895 by a conference at Basle is known as the Basle *Nomina anatomica*, or for shortness the B.N.A. Although the B.N.A. was primarily intended for the use of the German speaking nations its authors hoped that it would in course of time be possible to "gain the coöperation of anatomists speaking other languages" and so to obtain a truly international terminology. In Britain, however, the B.N.A. had a chilling reception. This might have been excused had the British anatomists only taken the trouble to revise their own terms and evolve a uniform system for their own use. To this day the British nomenclature remains in a state of anarchy, and the anatomists are now divided into three camps: first, those who hold fast their faith in the national terminology and ask only to be left in peace; secondly, those who have become converts to the B.N.A. and would force it upon their brethren by the sword; and lastly, those who believe that there is much to be said on both sides, and are earnestly seeking a compromise. Each disputant sees the good in his own system and the bad in those of his rivals. Each demands what he himself does not think of giving—namely, a statement of guiding principles. This miserable dispute will never be settled by a comparison of details. A definite standard is needed for testing the rival systems. Principles must be formulated which will command universal respect and which, when applied to the details, will automatically winnow out the chaff and leave the corn. The British terminology is based upon no definite principles, and as for the B.N.A., if the statement of its principles given by Professor L. F. Barker, of Johns Hopkins University,[1] is even approximately correct, its authors must have thought, and many will agree, that such principles are almost as much honoured in the breach as in the observance.

An international terminology is a real necessity, and for this purpose there is nothing in existence to compare with the B.N.A. If little or nothing is here said of its merits, that is solely because they are, or at least by this time ought to be, sufficiently well known. The supreme defect of the B.N.A. is its lack of motive power to induce everyone to accept it even as a code. No international nomenclature can possibly command universal respect and be universally accepted unless it is broadly based upon sound and well-defined principles. Its language must be international and its terms both perfectly precise and strictly relevant. If it is to be comprehensive and concise, to be illuminating, or even, in some instances, merely intelligible, it cannot entirely dispense with duplicate terms. In each country the international terms may be employed unchanged, they may be nationalised in form, or they may be replaced by previously existing national equivalents. Though always equally lawful such synonyms will seldom be equally expedient.

Language.

For an international anatomical nomenclature Latin is without a rival, but to insist on Latin only or on Latin of a high order is sheer pedantry. It is futile to demand that "each term shall be in Latin and be philologically correct," and Professor Barker is manifestly blinded by admiration when he declares of the B.N.A. that "all the terms are in correct Latin." "Ventriculus" is Latin, "hepar" Greek, and "mesorectum" both and neither. Is it really worth while straining out gnats when whole troops of camels must be swallowed? It is indeed a sign of health in the B.N.A. that so little attention is paid to the *muscae volitantes* of philology.

Precision.

In these days when stars are accurately weighed in the balance and their distances measured with precision, is it too much to ask that a scientific terminology shall be precise and self-consistent? How many of the "nervi cerebrales" of the B.N.A. are in any sense cerebral? These nerves are attached to the brain and spinal cord, and they pass to and fro through foramina on the one hand in the cranium, on the other in the spinal column. It is convenient to distinguish between the two sets of nerves, and the British terminology quite accurately divides them into the "cranial" and the "spinal" nerves. In the B.N.A. the cranial nerves are termed "nervi cerebrales," which is obviously incorrect, since although the so-called cerebral nerves are all connected with the brain, the brain as a whole is not the "cerebrum" but the "encephalon." To quote Cunningham's Manual in a slightly modified form, "*No fewer than eight of the*" 12 "*cerebral nerves have a superficial attachment,*" not to the cerebrum, but "*to the ventral part of the hind-brain which is formed by the medulla and the pons.*" During a recent discussion in the Anatomical Society of Great Britain and Ireland an eminent London anatomist proclaimed his unconquerable aversion to "the cerebral nerves." On what principle is he or anyone else to be condemned to employ a term so inaccurate? Again, in the B.N.A. the abdomen includes the abdominal wall as well as the abdominal cavity. How, then, can the exit from and the entrance to the inguinal canal be contrasted as the "annulus inguinalis subcutaneus" and the "annulus inguinalis abdominalis"? Again, the mesentery is generally agreed to be the μέσον, or middle thing, the medium or means by which the ἔντερον, or intestine, is attached to the posterior abdominal wall, yet its constitution and relation to the gut when they are not left to the imagination are variously described. If an international terminology is not to be a farce such diversity and vagueness must be made impossible. Each term (e.g., mesenterium) must have a definite content and neither it nor its national equivalents (e.g., mesentery, *mésentère*, and so on) must be used in any but the international sense. Certain British text-books are pluming themselves on their faithfulness to the B.N.A., but the strictest of the sect frequently ignore it both in principle and in detail. They speak of "the superficial fascia," "the frontal operculum," "the seventh cerebral nerve," "the innominate artery," "the pelvic girdle," and so on, whereas the most careful dissection of the B.N.A. reveals only "panniculus adiposus," "pars triangularis operculi," "nervus facialis," "arteria anonyma," "cingulum extremitatis inferioris," &c. It cannot be too strongly insisted on that the international nomenclature shall be precise and self-consistent and that the national terms shall precisely and consistently correspond to their international equivalents.

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[1] Anatomical Terminology, with Special Reference to the B.N.A., by Lewellys F. Barker, Professor of Medicine, Johns Hopkins University, Baltimore (formerly Professor of Anatomy, Rush Medical College, University of Chicago).

Relevance.

Professor Barker gives it as a principle of the B.N.A. that "the terms shall be merely memory signs and need lay no claim to description or to speculative interpretation." Anatomy, it is true, contains many excellent terms of this character. The term "aorta," for example, could scarcely be replaced, yet how many ever trouble themselves over its origin and meaning? But although in certain cases the terms "need lay no claim to description or to speculative interpretation," they will, for the most part, be all the better even as "memory signs" if they are truly descriptive and can be readily interpreted. The B.N.A. itself to some extent recognises this, for Professor Barker states a further principle that "related terms shall, as far as possible, be similar—e.g., femur, arteria femoralis, vena femoralis, nervus femoralis." What is this but descriptive nomenclature clamouring for interpretation? The crux of the matter is that everyone desires not a mere code, but a terminology as far as possible descriptive and suggestive, and whereas unanimity might soon be attained were it only a question of labelling for identification, when it comes to description and suggestion it is *tot homines tot sententiæ*. In Britain the "appendix" has long been associated with the "mesappendix" and the "appendicular artery," whereas the B.N.A. has the terms "processus vermiformis," "mesenteriolum processus vermiformis," "arteria appendicularis." The latest edition of Cunningham's text-book, without a vestige of authority, replaces "arteria appendicularis" by "the artery of the vermiform process." If the B.N.A. is not to be rigidly adhered to, how much more simple, concise, and suggestive would be "vermiform appendix," "mesappendix," and "appendicular artery." This would also harmonise with the usage of pathology, medicine, and surgery, whereas no wormlike process of mental wriggling could ever lead one from the processus vermiformis to a catarrhal appendicitis or an appendicular abscess. Again, some anatomists speak of the "spinal," others of the "vertebral" column, some of the "gastro-hepatic," others of the "lesser" omentum. Which of these equally correct and equally suggestive terms are to be sacrificed to the fetish of international monotony? Though the recent adoption of the B.N.A. in certain British text-books has served the useful purpose of bringing matters to a head, such isolated action rather suggests the policy of the "big stick." Uniformity is never worth having by coercion or grudging concession. "Cabin'd, cribb'd, confin'd" within a monotonous nomenclature the living spirit of anatomy will incessantly chafe at its bonds. Not reluctant uniformity but real unanimity is the goal, and this can be attained only by the guidance of principles so definite that they will in every case unerringly lead either to the willing rejection of one term or to the willing retention of both.

Duplicate Terms.

Advocates of the B.N.A. insist upon what Professor Barker gives as one of its principles—namely, that "each part shall have only one name." Such a principle must have originated from a misconception of the functions of a nomenclature. In actual description duplicate terms, far from confusing, often throw valuable light upon a subject, and it is a mistake to suppose that they must be rigidly excluded from an international terminology which after all is scarcely a romance to be read through at a sitting. In the first place, *every structure should have as simple and natural a name as possible, but where this is long or cumbersome a shorter and more convenient name may be added.* Thus the peritoneal fold associated with the epigastric artery should be "plica arteriæ epigastricæ," and also as in the B.N.A. "plica epigastrica." Similarly the groove which lodges the transverse sinus should be "sulcus sinus transversi" and also as in the B.N.A. "sulcus transversus." The shorthand terms, however convenient, can never displace the longer ones. Though the groove for the transverse sinus may be called the transverse groove, is not the transverse groove the groove for the transverse sinus? Secondly, *in certain cases it would for linguistic reasons be simpler and more straightforward to recognise two names for a single structure even where common usage lays and will continue to lay the emphasis entirely upon one*—e.g., "testis (orchis)," "ventriculus (gaster)," cf. B.N.A. Only in this way do numerous compound terms become intelligible—e.g., mesorchium, gastro-hepatic. In the case of the tongue, "lingua (glossa)," we have the lingual artery, veins, and lymphatics, the sublingual salivary gland, the lingual, glossopharyngeal, and hypoglossal nerves, and the hyoglossus, styloglossus, and genioglossus muscles. If this principle is not to be admitted British anatomists must be prepared to resign many of their favourites. Can the terms "fibula" and "peroneal artery," for example, be defended in face of the fact that in France the corresponding terms are "la péronée" and "l'artérie péronéale"? Lastly, and most important of all, *a structure may well have more than one name when it belongs to more than one class or has more than one important relation.* The mesenteries, omenta, and ligaments so resemble each other in constitution that they may conveniently be all classed as ligaments. Certain of these ligaments in relation to the stomach may then be grouped together as omenta, and the omenta themselves grouped in relation to the stomach curvatures. In this way the present British terminology of the omenta can be reconciled with the B.N.A. and both can be retained. Again, the B.N.A. assigns to each so-called cerebral nerve a special name—e.g., "nervus trigeminus," "nervus facialis." Cunningham's Manual has therefore no authority to number these nerves "fifth cerebral nerve," "seventh cerebral nerve," and so on, however valuable this numbering may be. Indeed, the strongest argument in favour of legalising occasional duplicate names is the fact that the most virulent admirers of the B.N.A. smuggle them in whenever it suits their purpose. The more stringent the law the brisker will always be the traffic in such illicit but perfectly justifiable terms.

In the international nomenclature the details should be determined not by *ballot, as in the* B.N.A., but by the application of well-defined principles. If precision and relevance were insisted on, and if duplicate terms were admitted where they were really valuable, *many terms* now in dispute would *immediately* be either accepted or *rejected* unanimously. Where immediate unanimity proved to be impossible *synonyms* should in the meantime be inserted. Any other form of nomenclature, instead of embodying the living spirit of anatomy, would be only a sepulchre, outwardly fair with the whitewash of uniformity, but full within of *the bones of terms* from which life had long since fled.

Relation of the International Terminology to the National Language.

Until Latin becomes the international language of science, anatomists will continue to speak and write each in his mother tongue. What, then, should be the relation of the international terminology to the national language? The greatest confusion prevails in present practice, for though all are agreed that the international terminology should be employed at least as a code, some apparently wish to introduce it into, others to exclude it from, the body of the text. It is important, therefore, to have the guidance of definite principles. 1. Since the scientific literature and teaching of each nation are primarily for national use, *national terms may be employed provided always that these are clear and precise in themselves, and that they do not render the transition to the international terminology obscure or difficult.* It would detract seriously from the value of an international nomenclature if in English text-books terms such as "body, head, neck, limb, arm, forearm, hand, eye, ear, nose, kidney, stomach, heart, lung," and so on, were to be replaced by "corpus, caput, collum, extremitas, brachium, antibrachium, manus, oculus, auris, nasus, ren, ventriculus, cor, pulmo," &c. Many of the general terms which occur in the B.N.A. and which may accordingly be regarded as necessary for an international nomenclature are already current in the English language, some in Latin form—e.g., "area, isthmus, nucleus, stratum"—but the majority in a form more or less Anglicised—e.g., "muscle, nerve, process, fibre, membrane, column, space, vestibule." 2. *Where the international terms have no suitable national equivalents they may be introduced into the national nomenclature either in a nationalised form*—e.g., "commissure, decussation, clavicle, tubercle, prostate"—*or in the original "Latin"*—e.g., "perichondrium, ependyma, canaliculus, fornix, crus, stria, scapula, omentum, corona, trabecula, foramen." Professor Barker gives at least one English "synonym" for each term in the B.N.A., among them being "Berry, little head of the spoke, small piece of flesh, large hole, thread, ditch, skein, seam, round swelling, little beam, crevice, shaggy hair, whirlpool." Such synonyms are *tempting*, but one is duly warned that "in many instances it would be unwise to use the English synonym given."

The relation of the international terminology to the national languages may well be regulated by principles such as have been given above. These principles are applicable to all terms, whether Latin or Greek, simple or complex. They allow the utmost freedom in the choice of national terms, for in every case the international term may be employed unchanged, it may be nationalised in form, or it may be replaced by previously existing national equivalents. One may, for example, speak of the fasciculus longitudinalis, or the longitudinal fascicle, or the longitudinal bundle, or, again, of the extremitas sternalis claviculæ, or the sternal extremity or sternal end of the clavicle. No national term will be lawful which is *not* the precise equivalent of the international, but not every lawful equivalent will be expedient. The terms actually chosen will depend on many circumstances, and nothing will test the good sense of the individual anatomist more than the use which he makes of the international terminology. However fastidious he may be he will have little cause for *complaint.* He may delight in the long "head" of the triceps and the "caput" cæcum coli, in the "neck" of the femur and the "cervix" uteri, in the "body" of the sphenoid and the "corpus" callosum, in the "tail" of the pancreas and the "cauda" equina. He will trip lightly from the "back" to the "dorsum" sellæ, from the "arm" to the "brachium" conjunctivum, from the "leg" to the "crus" of the diaphragm, from the *"foot" to the* "pes" hippocampi, from the "ear" to the "auricle" of the heart, from the "stomach" to the "ventricle" of the brain, from the "hammer" to the tibial "malleolus," from the "fibula" to the "peroneal" muscles, from the facial "canal" to the "canaliculus" of the cochlea. The sphenoid may spread its great "wings," and the cerebellum display its "alæ." He will not fear the "cornua" of the hyoid, neither will he flee from the "horns" of the ventricle.

Conclusion.

This paper deals in a very cursory and tentative manner with some of the difficulties in the way of an international terminology, but *it will have* accomplished its object *if only it succeeds in* placing the B.N.A. in its proper perspective. Though the B.N.A. has been *long neglected* in Britain, indifference to international nomenclature is in these days the hall-mark of the indifferent anatomist. Much more creditable is the active hostility which prevails in so many quarters. A recent discussion in the Anatomical Society gave rise to a striking display of *deep-rooted* and apparently ineradicable antagonism not *untinged* with scorn. It is indeed tempting *to throw stones* at the B.N.A., but its opponents ought *first to see* to their own house. In 1895 the B.N.A., with admirable simplicity and precision, termed the space within the septum pellucidum of the brain "*cavum* septi pellucidi," yet to this day in Britain the space is *often spoken* of as "the fifth ventricle," partly doubtless because it *is not a* ventricle, partly perhaps because if it were it could not possibly be the fifth. If there is such difficulty *in* replacing in Britain so inaccurate and misleading a term as "fifth ventricle" by one so simple, *descriptive*, and accurate as "cavity of the *pellucid septum*," would it not appear a superhuman *task to* induce anatomists throughout the world *to accept* a whole nomenclature? But however much the B.N.A. *may* have suffered from *indifference* and from active hostility *it has far* more to fear from blind admiration and undiscerning praise. Some anatomists in

America and in Britain appear to have persuaded themselves that they have adopted and are consistently employing the B.N.A. A single example will show on what uncertain ground they stand. The B.N.A. contains the terms, "Cingulum extremitatis inferioris, os coxæ, os ilii, os ischii, os pubis," for which Professor Barker gives the equivalents, "Pelvic girdle, hip bone, ilium or flank bone, ischium or bone of the hip, pubic bone." It is clever jugglery to swallow "cingulum extremitatis inferioris," and then to reproduce it as "the pelvic girdle." The "os ilium," too, is the bone *of the ilia* or the iliac bone, the "os ischii" the bone *of the ischium* or the ischial bone, and the "os pubis" the bone *of the pubes* or the pubic bone. On what authority, then, does Professor Barker employ the terms "ilium" and "ischium," or Cunningham's Manual and Text-book the terms "ilium," "ischium," and "pubis," or the Companion to Manuals the terms "os ilium," "os ischium," "os pubes"? Those who are inspired by the sublime ideal of a "correct Latin" nomenclature should strangle such monsters at the birth. "Ilium," "ischium," and "pubis" are extremely convenient shorthand terms and ought to be officially adopted, but they cannot consistently be employed by any follower of the B.N.A., who will admit no duplicate terms, and who is either unwilling or unable to recognise that these coins from the anatomical mint are not current in the realm of "correct Latin."

To maintain that the B.N.A. is perfect or that even if imperfect it should at once be adopted to the exclusion of the present British or any other terminology can only alienate sympathy. Though the B.N.A. embodies all the enthusiasm and learning of a bygone generation of German-speaking anatomists its authors were under no delusion as to its real worth. As Professor Barker says, they realised that it was wiser "not to make the undertaking too wide at the beginning, to try rather to form a list of terms which should in the first place be acceptable to German-speaking anatomists, and later on to attempt to gain the coöperation of anatomists who speak other languages." Unwise admirers of the B.N.A. are clamouring for its immediate universal adoption *in toto*, but it is more in accordance with the genius and foresight of its authors that anatomists of every tongue should now "coöperate" in producing a nomenclature at once more precise, more complete, and more truly international. Should such a nomenclature be obtained it will be necessary for all anatomists whole-heartedly to abide by it, both in principle and in detail. No one should be allowed to play fast and loose with it after the present manner of the advocates of the B.N.A. Should the time not be ripe for an international nomenclature based upon the B.N.A., British anatomists ought at least to revise the terms at present in use throughout Great Britain and Ireland, and to evolve a national system as far as possible in harmony with the Basle terminology.

LITERARY INTELLIGENCE.—In response to many applications for information as to "How to Start a Day Nursery" the National Society of Day Nurseries is about to issue "A Handbook on Work in the Public Day Nursery," which will include the annual report of the society, price 1s. The information is gathered from 65 affiliated day nurseries scattered throughout London and the United Kingdom. Copies may be obtained from the secretary, 4, Sydney-terrace, Fulham-road, S.W.

ELEMENTARY TRAINING OF CHILDREN

TO REMOVE MENTAL FAULTS AND LESSEN MENTAL DEFICIENCY.

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WHEN a child is brought to the doctor for examination and advice on account of some mental faults, backwardness, or deficiency, a diagnosis should be made upon which a scientific prognosis can be given, and a line of treatment recommended. At the same time such concomitants as naso-pharyngeal obstructions, deafness, errors of refraction, defect of the heart, and other physical defects, should be eliminated as possible causes of brain inaptitude. It is also desirable before giving an opinion to ascertain as much as possible of the child's surroundings, habits, and previous training. Our aim in all these cases should be to train each normal character of brain action, stage by stage, on a definite plan according to the age of the child and his increasing brain power, while implanting in the teacher's mind a clear idea of their useful employment for social and mental life in the future. The work wanted from the teacher is often difficult and laborious, but interesting, and needs our guidance at each stage with directions what to observe and what to do, with assistance in overcoming individual difficulties, and using each degree of brain power gained in order to make it useful.

There are many points in elementary training that may be used in all cases, whether for the treatment of mental faults in a good brain or in a case of mental deficiency: but while in the former beneficial results may soon be achieved, in the latter long-continued perseverance is necessary to produce visible results. Among mental faults that may occur in well-made brains (psychoses) examples are as follows: "inaccuracy" in reading and in arithmetic from imperfect training in eye movements; "forgetfulness" from imperfect sensory impressions by sight or hearing: "mental confusion," specially on auditory stimulus, so that the child is *excited* by a sharp question or command, and better controlled by teacher's look or gesture, as is often the case with stammerers; forgetfulness may also be due to fatigue. Dulness in response may be due to partial deafness. Laziness in mental work is in some cases remedied by active drill and manual occupations.

Methods of Training.

I do not here deal with these faults in detail, but pass on to methods in training useful in the treatment of such conditions from which selection may be made suitable to the individual case, while all must be perseveringly employed for the defective child. When we have a well-made brain partially out of working order, the special training may soon effect good results and be replaced by ordinary educational teaching; but in cases of congenital defect the special training must be carried on daily till better aptitude is built up in the brain, while the whole day is occupied under control. Defective children who have previously been left unoccupied or "at play" without any systematic endeavour to control their brain power by a healthy mind are almost always improved by establishing organised methods of dealing with them, however feeble their powers may be at first. Systematic training of the defective child may commence by gradually accustoming him to the erect position of the head, which is favourable for movements of the tongue, lessens dribbling, enables him to see around, and gets him ready for articulation. Vocalisation in any degree should be encouraged. The child should be trained to move his eyes; get his eyes to follow without head movement an object held by the teacher, or a lighted match moved vertically and horizontally slowly and equally. This is followed after practice by seeing accurately what is shown in observing teacher's mouth when teaching speech and in imitating her movements; it is the first training in "attention," and will be used later in counting at sight. Exercises in imitation of movements seen should be practised daily, they afford the best method of producing temporary brain coördination when words are not understood. The child will at first probably only repeat the teacher's movements of the arm at the shoulder and elbow; when more advanced, movements of individual digits, one at a time, may be imitated with increasing accuracy, and still later in combinations of two or three fingers at a time. A straight balance of the hand, with all digits in the same plane, should be taught to children more advanced. In these exercises of coördination the pupil sees the teacher's movements, and the nerve centres in his brain, which correspond respectively to those in action in the teacher, are stimulated to activity in the same order and relations in time, thus giving us the power of coördinating his brain as may be desirable. Such training is very useful in overcoming neuroses, and lessening the uncontrolled spreading extra-movements which often accompany stammering. The movements of fingers used in writing, in catching a ball, or using a spoon, as well as pronation and supination, can thus be taught.

Exercises to Produce Muscular Tension.

When any action under control can be obtained means should be taken to produce muscular tension as well as movement; any controlled action produces some brain coördination, but when the action overcomes a resistance the muscular tension resulting not only promotes muscular growth, but also, I believe, sends a useful stimulus from the muscle to the brain, tending to increase its healthy growth. The muscles of the legs are usually better developed in normal children than those of the arms, owing to the tension thrown upon them by the weight of the body; defective children are usually subnormal in weight, so that less muscular work is necessarily spent in walking; they often take long walks without much muscular work done or fatigue. If the child carries weights in his hands, or a satchel on his back with, say, 3 lb. in it, more muscular work is done in walking a mile; weights of 1–3 lb. may be carried round the room, and heavy bricks or logs substituted for toys in the nursery. Children are often lazy, real work does them good, it helps to improve digestion, removes constipation, and prepares the pupil for the gymnasium and manual work. When an exercise is fairly well performed it should be practised with a resistance to the movement to produce muscular tension. Thus, when movements of the head are made to command, the same effort to action while the teacher holds the head with her hands brings the muscles into strong play; exercises for the muscles of the jaw and those of the hands I described recently. Accustoming the child to look at near and at distant objects improves the muscular apparatus of accommodation, with development of the sense of distance. The sense of muscular tension is very useful in producing mental aptitude in making comparisons, appreciation of the use of numbers, and subsequently the value of coins by their relative weights, also an understanding of arithmetical addition and subtraction with other employments of figures. Thus, before the pupil has ability to count or express what he feels he may be trained by muscle sense; let him hold in his hand weights of ½ oz., 1 oz., 1½ oz., 2 oz. in succession and feel the weight without the size; after practice he may be able to express the numbers corresponding to each weight he has felt in increasing series and understand the relations of numbers.

Training in these and other motor exercises after some months of daily practice leads to a great increase of mental ability and controllability in a defective child, with better sleep and health. The increasing mental aptitude should be used in making comparisons and expressing them while trying to educate the pupil in observation. In many other ways which there is not space for me to describe here we can make sensory impressions without words to be called into reactivity later and used in making observations and inference as experience is gained stage by stage. Verbal control, the use of words, and some understanding are usually evolved sooner than self-helpfulness. Well-planned educational training on the lines indicated thus briefly does much to evolve mental faculty in the brain and remove mental faults.

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MEDICINE AND THE LAW.

The Court of Criminal Appeal and Verdicts of Insanity.

AN important judgment was delivered recently in the House of Lords by Lord Reading upon the question whether a person tried upon indictment for a crime and found by a jury to be "Guilty but insane" can appeal against that verdict to the Court of Criminal Appeal. In the case before their lordships a man named Felstead had been indicted for feloniously and maliciously wounding his wife, and had been found guilty but insane when he committed the act proved to have been done by him. He had been ordered in the ordinary way to be detained during His Majesty's pleasure, and presumably he appealed because, being able to appreciate his position, he would have preferred a fixed sentence of imprisonment to detention for an indefinite period in a criminal lunatic asylum. The Court of Criminal Appeal held that it had no jurisdiction to entertain the appeal, because the Criminal Appeal Act, 1907, only entitles it to hear appeals from persons "convicted on indictment," and because it considered that a person had not been so convicted against whom the special verdict of "Guilty but insane," under the Trial of Lunatics Act, 1883, had been recorded. The House of Lords agreed with this decision, Lord Reading tracing in an exhaustive judgment the history of the law with regard to the trial of insane persons. The law, to put it briefly, has developed on the following lines: In earliest times a prisoner found to have been insane when he did an otherwise criminal act was not acquitted, but was the subject of a special verdict giving him the right to pardon. At a later period, in similar circumstances, he could either be found not guilty or could receive judgment of the court acquitting him after a verdict had been returned that he was *non compos mentis*. As this procedure might involve the release of a dangerous lunatic, an Act was passed in 1800 "for the safe custody of insane persons charged with offences," so that the special finding of the jury at that time amounted clearly to an "acquittal on account of insanity," while the new Act empowered the court to order the accused to be detained in safe custody. Later still, in 1883, the Act now in force was passed, which does not otherwise change the law, but orders that a jury, if satisfied that the person did the act but was insane when he did it, must find a verdict to that effect. Lord Reading, in addition to tracing the law directly affecting the insane, further referred to the necessity for finding "malice" and a "felonious" wounding as essential to "conviction" in the case before the House, and came to the conclusion—which, it will be seen, was a logical one and strictly consistent with the historical development of the law—that the special verdict referred to is not a conviction upon indictment, and consequently is not one which the Court of Criminal Appeal can review. The question of the treatment of insanity by the law is a difficult one, and one which has led to considerable argument and difference of opinion upon various occasions. It is evident, moreover, that its present condition is not altogether satisfactory, as in the case referred to above, if the Court of Appeal had held that it had jurisdiction, and further that the verdict of the jury was wrong as to the insanity of the accused, there would have been no verdict against him upon which he could be punished.

Two Decisions under the Workmen's Compensation Act.

Two recent decisions under the Workmen's Compensation Act may be briefly referred to, not so much on account of any medical interest attaching to them, as on account of their showing the wide scope of the Act and the manner in which responsibility attaches to employers where death in and arising out of employment takes place. In the first case the application was on behalf of Thomas Lloyd, a posthumous illegitimate child alleged by the mother to be the son of Whittall, a workman killed by an accident. The mother further stated that Whittall had promised to marry her when she told him she was pregnant. It was held by the House of Lords, reversing the decision of the Court of Appeal, that her evidence as to what the father said was admissible to prove the child a dependent. The case may be noted as one of a class in which a statement made to a medical man attending a person dying of accidental injuries might become of importance in establishing the claim of a survivor. The second case was that of John Kelly, the young Irish schoolmaster who some little time ago was beaten to death by a number of lads in an industrial school at Trim. The mother of the deceased claimed compensation as a dependent, and the Meath county court judge held that the occurrence was an accident arising out of and in the course of the employment of the deceased within the meaning of the Act. It was contended on the other side that the result of a crime deliberately perpetrated by others could not be an accident. The Court of Appeal in Ireland was of opinion that the county court judge was right, and the House of Lords has now upheld this decision, but by a majority of one only, Lord Dunedin being strongly of the other opinion and having the support of Lord Atkinson and Lord Parkes. The Lord Chancellor, Lord Loreburn, Lord Shaw, and Lord Reading held that the appeal should be dismissed. The importance of the case to those serving in employments in which they may be exposed to personal violence is obvious.

PUBLIC HEALTH OF LONDON IN 1912.

BY resolution of the London County Council, which took effect at the beginning of 1912, the duties of medical officer of health were combined with those of education medical officer, the Council having decided that the whole of the school medical work, including the inspection and treatment of children, should be placed under the direction of the county medical officer of health. Accordingly, the complete reorganisation of the central health department has been decided upon, a large number of administrative changes, to which reference will presently be made, having been already accomplished. We have received Vol. III. of the Council's recently issued annual report, which contains the report of the county medical officer of health and school medical officer for the year 1912.[1] Although the section on vital statistics in the annual report for 1911 had been contributed by Dr. W. H. Hamer, the present is his first complete report as county medical officer of health and education.

Having carefully read this volume we regard it as a valuable extension of the series of reports for which State medicine is indebted to Dr. Hamer's eminent predecessor, Sir Shirley F. Murphy. As the work abounds with matter of supreme importance to all who are interested in sanitary progress, and especially to students of preventive medicine, we regret that limitations of space prevent the inclusion, in the present review, of more than a bare outline of its contents. But we trust that as the volume has been placed on sale at a remarkably low price, its perusal by the majority of our readers will be ensured.

The subject matter of the report is arranged thus: Part I. deals with vital statistics and sanitary administration, and Part II. is devoted to elementary education in its medical aspects.

PART I.—(A) VITAL STATISTICS.

The recent movement of the London population is remarkable, inasmuch as, for the first time on record, it has experienced a decrease in the course of the last intercensal period. During the 100 years ending with 1901 there had been, in round numbers, a growth from 959,000 to 4½ millions, although since 1881 the rate of increase has declined from 17·4 to 7·3 per cent. Concurrently with a decline of 0·3 per cent. in the population of the London County since 1901 the "outer ring" has shown an increase amounting to 33·5 per cent., the rate of increase in the whole of England and Wales having averaged 10·9 per cent.

Still Falling Birth-rate.

The steady decline in the London birth-rate recorded in previous reports has continued, and the rate for 1912 (24·5 per 1000) is the lowest recorded in London since the institution of civil registration. The causes of this continuous fall in the birth-rate have long been, and still are, the subject of serious controversy. In the present report Dr. Hamer discusses the question at considerable length, but the grounds on which his conclusions rest do not readily admit of summary. It must suffice to quote his provisional opinion that "there is much to be said in favour of the view that the fall is in the main a natural one, and represents the adjustment brought about by the ordinary laws which affect movement and growth of populations." In comparing the birth-rate of the metropolis with that of other great English towns Dr.

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[1] Published by P. S. King and Sons. Folio pp. 235 + lxxiv. Price 2s. 6d.

Hamer remarks that "the London figures alone are fully corrected by the exclusion of births within the county to mothers not usually resident in London." He ventures the opinion that if the births in other towns were similarly corrected considerable modifications of the published birth-rates might result. The decrease in birth-rate prevailing in London is shared by all the foreign capitals; indeed, the London birth-rate compares not unfavourably with that of the largest among them. But inasmuch as there exists much difference in practice as to the allocation and registration of births in foreign towns, the rates locally recorded must be regarded as only approximately comparable.

London-Life-table 1901–10.

For the purpose of comparing the health conditions of different communities the use of uncorrected or crude death-rates is generally condemned as fallacious by modern sanitarians, who recognise in the life-table method a trustworthy expedient for eliminating errors due to differences in the age constitution of the populations compared. The first extended life-table for London was published by Sir Shirley Murphy in his report for the year 1901, and was based on the mortality experience of 1891–1900. The present life-table is the second of the series, and its value is enhanced by the fact that the methods of construction of both tables being the same their results are strictly comparable. This table, which is illustrated with appropriate diagrams, may usefully be preserved as exemplifying a simple but effective method of construction, the details of which were fully described in the report above referred to. Compared with its predecessors, the present life-table indicates that the expectation of life has increased, in the case of males by 5·76 years, and in the case of females by 6·08 years. From data in the text it would appear that in recent years changes, greater than any that can be accounted for by causes ordinarily assigned, have taken place in the constitution of the London population. These changes are believed to be due mainly to the marked outward movement of the inhabitants over the county boundary, and, as far as the earlier ages are concerned, to the diminution in the birth-rate since the "eighties."

London Mortality in 1912.

In the year under review both the death-rate from all causes (13·6 per 1000 living) and the infantile mortality (91 per 1000 births) were the lowest hitherto recorded. In the annual report for 1901 the life-table method was indicated as the best known means of estimating the effect on a community of fluctuations in mortality. In order to apply this method the mean future lifetime of males and females at definite age-groups must first be obtained from a life-table. This has been done in the present instance, and in an instructive table the number of deaths occurring in the year 1912 is compared with the number that would have occurred had the death-rate prevailing in the previous decennium been maintained throughout that year. The number of lives gained in the latter period is also shown, and the figures given express this gain in terms of "life capital"—this being obtained by applying the mean future lifetime figures to the number of lives gained at each age-group. From this table it appears that during the year 1912, as compared with the decennium 1901–10, there has been a saving of not fewer than 10,065 lives, representing a gain to the community of 487,455 years of "life capital."

Infantile Mortality.

The profound and growing interest now concentrated on the subject of infant life protection is due to a general recognition of the teaching of vital statistics that much of the prevailing waste of infant life is preventable. For the last seven years medical officers of health have been required to furnish to the Local Government Board returns of mortality in successive weeks and months of the first year after birth. In London effective use is made of these returns. An instructive table appears in the present report showing the effect of social conditions on infant mortality as it obtains in five groups of London districts. The figures for 1905–11 show that in each successive trimester of the first year of life the difference of mortality in the several district groups becomes more pronounced. If, for example, the mortality at ages 9 to 12 months in the districts of "highest social condition" be taken as 100, the rate in the lowest social districts will be represented by 235.

Mortality from Specified Causes.

From the section on epidemic diseases it appears that the mortality from small-pox, measles, whooping-cough, and scarlet fever was below the quinquennial average. The incidence of the notifiable infectious diseases also showed considerable abatement. The question of enteric fever causation has always received much attention in these reports. In the year under notice no mention of exceptional prevalence of this disease has appeared in any of the district reports. In the county of London only 704 cases were notified during the year, or 318 fewer than in the preceding year. As illustrating the difficulty of diagnosis frequently experienced, it is important to notice that "the cases certified to be enteric fever and admitted to the hospitals of the Metropolitan Asylums Board, but in which the diagnosis was not subsequently confirmed, constituted 40·8 per cent. of the total cases admitted during 1912." Dr. Hamer discusses at considerable length an important report on enteric fever in South-West Germany, which appeared in 1912, and in which are given the results of a campaign against the disease undertaken by Koch. Reference is made to recent experience of the disease in South-West Germany as contrasted with that in London and in Belfast.

Pulmonary Tuberculosis—Phthisis.

From a diagram giving the death-rates from phthisis since 1851 we learn that in London there has been a marked decline in the mortality of both sexes; that its greatest incidence is upon males; and that until recent years the decline had been more manifest in females than in males. From the beginning of 1912 a complete system of notification of pulmonary tuberculosis has been in force; but the results for that year cannot be considered representative, inasmuch as many old cases were then notified for the first time. A uniform system of tabulating the notified cases is urgently needed, and in the event of its accomplishment many data of social and economic importance would in a few years be available for the guidance of sanitary authorities. From an instructive table the close relationship existing between "social condition" and phthisis mortality is conspicuous. It will there be seen that in the lowest social groups the loss of life from phthisis is more than twice that in the highest social group.

(B)—SANITARY ADMINISTRATION.

Midwives Act, 1902.

The supervision of midwives in London is entrusted by the Council to two medical inspectors, Miss E. Macrory, M.B., and Miss M. A. Pilliet, M.B. The number of midwives on the Council roll is 4985, of whom only 558 have given notice of their intention to practise. About 30,000 labours annually are attended by London midwives. In addition to routine inspection, the medical inspector pays special visits to a midwife whenever a case of septic nature or persistent high temperature occurs in her practice. In 1912 the inspectors paid 1570 such visits to midwives or institutions employing midwives, respecting 1121 of which the reports were satisfactory. About 3000 confinements occur annually in Poor-law infirmaries, most of which are conducted by midwives. Over 5000 cases are taken annually to the maternity hospitals, and some 18,000 or 20,000 women are delivered in their own homes by midwives working for maternity hospitals. Of the total births in London it is estimated that 25 per cent. are attended by midwives, excluding the cases attended in infirmaries. The rules of the Central Midwives Board provide that in certain cases a midwife must decline to attend alone, and must advise that medical aid be obtained. During the year this rule was obeyed in 3603 instances, as compared with 1113 instances in the year 1905. Assuming that 30,000 confinements were attended by midwives in 1912, it appears that medical assistance was required in 12 per cent. of the cases—viz., in 7·8 per cent. on account of the mother, and 4·2 per cent. on account of the child. During the same year 380 cases of puerperal fever were notified, of which 124, or 33 per cent., terminated fatally. It is the duty of a midwife to advise medical help whenever inflammation of the eyes occurs in an infant. Thereupon a medical inspector visits the child to ascertain whether the child has received medical aid either at home or in a hospital. In 1912 the Council's inspectors visited the 383 children reported as requiring medical attention. 298 of these were reported cured; in 4 cases there was impairment of vision; the remaining children either died during treatment or were lost sight of.

Food Inspection.

The milk-supply of London continues to receive careful supervision by the Council's officers. The registers of cowhouses, dairies, and milkshops are frequently revised, and the sanitary condition of these places is kept under observation. The cows in the London cowsheds are periodically examined by the veterinary inspector with a view of detecting animals affected with tuberculosis. In the course of the year six inspections of all the cows in the London cowsheds were made, with the result that 22 cows were slaughtered because of the existence of tuberculosis of the udder. The carcasses were destroyed and statutory compensation was paid to the owners. Under Part 4 of their General Powers Act the Council is authorised to deal with tuberculous milk. Under these powers the inspectors take samples from churns of milk consigned from the country to the London railway termini, and these are submitted for examination to the Lister Institute. Whenever the examination proves the existence of tubercle bacilli in the milk a clinical examination of the cows at the dairy farm concerned is made by a veterinary inspector, and cows found to have tuberculous udders are certified to be dealt with under the Dairy and Cowsheds Order. During the year 2991 samples of milk were examined, of which 8·4 per cent. were returned as tuberculous, the proportion thus returned in the preceding year having been 10·4 per cent.

Cleansing of Persons Act.

Particular attention has been paid during the year to the administration of the Cleansing of Persons Act of 1897, and of the powers conferred by the cleansing sections of the General Powers Acts. Associated with this work is the inquiry into the seasonal prevalence of flies and of particular kinds of vermin, and the comparison of this prevalence with the incidence of certain contagious diseases. This subject was dealt with in detail in the report for 1909, and was again referred to in the report for 1911, when a diagram was inserted showing the relationship between prevalence of flies and diarrhœa mortality.

(*To be concluded.*)

MARCH AT HOME AND ABROAD.

At Home.

MARCH, which in this country is generally among the very driest periods of the year, proved a striking exception to the rule. Very few days (or nights) passed without more or less rain, and the sunshine was much below average. The wind nearly always came from some mild point of the compass, usually from south-west or west, with the result that frost was seldom experienced, and the temperature was generally high for the time of year. The first fortnight was, however, considerably milder than the last, and the mean temperature for the whole month worked out at between 1° and 3° above the average. At the Kew Observatory, which may be taken to represent the metropolitan area and the Home Counties, the mean maximum temperature of the afternoons was a trifle below 50°, or 1° above the normal, while the mean minimum of the nights was 37½°, also 1° above the normal. Exceptionally warm days for March were rare; on the 12th the thermometer touched 57°, but failed to rise so high again until the 31st, when it reached the genial figure of 63°. Very low maxima were equally rare; on the 9th there was no higher reading than 43°, and on the 20th the maximum was 39°, but on all the other days the figure ranged above 45°. Frost in the air occurred on only seven nights, although ground frost was naturally much more frequent. A normal March gives 13 days with rain, yielding a total of 1·59 in., but last month the number of rainy days was 27 and the aggregate fell 3·33 in. The rain was, nevertheless, seldom heavy, and the greatest amount within 24 hours was 0·[illegible] in., on the [illegible]. As many as nine days were entirely sunless, and several others afforded but an [illegible] glimpse, with the result that the total duration for the month was no more than 53 hours, against an average of [illegible] hours. [illegible] the Midlands and Western England it differed little from London in the temperature. Nottingham was [illegible] colder both during the day and night, and Bath a little warmer. Both places had rain on 23 days, the respective falls being 2·12 in. at Nottingham, 0·52 in. more than the average, and as much as 4·01 in. at Bath, an amount exceeding the normal by 2·49 in. At Buxton the mean maximum temperature was 44° and the mean minimum 34°, while the rainfall reached 5·80 in. divided between 28 days. Of the three inland places Bath was the most sunny, getting 92 hours, against 67 hours at Nottingham and 71 hours at Buxton. All the figures were much below the normal, that at Nottingham showing a deficit as great as 49 hours, or more than one and a half hours per day. The south coast, as represented by Brighton, was between 2° and 3° warmer than London both before and after sunrise, while Newquay, in the extreme south-west, was a little warmer than Brighton. Both resorts were rainy. At Brighton rain fell on 23 days and yielded a total of 4·57 in., an excess on the normal of 2·85 in.; and Newquay, with rain on 26 days, had an aggregate of 5·12 in., or 2·78 in. more than the average. Newquay was the brighter spot, recording 117 hours of sunshine, less than half an hour per day below the March normal; at Brighton the total amounted to only 104 hours, being nearly 30 hours less than the average. At Torquay the sun's record was 11 hours higher than at Newquay.

Abroad.

The western and central countries of the continent shared in the dull, wet weather, although their rain was not so frequent as in some parts of England. At Paris 21 days gave more or less rain, and the whole 31 days could give no more than 83 hours of sunshine, only five hours more than at Kew. As a rule, the rain was slight and the aggregate was no higher than 2·36 in. As is nearly always the case in March, Paris was warmer than London, its temperature being between 3° and 4° higher. Really warm days were very few. Almost all the maximum readings were some way below 60° until the 30th, when the thermometer rose to 62°, followed by 69° on the 31st. Brussels had more rain than London, the total, falling on 26 days, amounting to 4·47 in., while the mean temperature was practically the same as at Kew, both during the day and night. At Berlin the temperature was about equal to that in the English midlands, although frost was more rare. From the 4th to the 17th rain fell almost daily and altogether 21 days were rainy, giving a total of 3·03 in. On the Riviera a few days were very wet, but most of the month proved fine and bright, and on many days the temperature rose to 60° and above. At Nice the mean maximum was as high as 58°. The mean minimum, however, was a little lower than at Jersey and the Scilly Isles, the figure being 42°. At Biarritz the weather was very wet and often very rough, gales from the westward occurring frequently. On as many as 23 days a measurable quantity of rain was experienced, and the aggregate was as large as 6·76 in. Day after day was either very cloudy or entirely overcast, but with the wind from the south-west or west the temperature was never low, and the mean for the month was about the same as at Nice. As at Paris and in this country a great rise of temperature occurred at the end of the month, the 31st bringing a maximum as high as 77°. Over the greater part of Italy the weather was warmer than on the Riviera, although rain was more common. Some sharp falls were general early in the month, and after the 15th very few days were dry. At Rome rain fell on 13 days, with a total of 2·77 in. The mean maximum temperature was fairly high, exceeding that at Nice by 3°, and a similar difference was shown by the minimum thermometer. Down at Madeira the month was almost continuously fine. Only three days brought rain, while the temperature, very equable, had a mean of 64° during the afternoon and 54° at night. The highest reading recorded was 70° on the 16th, and the lowest 55° on the 5th and 9th.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns 9011 births and 5550 deaths were registered during the week ended Saturday, April 4th. The annual rate of mortality in these towns, which had been 15·4, 15·2, and 15·5 per 1000 in the three preceding weeks, declined to 15·2 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these towns averaged 15·4, against 16·1 per 1000 in London during the same period. Among the several towns the death-rate last week ranged from 7·7 in Enfield, 8·1 in Ealing, 8·4 in Eastbourne, and 8·7 in Wimbledon and in Dewsbury, to 22·7 in Great Yarmouth and in Swansea, 23·3 in St. Helens, 23·9 in Plymouth, 27·6 in Rochdale, and 28·1 in Dudley.

The 5630 deaths from all causes were 111 fewer than the number in the previous week, and included 484 which were referred to the principal epidemic diseases, against numbers steadily increasing from 397 to 488 in the six preceding weeks. Of these 484 deaths, 172 resulted from whooping-cough, 137 from measles, 77 from infantile diarrhœal diseases, 51 from diphtheria, 35 from scarlet fever, and 12 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·4, against 1·3 and 1·4 per 1000 in the two preceding weeks. The deaths attributed to whooping-cough, which had steadily increased from 110 to 162 in the six preceding weeks, further rose to 172, and caused the highest annual death-rates of 1·6 in West Ham and in Middlesbrough, 1·7 in Exeter and in Rochdale, 1·8 in Great Yarmouth and in Darlington, and 2·0 in Dudley. The deaths referred to measles, which had been 113, 107, and 140 in the three preceding weeks, fell to 137; the highest death-rates from this disease were 1·6 in Rhondda, 1·7 in Sheffield, 1·8 in Leicester and in Stockton-on-Tees, 1·9 in West Ham, 2·0 in Dudley and in Nottingham, and 2·2 in Rochdale. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 74, 73, and 65 in the three preceding weeks, rose to 77, and included 16 in London, 8 in Liverpool, 7 in Birmingham, 6 in Manchester, 3 in Burnley, and 3 in Merthyr Tydfil. The deaths attributed to diphtheria, which had been 67, 51, and 73 in the three preceding weeks, declined to 51, of which 19 occurred in London and its suburban districts, 6 in Birmingham, 3 in Leeds, and 3 in Sheffield. The deaths referred to scarlet fever, which had been 31, 37, and 33 in the three preceding weeks, were 35, and included 8 in Birmingham, 7 in London, 3 in Manchester, and 2 each in Walthamstow, Sheffield, and Newcastle-on-Tyne. The fatal cases of enteric fever, which had been 13, 21, and 15 in the three preceding weeks, further declined to 12, of which 3 were recorded in London.

The number of scarlet fever patients in the London Fever and the Metropolitan Asylums Hospitals, which had steadily decreased from 3599 to 3143 in the nine preceding weeks, rose to 3183 in the week under notice; 400 new cases were admitted during the week, against 320, 319, and 347 in the three preceding weeks. These hospitals also contained on Saturday, April 4th, 1316 cases of diphtheria, 357 of whooping-cough, 134 of measles, and 67 of enteric fever, but not one of small-pox. The 1344 deaths from all causes in London were 89 fewer than the number in the previous week, and were equal to an annual death-rate of 15·5 per 1000. The deaths referred to diseases of the respiratory system, which had been 223, 250, and 291 in the three preceding weeks, declined to 280, and were 98 below the number recorded in the corresponding week of last year.

Of the 5630 deaths from all causes in the 97 towns, 191 were attributed to different forms of violence, and 460 were the subject of coroners' inquests. The causes of 51, or 0·9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and in its 14 suburban districts, in Sheffield, Leeds, Bristol, Bradford, Hull, and in 50 other smaller towns. Of the 51 uncertified causes of death, 9 were registered in Birmingham, 7 in Liverpool, 3 each in Preston, Gateshead, and Tynemouth, and 2 each in Portsmouth, Dudley, Warrington, and Darlington.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns 1240 births and 819 deaths were registered during the week ended Saturday, April 4th. The annual rate of mortality in these towns, which had been 17·9, 16·6, and 16·5 per 1000 in the three preceding weeks, rose to 18·6 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these Scotch towns averaged 18·2, against 16·4 per 1000 in the 97 large English towns. Among the several towns the death-rate in the week under review ranged from 7·6 in Kirkcaldy, 8·2 in Clydebank, and 13·8 in Perth and in Motherwell, to 20·9 in Aberdeen, 23·5 in Kilmarnock, and 25·4 in Greenock.

The 819 deaths from all causes were 93 in excess of the number in the previous week, and included 81 which were referred to the principal epidemic diseases, against 66 and 78 in the two preceding weeks. Of these 81 deaths, 37 resulted from measles, 15 from whooping-cough, 14 from infantile diarrhœal diseases, 9 from diphtheria, 4 from scarlet fever, and 2 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·8, against 1·4 per 1000 in the 97 large English towns. The deaths attributed to measles, which had been 34, 38, and 34 in the three preceding weeks, rose to 37, of which 21 occurred in Glasgow, 5 in Edinburgh, 3 in Ayr, and 2 each in Paisley, Coatbridge, and Motherwell. The deaths referred to whooping-cough, which had been 8, 10, and 11 in the three preceding weeks, further rose to 15, and included 8 in Glasgow and 4 in Coatbridge. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 10, 5, and 14 in the three preceding weeks, were again 14 in the week under notice; of this number 5 occurred in Dundee, 3 in Glasgow, and 3 in Aberdeen. The deaths attributed to diphtheria, which had been 14, 6, and 9 in the three preceding weeks, were again 9, of which 3 were recorded in Glasgow. The 4 deaths referred to scarlet fever, which were all registered in Glasgow, were 5 below the average in the earlier weeks of the quarter. The 2 fatal cases of enteric fever and also 1 of typhus occurred in Glasgow.

The deaths referred to diseases of the respiratory system, which had been 137, 117, and 111 in the three preceding weeks, rose to 166 in the week under notice; 33 deaths resulted from various forms of violence, against 22 and 31 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland 747 births and 502 deaths were registered during the week ended Saturday, April 4th. The annual rate of mortality in these towns, which had increased from 19·2 to 22·8 per 1000 in the four preceding weeks, fell to 21·7 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these towns averaged 21·5 per 1000; in the 97 large English towns the corresponding rate did not exceed 16·4, while in the 16 Scotch towns it was equal to 18·2 per 1000. The annual death-rate for the week under review was equal to 26·1 in Dublin (against 15·5 in London and 19·0 in Glasgow), 17·8 in Belfast, 21·1 in Cork, 14·0 in Londonderry, 17·6 in Limerick, and 35·1 in Waterford, while in the 21 smaller towns the mean death-rate was equal to 21·4 per 1000.

The 502 deaths from all causes were 24 fewer than the number in the previous week, and included 48 which were referred to the principal epidemic diseases, against numbers increasing from 33 to 67 in the four preceding weeks. Of these 48 deaths, 26 resulted from measles, 10 from whooping-cough, 6 from infantile diarrhœal diseases, 3 from scarlet fever, and 3 from diphtheria, but not one from enteric fever or from small-pox. The mean annual death-rate from these diseases was equal to 2·1 per 1000, against corresponding rates of 1·4 and 1·8 per 1000 in the English and Scotch towns respectively. The deaths attributed to measles, which had increased from 4 to 34 in the four preceding weeks, declined to 26, of which 22 occurred in Dublin. The deaths referred to whooping-cough, which had been 4, 11, and 12 in the three preceding weeks, fell to 10, and comprised 3 in Dublin, 3 in Belfast, 3 in Cork, and 1 in Tralee. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 14, 9, and 8 in the three preceding weeks, further declined to 6, but showed no excess in any of the towns. The 3 deaths attributed to scarlet fever, of which 2 occurred in Belfast, were 4 below the average in the earlier weeks of the quarter. Of the 3 deaths referred to diphtheria, which coincided with the average in the earlier weeks, 2 were registered in Belfast and 1 in Cork.

The deaths referred to diseases of the respiratory system, which had increased from 97 to 113 in the four preceding weeks, further rose to 118 in the week under notice. Of the 502 deaths from all causes, 158, or 31 per cent., occurred in public institutions and 8 resulted from various forms of violence. The causes of 23, or 4·6 per cent., of the total deaths were not certified either by a registered medical practititioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes of death did not exceed 0·9 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet-Surgeon: H. S. Hall to the *Challenger* and for group of Third Fleet ships. Staff-Surgeons: J. Bourlas to the *Triumph*, additional for Hong-Kong Hospital; J. E. Johnston to the *Adamant*; and D. D. Turner to be lent to the *Hearty*, temporary.

ROYAL NAVAL VOLUNTEER RESERVE.

The undermentioned has been appointed a Surgeon: Armin Gascoigne Vavasour Elder (dated April 8th, 1914).

ROYAL ARMY MEDICAL CORPS.

Surgeon-General W. Babtie, V.C., C.B., C.M.G., has been appointed Director of Medical Services to His Majesty's Forces in India, vice Surgeon-General Sir A. T. Sloggett, C.B., C.M.G., transferred to the Home Establishment.

Colonel W. W. Pike, D.S.O., has been selected for appointment as Assistant Director of Medical Services to the

Abbottabad and Sialkot Brigade, vice Colonel R. Kirkpatrick, C.M.G. Colonel W. M. Russell has taken up duty on the Headquarters Staff at Malta as Deputy Director of Medical Services.

Lieutenant-Colonel J. C. Connor has been selected for appointment as Deputy Assistant Director of Medical Services to the Irish Command Headquarter Staff. Lieutenant-Colonel B. H. Scott has been appointed for duty in the London recruiting area. Lieutenant-Colonel G. W. Tate has been appointed Senior Medical Officer to the Military Hospital at Bermuda. Lieutenant-Colonel N. Faichnie has arrived home for duty from India. Lieutenant-Colonel R. H. Penton has been appointed in charge of the Military Hospital at Ranikhet Cantonment.

Major J. H. Barbour has arrived home from India. Major E. V. Aylen has been transferred from the Military Hospital at Gharial to Rawal Pindi Cantonment. Major E. W. Slayter has been appointed to hold charge of the Military Hospital at Cahir. Major R. L. Popham and Major E. S. Clark have embarked for India. Major J. E. R. Bond has taken over charge of the Military Hospital at Naini Tal. Major R. Tilbury Brown has joined at Darjeeling. Major J. T. Johnson has been appointed Deputy Assistant Director of Medical Services, Sanitary Branch, to the Eighth (Lucknow) Division. Major G. S. Crawford has been appointed to officiate as Medical Inspector of Recruits to the Irish Command Headquarters Staff. Major G. J. S. Archer has been transferred from Cosham to Dorchester. Major D. Harvey has been appointed for duty to the Royal Army Medical College, Grosvenor-road, S.W. Major A. A. Seeds has been transferred from the Military Hospital at Campbellpore to Rawal Pindi Cantonment. Major H. N. Dunn has been selected for advancement to the rank of Lieutenant-Colonel. Major H. K. Palmer has arrived home from Aden. Major W. A. S. J. Graham has been appointed Senior Medical Officer at the Military Hospital, Neemuch Cantonment. Major C. J. O'Gorman has been appointed Civil Surgeon in the Barrackpore District, vice Lieutenant-Colonel F. C. Morgan. Major W. G. Beyts has been appointed to hold charge of the Military Hospital at Roorkee Cantonment. Major M. M. Lowsley has been appointed Specialist in Midwifery and Diseases of Women and Children to the Third (Lahore) Division. Major W. W. Browne has been appointed Specialist in the Prevention of Disease to the Ahmednagar Brigade and placed in charge of the Bacteriological Research Laboratory at Headquarters. Major H. W. Grattan has been appointed Honorary Surgeon to H.E. the Viceroy and Governor-General of the East Indies.

Captain G. Ormrod has embarked for the Sierra Leone Protectorate. Captain A. Irvine-Fortescue has taken up special duty in Japan. Captain D. deC. O'Grady has been appointed to the Eastern Command. Captain C. Ryles has arrived home from India. Captain R. J. Franklin has been appointed to Solon Cantonment. Captain T. C. C. Leslie has embarked for India. Captain F. W. W. Dawson has been appointed Specialist in the Prevention of Disease to the Jullundur Brigade and placed in charge of the Bacteriological Research Laboratory at Headquarters. Captain D. G. Carmichael has been appointed to hold charge of the Military Hospital at Khanspur. Captain E. B. Lathbury has arrived home from Bareilly Cantonment. Captain K. A. C. Doig has been appointed to the staff of the Military Hospital at Meerut Cantonment. Captain A. C. Amy has taken up duty at Manchester. Captain J. H. Duguid has been appointed Specialist in Otology to the Ninth (Secunderabad) Division. Captain C. E. W. S. Fawcett has embarked for India. Captain C. B. Millar has been appointed to hold medical charge at Fort Camden, Queenstown. Captain E. C. Whitehead has taken up duty at Dinapore Cantonment. Captain C. W. Bowle has arrived home from Jubbulpore Cantonment. Captain A. M. Pennefather has been appointed to hold charge of the Military Hospital at Newport. Captain G. F. Rugg has been appointed Specialist in Advanced Operative Surgery to the First (Peshawar) Division. Captain W. K. Rennie has arrived home from Malta. Captain T. W. Browne has been transferred from Tipperary to the Military Hospital at Buttevant. Captain A. C. Elliott has been appointed to hold medical charge at Landguard Fort. Captain R. D. O'Connor has arrived home for duty from Multan Cantonment. Captain H. H. Leeson has been transferred from the Military Hospital at Alexandria to Cairo.

INDIAN MEDICAL SERVICE.

Surgeon-General Sir C. Pardey Lukis, K.C.S.I., has been appointed an Additional Member of the Legislative Council of the Governor-General of India.

[illegible] and Lieutenant-Colonel H. F. Cleveland [illegible] Honorary Surgeon to the Viceroy. Lieutenant-Colonel E. C. MacLeod has been appointed [illegible] of the Tezpur Jail. Lieutenant-Colonel A. H. Nott has been granted furlough for two years. Lieutenant-Colonel W. R. Edwards, C.M.G., has taken up duty as Chief Medical Officer to the North-West Frontier Province.

Major J. M. Woolley has been appointed for special duty under the Government of Bengal. Major R. F. Baird has been appointed to hold charge of the Lunatic Asylum at Benares. Major H. Kirkpatrick has taken up duty as Professor of Pathology at the Government Medical College, Madras.

Captain R. A. Needham has been appointed for special duty under the orders of the Director-General. The services of Captain F. B. Shettle have been placed at the disposal of the Government of Bombay. Captain J. Woods has been appointed Substantive Medical Officer to the 53rd Regiment of Sikhs. Captain R. D. Willcocks has been appointed to the Civil Medical Department of Madras Presidency. Captain H. Coddington Brown has taken up duty at the Central Research Institute, Kasauli Cantonment, on transfer from the 47th Regiment. Captain T. W. Harley has been appointed Professor of Biology at the Government Medical College, Madras, and Surgeon to the General Hospital. Captain C. G. Seymour has been appointed Specialist in the Prevention of Disease. Captain J. McC. Anderson has joined at Hoshangabad. Captain J. W. McCoy has been appointed Civil Surgeon at Cachar, Assam. Captain T. G. F. Paterson has taken up duty at Surat as Officiating Civil Surgeon. Captain G. F. I. Harkness has been appointed Officiating Resident Surgeon at St. George's Hospital Bombay. Captain C. A. Gill has been appointed to officiate in the Civil Medical Department in the Punjab. Captain A. D. Stewart has been appointed to officiate in medical charge of the Gurkha Recruiting Depôt at Gorakhpore. Captain W. D. H. Stevenson has taken up duty as Assistant to the Director of the Bombay Bacteriological Laboratory.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Lieutenant George B. McCaul resigns his commission (dated April 8th, 1914).

Hubert Charles George Pedler, late Surgeon-Lieutenant, 1st Life Guards, and late Staff-Sergeant, University of London Contingent, Officers Training Corps, to be Lieutenant (on probation) (dated March 15th, 1914).

Cadet Staff-Sergeant Robert Lister Horton, from the University of London Contingent, Officers Training Corps, to be Lieutenant (on probation) (dated March 15th, 1914).

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd South-Western Mounted Brigade Field Ambulance, Royal Army Medical Corps: Lieutenant Rupert Waterhouse, from the List of Officers attached to Units other than Medical Units, to be Lieutenant (dated Feb. 9th, 1914).

1st East Anglian Field Ambulance, Royal Army Medical Corps: Major Ernest V. Gostling to be Lieutenant-Colonel (dated April 8th, 1914).

3rd West Lancashire Field Ambulance, Royal Army Medical Corps: Major Archibald Gordon Gullan, from the 1st West Lancashire Field Ambulance, Royal Army Medical Corps, to be Lieutenant-Colonel (dated April 8th, 1914). Major Elisha H. Monks resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform dated April 8th, 1914).

For Attachment to Units other than Medical Units.—Major Charles Thomson, Retired List (late Indian Medical Service), to be Major (dated Nov. 1st, 1913). Richard Mervyn Wilson (late Surgeon-Captain, Derbyshire Yeomanry) to be Captain (dated March 1st, 1914). Alfred John Gibson (late Lieutenant, King Edward's Horse (The King's Overseas Dominions Regiment) Yeomanry), to be Lieutenant (dated March 7th, 1914).

Supernumerary for Service with the Officers Training Corps.—Captain Norman Cecil Rutherford, from the Unattached List for the Territorial Force, to be Captain, for service with the University of London Contingent, Senior Division, Officers Training Corps (dated Feb. 11th, 1913).

Attached to Units other than Medical Units.—Lieutenant Jacob F. Farrow to be Captain (dated March 6th, 1914). Captain John C. S. Burkitt to be Major (dated April 8th, 1914). Captain Henry S. Walker resigns his commission (dated April 8th, 1914).

TERRITORIAL FORCE RESERVE.

Royal Army Medical Corps.

Captain Arthur T. Sissons, from the Unattached List for the Territorial Force, to be Captain (dated April 8th, 1914).

THE ROYAL ARMY MEDICAL COLLEGE.

Lieutenant-General Sir James Grierson, K.C.B., C.V.O., C.M.G., will distribute the prizes at the Royal Army Medical College, Millbank, on Friday, May 1st, at 4 P.M. After the distribution Colonel E. M. Skinner and the officers, R.A.M.C., will be at home, and afternoon tea will be served in the officers' mess.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(*Continued from p. 1069.*)

XLIII.—LONDON: ADMINISTRATIVE DIFFICULTIES AT DENMARK HILL.

MY next visit was to a successful panel doctor who lives at Denmark Hill. He did not commence by eulogising the Act, but, on the contrary, was soon quite busy describing some shortcomings. Thus, the Act had just been amended, so that men up to the age of 70 were accepted. Before, the limit was 65 years. These old men have a voucher given to them. The doctor signs the voucher, the Insurance Committee then stamps it, and sends it back to the insured person, so that it now bears the doctor's signature and the committee's stamp. All this constitutes more routine than the persons concerned quite like, but it has served to show that a considerable number of these old men who were excluded from the Act before it was amended have nevertheless been receiving medical benefits all the time, for they had somehow obtained the red tickets to which they were not entitled. Also, some insured persons have been found in possession of several red tickets. Others have called on panel doctors without any red ticket at all and no evidence to show but their insurance card. As the panel doctor on whom I called has a list of 3500 insured persons whom he attends with the aid of an assistant, he has had plenty of opportunities of dealing with irregularities of this description, and the mechanism of administration is of great importance when there are so many persons needing attendance.

Since Jan. 12th a new form replaces the old red ticket, but some of the approved societies continued during the month of February issuing forms that should not have been used after the 12th of the previous month. This naturally caused a great deal of confusion, particularly as there has been such a number of forms issued. The panel doctors began working the Act on Jan. 15th, 1913, and they had then reached the form relating to medical affairs No. 20. By the month of February, 1914, they had received form No. 50. These forms relate to transfers, to medical benefits at the Post Office, to change of doctor during the year when the signatures of both doctors are needed, &c. Then there are changes of address, and, again, when a doctor has joined the panel after most of his colleagues administrative complications arise. In Form 20 the insured had only to state the name of the Approved Society to which he belonged. This has caused an appalling amount of confusion. No one seems to have foreseen that such a declaration in no wise sufficed to trace the individual. It is very little use if John Brown or George Smith merely states that he belongs to the Oddfellows or the Foresters. But if they give their number, the name and address of the lodge to which they belong, they can be traced, and their statements verified, without the slightest difficulty or delay. In consequence of this form thousands of insured persons could not be traced back to the societies to which they belonged. My informant declared that he was now attending a considerable number of persons without knowing whether they were entitled to such attendance.

The National Insurance Practitioners' Association[1] worked very hard to put some order where so much disorder prevailed; but London stood at a special disadvantage, because the opposition to the Act was so strong that it was not possible until a few weeks ago to elect a London Medical Committee as laid down by the law. This difficulty, however, it was anticipated by supporters of the Act, would be overcome by the new enactment which had brought into existence the Panel Committees officially representing doctors on the panel. In provincial and country districts this sort of committee was not so much needed. In many parts of the country a Local Medical Committee exists and is fairly representative, but it was argued that had a Medical Committee been elected for London the panel doctors' interests would hardly have made themselves felt.

The Certificate Trouble.

Yielding to the universal feeling that simplification is absolutely necessary, the Approved Societies have now all agreed to adopt the same form of certificate. Still there is trouble. The Insurance Committee gives a book of certificates, and the latter, when signed, entitles the bearer to be put on the sick list. The panel doctor hands over one of these certificates to his patient, and he at once sends it to his society. But the next day the patient may return to his panel doctor and present his Approved Society's form which has on it a certificate exactly like the one the doctor had given him the day before. This second certificate the doctor has also to sign. The following or third day is probably that on which the agent of the Approved Society makes his round of visits, and he wants yet a third certificate for the week's continuation of the sick allowance. This apparently dates according to the agent's visits and not in accordance with the patient's illness. Thus the same statement may have to be signed three times in the course of three days. It is the small Friendly Societies that give the most trouble. The big commercial insurance companies do not usually insist on such complications in regard to the signing of certificates. To add to the confusion many societies have persisted in using up their stock of "literature" even when it was no longer appropriate. Thus insured persons present themselves and make some application only to be told that their procedure, though perfectly correct according to the old rules, is to-day no longer applicable.

Financial Aspects of Panel Practice.

In answer to some of my questions, the popular doctor to whom I have referred said that many of the 3500 insured persons for whom his assistant and himself were responsible had belonged to clubs for which he was the medical officer before the Act. These patients had not changed in any way. Their behaviour and attitude had not changed at all now that they came to him as insured patients instead of members of clubs. He felt assured that patients, whether club patients or insured persons—it did not matter who they might be—if treated courteously and sympathetically would always behave back in a similar way. The doctor should be able to get on with all sorts. A certain number of his patients, he said, showed a great readiness to declare themselves sick. But they had been trained to do this and to rely on a bottle of medicine. It would take years to teach such persons that a bottle of medicine is but a small part of the treatment. Very few of his insured patients had more than £100 a year.

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[1] See THE LANCET, Jan. 31st, 1914, p. 346.

I have come to the conclusion from all I heard that the insured persons whose incomes range from £100 to £160 are likely to occasion a little more trouble than the poorer classes. The feeling which made people imagine it was not good form to be insured is now wearing off. Fees certainly can be obtained from persons whose income is above £100, but there was previously much trouble in getting paid and many bad debts, and many persons removed leaving no address, so that even with this section, and right up to the income-tax limit, the capitation system may be found to pay better. Two panel doctors in the Dulwich and Denmark Hill district have calculated what they made per item from patients on their panel lists. The one received 1s. 3½d. per item and the other 1s. 7d. As this included the mere signing of a certificate it was really quite as good as the 1s. 6d. or 2s. fee for consultation at the surgery and the 2s. 6d. for a visit if all the bad debts are deducted. Another panel doctor, reckoning from April to the end of December—that is, cutting off the three worst months of the year—found that he had received 2s. per item. This, while it lasts, is certainly better than private practice was at minimum fees. My first informant said that he was not anxious for an income limit, and that right up to the income-tax mark he thought practice on the capitation principle paid better.

Hospitals for the Insured.

Since the Act came into force it has been found difficult in this district to get patients into hospitals, and the creation of many State or municipal hospitals is freely spoken of as a possible solution. As it is, the Insurance Commissioners have retained beds for the reception of tuberculous patients in various hospitals. Why should not this principle be extended? But if this plan were pressed to its logical consequence, side by side with the extension of the Act to include the dependents of insured workers, the whole system governing the organisation of hospitals would have to be remoulded on an entirely different basis. If everybody is to be brought under the scope of State insurance, then it would only be logical to anticipate that the hospitals must also be brought under a scheme of State management.

Perhaps when the State is thus gradually led to provide medical aid for nine-tenths of the entire population it will better realise the importance of removing the obvious causes of preventable diseases. For though Denmark Hill is a favoured district to some extent, a very earnest protest may be entered against the awful housing conditions which many of the patients under the National Insurance Act there have to endure.

It is said that these very poor and ill-housed people are often neglected or carelessly treated by the practitioners on the panels—the statement is regularly made, among others, by those who desire to see a multiplication of medical aid institutes such as have come into being in Chesterfield, and the control of medical practice falling again into the hands of clubs managed by lay committees. Let it be granted that among the first medical men to serve on the panels were medical men whose habits and routine of practice had been learned in cheap dispensaries. They were doing the work before the Insurance Act came in force, and it was not possible that they should immediately begin to order their professional lives on a higher standard. But at Denmark Hill, as elsewhere, I gathered the impression that bad work would be found out and that the lists would limit themselves in time to the most competent workers.

(To be continued.)

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

LIVERPOOL.

Annual Meeting of the Liverpool Stanley Hospital.

THE Liverpool Stanley Hospital held its forty-seventh annual meeting in the Town-hall, Liverpool, on April 7th, under the chairmanship of the Lord Mayor, Mr. H. R. Rathbone, J.P. The chairman, in moving the adoption of the report and accounts, deplored the decrease in the annual subscriptions, and appealed for a more widespread sympathy with the work of the hospitals. The president of the hospital, Sir Percy Bates, Bart., seconded the resolution, and pointed out that the effect of the recent legislation had been to increase the work of all hospitals, which needed more and more financial support. Mr. Oswald Dobell, the honorary treasurer, submitted the balance-sheet, which showed a deficit on the year of £931, bringing the total debit balance up to £4462. Whilst this was somewhat disheartening, he had been greatly encouraged by the spontaneous response to his appeal for funds to build a much-needed nurses' home. This was now ensured, and would be a great boon to the nursing staff. Mr. W. M. King, seconded by Mr. W. Bagshaw, moved the re-election of the honorary medical staff. The Rev. Stanley Rogers, in moving the reappointment of the committee and officers, eulogised the good work which the Stanley Hospital was doing, and of which he heard so much when going about the populous and poor districts of the north end of Liverpool. The resolution was seconded by the Rev. S. Barrow and carried. The proceedings terminated with a cordial vote of thanks to the Lord Mayor.

Treatment of Tuberculosis.

The administrative officer of the Liverpool Insurance Committee (Mr. Gill Hodgson) has just issued his report on the treatment of tuberculosis. The report, which was adopted at the meeting of the committee, gave the exact number of applications for sanatorium treatment in the 18 months ending Jan. 11th as 1829, of whom 1557 were recommended for medical treatment, the pulmonary cases being 1317. Of the 1495 who had received treatment 782 were men, 338 women, 194 boys, and 181 girls. The cost of treatment had been: Sanatorium and hospital (1029), £14,487; dispensary (150), £270; domiciliary (704), £6913; total, £21,671. The results of treatment were as follows: Discharged fit for work, or if juveniles "disease arrested," 152; improved, 448; found not tuberculous, 15; unimproved, 106; worse, 6; died, 210; treatment discontinued for other than medical reasons, 37; total, 975; under treatment Jan. 11th, 520. The apparently large number of deaths was due to the fact that many advanced cases were treated where the hope of recovery was but small, the committee desiring to secure constant attention and to avoid the great risks of infection which must have been incurred by leaving these patients in their own homes.

Memorial to Dr. O. T. Williams.

A brass tablet has been placed in the chapel of the Royal Infirmary in memory of the late Dr. O. T. Williams, who was assistant physician to the hospital, and who died on Jan. 15th, 1913, in his thirty-sixth year. The tablet bears the following inscription:—

> "A true physician, an ardent student, a helpful colleague, a faithful friend."

The tablet is the gift of the medical board of the infirmary.

April 11th.

SCOTLAND.

Annual Report of the Registrar-General for Scotland.

IN the last annual report, now issued, it is stated that the birth-rate for the year is the lowest on record. The number of births registered during the year was 121,850, being 2209 fewer than in the preceding year, and equal to a birth-rate of 25·65 per 1000, or 2·73 less than the average rate of the preceding ten years. It was, however, 1·2 more than the corresponding birth-rate of England and Wales, and 2·4 more than that of Ireland. The illegitimate rate for the year was 7·55 per cent. of the total children registered, the highest since 1891. The death-rate for the year likewise showed a large decrease, being the smallest number of deaths registered in the country since 1896, and the lowest death-rate yet recorded. It is significant to note that the deaths from tuberculous disease numbered 8387, equal to 1·77 per 1000, which is the lowest rate on record. It is 130 less than the number recorded in the previous year, and 1077 less than the mean of the numbers for the preceding five years, and 1240 less than the mean of the numbers for the preceding ten years. Registered marriages numbered 31,811, equal to a rate of 6·7 per 1000, and showing a slight decrease on previous years.

University of Edinburgh: Honorary Degrees.

Among those upon whom the Senatus Academicus have resolved to confer the degree of LL.D. *honoris causâ* are Dr. Byrom Bramwell, consulting physician to the Edinburgh Royal Infirmary, and Dr. F. W. Mott, F.R.S., pathologist to the London County Asylums and physician to Charing Cross Hospital.

Treatment of Ringworm in Edinburgh School Children.

Arrangements have now been completed between the Edinburgh School Board and the managers of the Royal Infirmary for the treatment of cases of ringworm and favus with X rays at this institution. Most of these cases are now under the supervision of the school medical officers, and it has been arranged that the after-treatment of the cases treated at the infirmary is to be in the hands of the nurses attached to the special school which is under the School Board, with the supervision of the medical officers.

Royal Edinburgh Hospital for Sick Children.

While there is still a large deficiency of ordinary income, the directors of this institution note that the amount received from subscriptions and donations exceeds that received in 1912 by £298. The expenses have been, of course, heavier owing to the increased price of coal and household commodities. There have been certain rearrangements of wards in the hospital, whereby eight more beds are available for surgical cases, there being now 69 medical and 50 surgical cots in the hospital. Two of the latter have been set apart for ear and throat cases, under the charge of the aural surgeon, Mr. W. G. Porter. The directors propose to appoint a surgeon-dentist to in-patients, an appointment which is very desirable in every way. The vacancy on the medical staff caused by the retirement of Dr. G. H. Melville Dunlop has been filled by the appointment of the senior assistant physician, Dr. J. W. Simpson, and Dr. N. S. Carmichael has been appointed extra physician in room of Dr. Simpson. In the medical report the following paragraph occurs:—

> Considerable attention has recently been drawn to the prevalence of tuberculosis arising from infected milk in Edinburgh and the neighbourhood. The very important investigations of Mr. John Fraser and Dr. Mitchell were initiated in the hospital, and more than confirm the belief of the staff that tuberculous milk is a very real danger to children. It is easy to ensure the safety of the milk used in the wards, but in an out-patient department the subject is fraught with difficulty for financial and other reasons. The staff trust, however, that the directors will take the matter into their consideration.

April 14th.

IRELAND.

Irish Workhouse Administration.

BEFORE Parliament rose for the Easter recess the Chief Secretary for Ireland furnished a return showing, for a period of 12 months, the salaries, including rations, of officers, the average daily number of inmates, their total cost, the rate per head of this cost, and the percentage of such cost expended in salaries, for each workhouse in Ireland. As the workhouses vary greatly in average population, from 25 in Dunfanaghy to 3914 in South Dublin, it is obvious that the cost per head and the percentage of cost spent in salaries must also vary greatly. In South Dublin, for instance, the cost per head is £19 18*s.* and the percentage on salaries is 17·7, while the figures for Dunfanaghy are £35 10*s.* and 42·6. But even allowing for necessary differences, the contrast between institutions which are fairly comparable reveals curious discrepancies in cost of administration. The figures for South Dublin are fairly comparable with those for North Dublin and for Belfast. In North Dublin the cost is £20 16*s.* per head and 21·2 per cent. is spent on salaries. In Belfast it is £22 per head and 26·5 per cent. on salaries. In Cork, which approaches to North Dublin in population, the cost per head is £18 18*s.*, but 25·6 is spent on salaries. Comparing neighbouring workhouses of approximately equal size the differences are still striking. In Cashel, for instance, in county Tipperary, the cost per head is £24 10*s.* and the percentage on salaries 26·5. In Carrick-on-Suir, in the same county, the cost per head is £20 1*s.*, but the ratio on salaries is 35·4 per cent. In some of the smaller workhouses the figures reached are extraordinary. Killala workhouse costs the ratepayers £45 10*s.* for each of its 25 inmates, and no less than 53·7 per cent. of this is spent on salaries. There seems to be a good case here for active interference by the Local Government Board.

An Approved Society and Medical Certificates.

At the annual meeting of the Irish Drapers' Assistants' Association, a carefully managed Approved Society doing good work among shop assistants, a resolution was passed which has an interesting bearing on the question of certification. It was to the effect that where a certificate could not be obtained from the doctor in attendance on a member "pending the settlement of the dispute which at present exists in the medical profession," the executive should have discretionary powers to dispense with a certificate. The Commissioners have supplied this society with the free services of "medical advisers" throughout the country, but it does not appear that the society values their services very highly.

Sir Christopher Nixon.

I regret to learn that Sir Christopher Nixon has from considerations of health resigned his position as senior physician to the Mater Misericordiæ Hospital, to which he has been attached for many years.

March Weather in Belfast.

In the neighbourhood of Belfast during last March 4·21 inches of rain fell on 25 days, making a total of 10·50 inches for this year. The average rainfall for March is 3·05 inches, so that March has been a wet month, with very little of that "dust" which is said to be "May gold."

Strabane Hospital Inquiry.

Mr. John Coffey, who on behalf of the Local Government Board held some time ago an inquiry into the state of the Strabane Fever Hospital, has now reported that the condition of affairs "has been most discreditable for some considerable time past." As regards the "disgraceful exhibition of temper on the part of both the nurses and the wardsmaid deposed to at the inquiry," the Local Government Board have decided not to remove the suspension on one of the nurses, and they have made a note in their records as regards the other (a temporary nurse), whose services had already been dispensed with. They suggest another trial for the wardsmaid, and in reference to the medical officer they say "there appeared to have been a want of firmness on his part throughout these disputes."

Derry Water-supply.

The city of Derry having for long suffered from an inadequate water-supply the city corporation petitioned the Local Government Board to grant a provisional order to enable them to put in force the powers of the Land Clauses Act for the purpose of taking otherwise than by agreement certain lands required for the purpose of an auxiliary water-supply for the city. Mr. P. C. Cowan, C.E., the chief engineering inspector of the Local Government Board, held an inquiry into the matter in Derry in February, and has now reported that a supply of water—pure and adequate—is needed, and that it must meet the city's requirements at all seasons, as well as the anticipated increase in population. The Local Government Board say they cannot sanction a scheme which is a "makeshift," and they refuse to grant the conditional order: they urge the corporation of Derry to "press forward a comprehensive scheme for the water-supply." The Derry water committee reply that the scheme was only temporary to supply the needs of the city until such time (five or six years) when they could get a large scheme carried out, and they now warn the Local Government Board that if any disaster should overtake the city by reason of water shortage the responsibility for this must rest with the Local Government Board, who have blocked the temporary arrangement.

April 8th.

PARIS.

The Hygienic Condition of the First Army Corps.

M. Lemoine, director of the medical department of the First Army Corps, quartered at Lille, has advanced a curious reason for the superiority of the health statistics of this over other corps throughout France. M. Lemoine modestly takes no credit for the small death-rate and hospital admission rate of this corps, but attributes them to the very unhealthy condition of the people from among whom the soldiers of the First Army Corps are enlisted—viz., the departments of the Nord and the Pas-de-Calais, which consist for the most part of factory workers and miners. These are the most densely populated parts of France and their infant mortality is fearful, the districts being ravaged by epidemic diseases. M. Lemoine, therefore, thinks that the young conscripts of 20 have undergone a rigorous process of natural selection, all the feeble ones having been killed off and the survivors having suffered from the infectious diseases and become immune. They also find in the army hygienic conditions vastly superior to those of their original environment. Moreover, the men of this army corps are split up into isolated groups of not more than 200 or 300, each group having its own barracks, so that in epidemics isolation is easy. In support of this special resistance of the men of the First Army Corps M. Lemoine finds that in other army corps the soldiers coming from these two departments are less frequently on the sick list than the other men. The startling conclusion follows that the hygienic condition of a regiment would be better in inverse proportion to that of the civil population from which the men are drawn.

The Serum Therapy of Acute Myelitis.

M. Netter has succeeded in curing acute infectious myelitis by an original serum therapy. The relation of this disease with infectious poliomyelitis of infancy suggested to him that the two diseases were due to a common agent. Flexner and Lewis's observations have shown that monkeys experimentally infected with poliomyelitis were cured by the injection of serum from monkeys immunised against the disease. M. Netter has applied this principle in the case of man, making use of serum from patients who had recovered from an attack of infantile paralysis at antecedent periods of respectively 4 months and 22 years. The serum was injected in a dose of 10 c.c. daily for nine days into the spinal column of a man, aged 31, who had been seized with a severe attack of acute infectious myelitis, motor paralysis and anæsthesia having already affected the lower limbs and trunk, so that extension to the medulla would undoubtedly have occurred. Three patients whom M. Netter had observed in a similar condition three years ago died in a very short space of time. The present patient, therefore, seemed inevitably doomed; yet after the first injection of the serum considerable amelioration set in, sensibility and motility reappeared, and at the end of some weeks the patient was completely cured, with perfect use of his limbs and able to have recourse without fatigue to walking and sports. This case, at present unique, suggests the possibility of an entirely new method of treatment.

Electrocution in the Bath.

The Société de Médecine Publique et de Génie Sanitaire listened recently to a communication from

Professor Gariel in which he reported two cases of death by electrocution in a bath. The electricity was derived from the electric-light mains and conducted to the metal base of the bath. In one case the current was not more than 110 volts, which is generally considered harmless, but the surface of contact, which represented that of the entire body, was large. In the other case the electric communication was established when the subject caught hold with his wet hand of the metal chain of an electric bell, in which the current was certainly much weaker. Recently a case was noted of a workman engaged in the construction of a new underground railway who was electrocuted on touching an electric lamp with moist hands while his feet were in the water. Much uneasiness is aroused over these recurring cases.

The Serum Therapy of Malignant Pustule.

A new treatment of malignant pustule has been brought before the Académie des Sciences by Dr. Roux. It is based on a very interesting principle, and is credited to M. L. and M. Ch. Fortineau, of Nantes. Relying on the known effects of the introduction of the bacillus pyocyaneus into cultures of anthrax bacilli they treated patients suffering from charbon with cultures of the bacillus pyocyaneus sterilised by heat. A single injection sufficed in most cases. The results were excellent, for out of 50 patients affected with the disease only five died, and these came under treatment when their condition was desperate. All the others were quickly and completely cured.

Microbes and Sunlight.

Mme. Victor Henry has discovered an application of the ultra-violet rays which opens a new path in bacteriology. By exposing cultures of anthrax bacilli to the rays of a mercurial vapour lamp she has shown that if the greater number are killed a certain number still remain which, to adapt themselves for this resistance, are modified in shape, becoming cocci (differing, however, from any known spores) in place of long flexible threads. These cocci have formed a new race which has been serially cultivated without returning to its primitive shape, and which on inoculation into animals has given rise to a new disease presenting characters entirely differing from those of classical charbon. This result suggests the hypothesis, possibly somewhat bold, that the different microbes found in nature are only varieties of a small number of primitive types that have become changed in consequence of a more or less prolonged action of sunlight and of the conditions of their medium.

Compulsory Antityphoid Inoculation.

The Senate having passed the Bill previously passed by the Chamber of Deputies, antityphoid vaccination is henceforth compulsory in the French military and naval forces. But now the Société de Médecine Publique et de Génie Sanitaire, after a brief discussion, has passed a resolution demanding that compulsion shall be confined to the troops leaving for Morocco and other regions infected with the disease, that it shall not apply automatically to all young soldiers on enlistment, and that in every case the regimental medical officers shall be the sole judges for its necessity. The society's reasons are that it is not yet known, and cannot be known for many years, that these inoculations have not serious effects in certain subjects, and do not pave the way for other diseases, particularly tuberculosis. Attention is also directed to the fact that the fear of typhoid fever is the principal argument, on establishing barracks in a town, fo obtaining the necessary sanitation from the civic authorities, and particularly the provision of drinking water. This provision has been often very grudgingly made by the towns, in consequence of the great expense entailed, and very often with an insufficient ulterior surveillance over the sources used. Under these conditions each case of typhoid fever that has occurred has been always used for exerting pressure on the municipal administration to obtain the further sanitation of the town (as to both its civil and its military sections) by the threat of removing the regiment to some other town. Compulsory antityphoid vaccination, by dissipating the dread of typhoid fever, will give rise to a relaxation in the establishment and maintenance of these sanitary services, and thereby to a recrudescence of other diseases, in regard to which the population has benefited incidentally through these improved sanitary conditions.

April 13th.

ITALY.

Reform of the Medical Curriculum.

THE Royal Committee for the Study of University Reform has just issued its report. The proposals of the Subcommission for the Medical Faculties are giving rise to lively discussion in the medical press. The report starts by advising the separation of the degree of Doctor in Medical Sciences from the qualification to practise medicine. It recommends that the medical curriculum shall be divided into two parts, each of three years' duration. The first comprises physics, botany, zoology and comparative anatomy, pharmaceutical chemistry and toxicology, each a course of one year; physiology, two years; human anatomy, three years; and general pathology, one year. At the end of the three years the examination "di maturità" must be passed. The second period of three years is devoted to the subjects of more exclusively professional interest and their application. To take the examination qualifying for practice the candidate must produce certificates of having satisfactorily attended courses of general clinical medicine and therapeutics for three years; general clinical surgery, orthopædics, throat and ear diseases for three years; obstetrics and gynæcology, mental and nervous diseases, eye diseases, skin diseases, hygiene, children's diseases, and pathological anatomy, for one year each. He will be examined in medicine, surgery, obstetrics and gynæcology, and in hygiene, and among the practical demonstrations he will be required to perform a post-mortem examination. For the degree of Doctor in Medical Sciences the examination is to consist of the presentation and discussion of a thesis and the discussion of certain set subjects. The degree is to have a purely academic value and to confer no right to practise. The candidates must present certificates of satisfactory attendance at courses of physiology and general histology, one year; experimental pharmacology, one year; clinical medicine and clinical surgery, three years each; pathological anatomy, one year; mental and nervous diseases, two years; hygiene, one year; and forensic medicine one year, during a period of at least three years subsequent to the "maturità" examination.

Disease of the Milk Teeth.

Professor Angelo Chiavaro, professor of dentistry in the University of Rome, publishes in the *Policlinico*, Sezione Pratica, of Feb. 1st an open letter to the Director-General of Public Health drawing attention to the frequency of disease of the milk teeth, with statistics of an examination of 1000 children between the ages of 3 and 6. These statistics show a percentage of 49·6 of cases of dental caries with 1522 teeth so diseased. 673 children had teeth encrusted with tartar; 66 were suffering from gingivitis; and 14 had true pyorrhœa alveolaris. In 289 cases the jaws did not meet properly. He points out the necessity of proper care and supervision of the temporary teeth for the sake of the children's digestion, and the preservation and proper alignment of the permanent set.

A Curious Incident.

Recently M. Rosa, of Bergamo, was examining a wounded man in the out-patient room of the hospital, when the man who had committed the assault entered and attacked the doctor. The latter was obliged to make use of his revolver and shot his aggressor in the abdomen. He proceeded immediately to extract the bullet. The wound proved not to be serious. The man was placed under arrest in the hospital.

April 11th.

SOUTH AFRICA.

Insane Persons in Prisons.

THE report of the Director of Prisons for 1912, which has just been issued, shows that during that year only 485 lunatics and suspected lunatics were received into penal institutions, as compared with 766 in the previous year. This reduction is doubtless mainly due to the operation of the Prisons and Reformatories Act of 1911, which prohibits the incarceration of lunatics in gaol in districts where lunatic asylums and public hospitals (other than infectious diseases hospitals) are provided. The reduction in the number of persons admitted to penal institutions on the ground of lunacy is especially notable in the case of Europeans. Only 72 European males and 10 European females were so dealt with in the Union prisons in 1912, as compared with 170 and 22 respectively in 1911. The numbers are still, however, large enough to call for further consideration of any possible means of avoiding the necessity for confining lunatics and alleged lunatics in the same institution with criminals. Out of the 485 cases dealt with by the prison authorities, only 318 were certified as insane and removed to lunatic asylums. The remaining 167 were discharged after a period of incarceration.

Miners' Phthisis.

Dr. W. Watkins-Pitchford, the director of the South African Institute for Medical Research, Johannesburg, delivered an interesting lecture recently on the industrial diseases of South Africa. The lecturer devoted himself almost entirely to a consideration of the facts regarding pulmonary silicosis. He pointed out that the Transvaal Miners' Phthisis Commission of 1903 was of the opinion that probably 21 per cent. of all the underground miners were actually or probably affected with silicosis; that a similar commission in 1912, after examining 3135 underground miners, found that 993, or approximately 32 per cent., were suffering from miners' phthisis in one or other of its stages, and that about two-thirds of the cases were in the stage of early or moderate fibrosis. The lecturer considered that, owing to the different manner in which the investigations of these two commissions were carried out, their respective estimates cannot be justly compared. He pointed out, however, that, although the general conditions of underground hygiene were better in 1912 than in 1903, yet the number of rock drills employed had more than trebled in the interval. The director expressed the opinion that a scrupulous obedience to the spirit of the mining regulations would have resulted in the total abolition of pulmonary silicosis from the goldfields of the Rand, but, as he naïvely put it, silicosis still remains a trammel and a menace to the gold-producing industry of South Africa. In other words, the regulations are there, but they are not properly enforced by the Government, and they are disregarded by the miners in their desire to draw big wages even at the risk of health and life.

Medical Matters in Parliament.

Dr. John Hewat recently asked in the House of Assembly what had been done to give effect to the recommendation of the House last session with regard to the appointment of a Leprosy Commission. The Minister of the Interior replied that, after careful consideration, the Government had come to the conclusion that no good purpose would be served by the appointment of such a commission, but it had under consideration proposals for extending the asylum accommodation so as to bring all cases under treatment, and that exhaustive departmental inquiries were already being made. In reply to a question a few days later from Mr. P. G. Kuhn as to whether the Government intended to introduce a Bill to consolidate the Medical Acts of the various parts of the Union, the Minister of the Interior replied that though the Government considered such legislation to be highly desirable it would be unable to introduce such a Bill during the present session.

Report of the Economic Commission.

The report of the Economic Commission, which was appointed as a result of the miners' strike in July last, has been presented to Parliament. The report is not without a medical interest. The Commission considers that the cost of living for whites is about 40 per cent. higher on the Witwatersrand than in America (the most expensive of the other countries examined) and nearly 80 per cent. higher than in any European country. Wages on the Witwatersrand are nearly 40 per cent. higher than in America (where money wages are materially greater than in any other country examined), and nearly 225 per cent. higher than in any European country. When allowance is made for cost of living as a whole it would seem that the workman on the Witwatersrand is better off than the workman in America and much better off than the workman in Europe. The report as a whole is an extraordinarily able document, and it should be of the greatest value to the Government in dealing with the many economic and industrial problems with which it is faced.

March 3rd.

AUSTRALIA.

Tenth Australasian Medical Congress.

THIS congress met at Auckland, New Zealand, on Feb. 14th, and was well attended, a considerable number of Australian practitioners making the somewhat uncomfortable sea trip. The special functions included services at the various churches on Sunday, the 15th; a reception by the President, Dr. A. Challinor Purchas, and Mrs. Purchas on the 14th;

and a congress dinner on the 16th. At the inaugural meeting there were present on the platform His Excellency the Earl of Liverpool, the Prime Minister of New Zealand, the Premier of New South Wales, the Anglican and Roman Catholic bishops of Auckland, and many other distinguished persons. Dr. Purchas delivered an address in which the advances of medical science were noted. The work in the various sections was interesting, particular attention being centred upon the care of the feeble-minded and the prophylaxis of venereal diseases. The special committee on the feeble-minded recommended the establishment of schools and a residential colony for the permanent care of those not fit subjects for asylum detention. A special committee on syphilis presented a report dealing with the evidence collected in New Zealand. The committee recommended—

1. That syphilis be declared a notifiable disease. That notification be encouraged, and discretionary but not compulsory; and that the chief medical officer of health be the only person to whom the notification be made.
2. That provision be made through the Hospital Boards to establish laboratories in the four centres where not already existent for the diagnosis of syphilis.
3. That free treatment in the public hospitals and dispensaries be provided for syphilitics.
4. That steps be taken to educate the Mercantile Marine as to the dangers of syphilis, and that provision be made for preventative treatment on the intercolonial service.
5. That legislation be enacted against the treatment of syphilitics by unqualified persons.

Many social entertainments were arranged, and everyone was delighted with the complete organisation made by the New Zealand profession for the comfort of visitors. The next congress will be held in Brisbane in 1917 under the presidency of the Hon. W. F. Taylor, M.D.

Dr. J. A. Macdonald's Visit.

Dr. J. A. Macdonald, who was the representative of the central organisation of the British Medical Association at the Auckland congress, was entertained at dinner in Melbourne and Sydney by the councils of the local branches of the Association. In Melbourne Dr. Macdonald addressed a crowded meeting of medical practitioners on the National Insurance Act.

The Fight with the Lodges.

The dispute between the medical profession of New South Wales and the Friendly Societies of that State reached an acute stage, and on Dec. 31st all lodge appointments were resigned. Many of the societies at once accepted the agreement proposed by the New South Wales branch of the British Medical Association, and others have since come in. A few groups have held out in the hope of getting outside medical attendance, but none is available. It is said that only one practitioner failed to hold to the general compact, and no practitioners from other States would apply for vacant positions, showing that the profession is strongly organised throughout Australia. In Victoria the societies are considering the terms set out by the Victorian branch, and there is practically no opposition to an increase of rates of payment. There exists, however, a strong objection to the acceptance of a wage limit, and it is possible that trouble may arise from this direction.

Invalid Pensions.

The latest Commonwealth returns show that 19,353 invalid pensions have been granted. There have been 3238 deaths and 757 cancellations, leaving 15,318 in force. These involve a yearly payment of £390,000 per annum. In 15 months under the Maternity Bonus Act a sum of £810,445 has been paid in £5 bonuses.

Lister International Memorial.

Mr. R. H. Russell, F.R.C.S. Eng., announces that Victorian subscriptions to the above fund total £94 12*s.* 6*d.*, and a draft for the amount up to Dec. 31st has been forwarded to the general secretary, Sir J. Rose Bradford.

March 5th.

Correspondence.

"Audi alteram partem."

REVERSED ACTION OF THE HEART.

To the Editor of THE LANCET.

SIR,—The practical point at the end of this letter to which I wish to draw attention must form my excuse for commenting on the curious and interesting fact dealt with in your annotation under the above heading in THE LANCET of March 28th (p. 910). The details of the case in the original supply in a measure a hiatus in the experience of cardiac motor phenomena.

Auriculo-ventricular bradycardia—the *bradycardie sinusale* of the French—is comparatively common, but, as you state, an auricular in excess of a ventricular bradycardia has not hitherto been observed. We only require now to meet with a case in which auricular bradycardia is not associated with ventricular retardation to complete the series of cardiac motor phenomena which has rewarded the careful investigation of cardiac motor disorders which has more recently characterised clinical work in this sphere. This hiatus, too, may, probably will, in time be filled.

Whether, however, a case such as that with which your annotation is concerned is to be regarded as explicable by a reversal of the heart's action may, I venture to think, be questioned. By those who regard the auriculo-ventricular bundle as a survival of the original continuous cardiac tube, such an explanation of the phenomenon referred to may appear probable, but by those who, like myself, do not regard this tract in that light, but as a later developed structure growing forwards into ventricle this interpretation is more difficult to accept. To such a relatively greater prolongation of auricular over ventricular diastole or, what comes to the same thing, a relatively greater postponement of systole in the respective chambers appears to be more reasonably explicable on the assumption of a delay in the cardio-motor nervous mechanism of the heart which governs the action of the chambers *separately*, and for the exercise of which the assumption of a reversal of muscular impulse is not necessary.

There is said, in the unique but doubtless not isolated case to which you refer, to have been no "block," presumably because normal action was after a time resumed and because the *v.-a.* (instead of *a.-v.*) interval, as it would be called in terms of myogeny, remained constant. But in one of the cardiographic illustrations in the original there are two ventricular systoles without auricular response (if the feature regarded as due to auricular systole be really so), and it is stated that full atropinisation had no influence on the peculiar rhythm. The behaviour of the heart was thus the same as that so frequently observed in so-called "block" when the absence of response is on the part of the ventricle.

It is not unusual to find the term "block" used in the description of cases in which several auricular systoles precede a single ventricular systole and in which, nevertheless, the ventricle is not abnormally retarded and is also readily accelerable by atropine. I refer to cases of so-called auricular flutter. In the case which you annotate the use of the term "block" by the myogenist would therefore seem quite permissible. I need scarcely add that, personally, I quite agree that "block" in the sense in which that term is usually employed was absent in this, as, indeed, in all other cases, an emphatic avowal of what is for the moment a heresy, which I do not hesitate to make. I shall be in no way surprised when a case of auricular bradycardia without ventricular retardation is in due course reported and completes the evidence in favour of a neuro-muscular, not musculo-neural, automatism of the heart's action.

Practice in a scientific age is largely influenced by theory and frequently involves the use of powerful agents requiring care in their employment. Among such agents is that invaluable but double-edged weapon digitalis on which so much has been written in recent years, but without adding much to our knowledge of all that is useful in its employment as expressed by some of our predecessors. There is now, however, a tendency to sit so heavily astride the auriculo-ventricular bundle in some cases in which auricular muscular stimulus and conduction are assumed to be concerned, that there is a danger of its over-employment to the detriment of the patient. For this tendency scepticism of a muscular hypothesis is a wholesome corrective and must form my excuse for addressing you.

In writing thus I do not imply that large doses of digitalis are not occasionally required for its effective use, but that the persistence of some cardiac motor disturbances, such as massed auricular extra-systolia or flutter as I regard it, are less objectionable than the attempt to abolish them by a heroic dosage which is less likely to be employed when myogenic conceptions of cardiac action are less in the ascendant.

I am, Sir, yours faithfully,
ALEXANDER MORISON.

Upper Berkeley-street, W., April 10th, 1914.

CANCER HOUSES.

To the Editor of THE LANCET.

SIR,—The paper by Sir Thomas Oliver in THE LANCET of April 4th, and the article in the *Times* of April 6th, have drawn attention to the subject of cancer houses. In 1902, in a presidential address to the South Midland Branch of the British Medical Association, I was able to bring forward 30 instances of two or more cases of cancer living together in one house or intimately associated occurring amongst a population of 102,000 in North Bedfordshire in the decennial period 1890-1899, and in THE LANCET of Nov. 14th, 1903, I published notes of a group of five cases of cancer, three of which died from cancer of the tongue in one village within the space of 16 days. In my own practice I have had 10 instances of dual cancer.

1. A lady died from malignant disease of the sigmoid flexure of the colon in May, 1897, and in July, 1899, her husband died from sarcoma of the adductor muscles of the thigh.

2. A man died in March, 1902, from cancer of the larynx, and for the last two years his widow, who has remained in the same house, has suffered from cancer of the breast.

3. A lady in 1900 had cancer of the small intestine and ovary, which I removed, and died from a recurrence in the uterus in 1901. Her successor in the house, who was not related to her, died from cancer of the uterus recurring after removal of a cancerous ovary in January, 1909.

4. A man, aged 32, died from cancer of the sigmoid in April, 1901, and his father, who afterwards moved to another house, died from cancer of the stomach in February, 1905.

5. A lady had her breast removed for cancer in June, 1909, and an ovarian tumour in December, 1910. Now has recurrence in the glands of the neck. Her husband died from cancer of the stomach in November, 1912.

6. A woman had her breast removed for cancer in April, 1910, and her husband died from cancer of the prostate in August, 1911.

7. A lady died from cancer of the sigmoid in October, 1911, and her husband from cancer of the stomach in February, 1913.

8. A lady had her breast removed for cancer in January, 1912, and her sister-in-law with whom she lived died from cancer of the pharynx in July, 1913.

9. A man died from cancer of the hepatic flexure of the colon in October, 1910. In 1909 his sister, who lived with him, had her breast removed for cancer.

10. A man was operated on for cancer of the rectum in February, 1911, and his wife for cancer of the cervix uteri in March, 1914.

In my experience dual cases of cancer have been far more frequent than dual cases of tuberculosis.

I am, Sir, yours faithfully,
W. GIFFORD NASH, F.R.C.S. Eng.

Bedford, April 7th, 1914.

AN UNUSUAL CASE OF SELF MUTILATION.

To the Editor of THE LANCET.

SIR,—It is inconceivable that the English proverb, "To cut off one's nose to spite one's face" ever had a literal application; equally unlikely, one would think, would it be for a person to cut off his penis to spite his father. Yet such a case has quite recently come under my observation.

An elderly Brahmin of the Tiwari tribe came to the Basti District Hospital; tears were running down his cheeks, and he was carrying something in a clean rag in his hand. I asked him what was the matter, and in broken-hearted tones he described that his son was now 19 years of age and that he had been very anxious to have him married. "Now," he said, "look what he has done." On opening up the rag I found a penis—very full-sized, one might say—with a large piece of the scrotal skin attached to it. The penis had been cut off at the root and was hard and firm to the touch. I asked him where his son was, and he said he was outside under a tree. I went and saw him. He was a lanky youth, about 20 years of age, very pale and ghastly looking. I asked him how it had all occurred, and he described it as follows. His father, like all Indian fathers, was anxious to have his son married to carry on the race, and had been worrying him for some months past about it. At last in desperation he had taken a knife and cut off his penis. It was not painful at the time he did it, but the bleeding was very free. He said he had a great deal of pain now, but he was not anxious to have any treatment or to stay in hospital. He wished to become a sadhu, or holy man, and to lead the simple life, but the father was greatly opposed to it, and that was why the son had cut off his penis. The wound was full of clotted blood, but there was no longer any bleeding. He left the hospital almost immediately and has not returned.

I am, Sir, yours faithfully,
CHARLES MILNE, M.B. Aberd.,
Lieutenant-Colonel, I.M.S.
Basti, United Provinces, India, March 24th, 1914.

UNQUALIFIED PERSONS AND MEDICAL BENEFIT UNDER THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—I am instructed to forward to you for publication in your valuable journal a copy of the following resolution passed by the Royal College of Physicians of London on April 6th in relation to the employment of non-qualified persons for the purpose of medical treatment under the National Insurance Act:—

NATIONAL HEALTH INSURANCE (MEDICAL BENEFIT) REGULATIONS, 1913.

The College observes with regret that in Section 44 (2) of the National Health Insurance (Medical Benefit) Regulations, 1913, and the Memorandum issued in connexion therewith, provision is made whereby insured persons who make their own arrangements for medical benefit under Section 15 (3) of the National Insurance Act may obtain treatment from non-qualified persons.

Hitherto none but duly qualified medical practitioners have been employed, as such, in any public capacity, and the College deplores that, under an Act professing to promote the health of the nation, recognition should be given and provision made for the payment of public money to a class of persons who have not obtained a legal qualification to practise medicine and concerning whose medical knowledge there exists no sort of guarantee.

I am, Sir, yours faithfully,
J. A. ORMEROD,
April 8th, 1914. Registrar.

THE MODERN GAS FIRE AND HYGIENIC EFFICIENCY.

To the Editor of THE LANCET.

SIR,—I have read with much interest the article with this title in THE LANCET of April 4th, and I consider that you are doing excellent work in bringing into prominence the points in connexion with these fires which lead towards greater hygienic efficiency.

I notice that "the fires were tested in the middle of the experimenting room without any communication with the fireplace chimney." I cannot help thinking that this arrangement was hardly fair to the fires, and in any case it is not an arrangement which would be adopted in actual practice. I take it that all the fires tested (with perhaps one exception) were intended to be fixed in a fireplace with an elbow or flue leading into the chimney, and it would surely have been better to have fixed the fires in such a position for the purpose of testing them. With the arrangement adopted it is quite possible that the results of the tests made have been to some extent inaccurate in certain cases, and this would account for what would appear to be inconsistency in the results of the tests shown in the diagrams. As an instance of the inconsistency I would like to point out the difference shown between fire No. 22, Merlin (Wright), and fire No. 25, Talisman (Wright). Under the chemical test the Merlin does not show good results with even a 4-feet flue, whereas the Talisman shows perfect results under all conditions. I believe I am right in stating that the construction of these two gas fires is identical, the only difference being in the shape of the outside casing, the Merlin being round-topped and the Talisman square-topped.

It would be interesting if you could see your way to make a further series of tests with these fires connected to a chimney in the ordinary way.

I am, Sir, yours faithfully,
ARTHUR E. WILLIAMS, A.M.Inst.C.E.
Queen Victoria-street, E.C., April 6th, 1914.

*** We publish with pleasure a natural protest without admitting our inconsistency, because the two fires were not identical in every respect. It was stated in the article that the final appeal must be to the chimney and fireplace. We consider that the gas fire should leave the factory with a hygienic hall-mark, tested under the conditions described, even though they may seem unnecessarily severe.—ED. L.

"THE MENACE OF CANCER" AND AMERICAN VITAL STATISTICS.

To the Editor of THE LANCET.

SIR,—In the letter of Mr. F. L. Hoffman, of New Jersey, U.S.A., published in THE LANCET of April 11th, in which he attacks certain criticisms of American mortality statistics recently published by Dr. Bashford, reference is made to some expressions of mine on the inaccuracy of American mortality statistics as follows: "Dr. Bashford, on the authority of Oertel, claims that New York City has shown that the greatest laxity and inaccuracy obtains, owing to the neglect of the medical profession and the unwillingness of the authorities to enforce the prescribed penalties. The views of Oertel have *not been accepted by qualified critics* (the italics are mine), although justified to *a limited extent* as regards *initial* diagnosis in hospital practice, which has but an *indirect bearing* upon the terminal certification in death registration. *There is no laxity or gross inaccuracy inherent in the vital statistics of the City of New York*, which are accepted by every authority on vital statistics throughout the world. The compulsory registration of deaths has been in force in the City of New York since 1865, but for half a century previous deaths were recorded in a more or less trustworthy manner, and probably as accurately and conclusively as for most of the large cities of the world during the corresponding period of time."

It is not my practice to enter into any public controversy with those who do not agree with me, even where I am misquoted or the meaning of my statements is misrepresented, for the serious reader is most always able to refer to the originals and judge one way or the other for himself. In this instance, however, I feel that I must, in justice to Dr. Bashford and to the large number of your English readers who are probably unable to read the originals, enter a protest against a most misleading statement which bears on its surface the stamp of arrogant ignorance. It is, indeed, regrettable that Mr. Hoffman should have allowed himself to issue such a sweeping condemnation and false interpretation of my remarks without citation of, or reference to, one of the qualified critics upon whose judgment he depends. Here, then, shortly summarised, are the facts which Mr. Hoffman has left to me to supply to the reader.

In an article on the Inaccuracy of American Mortality Statistics published in the *American Underwriter* for May, 1913, I said in substance: First, that clinical or bedside diagnoses of a disease are at the best uncertain even in the hands of experienced physicians and surgeons without objective proof of necropsy, and I demonstrated the truth of that statement not only by mine but Dr. Richard Cabot's (Boston) well-known experience (*Journal of American Medical Association*, Dec. 28th, 1912, p. 2295). Secondly, that this uncertainty and inaccuracy is particularly great in the United States of America, where the importance of necropsies and the study of pathological anatomy which are indispensable to good diagnostic ability have always been grossly neglected. Consequently the American physician generally lacks that objective knowledge of disease which is found where a greater opportunity for studying diseases directly from the cadaver is offered. The disastrous result of this lack of knowledge is necessarily poor diagnostic and critical ability. (I might interpolate that herein rests the great advantage of English and continental medical training.) Now, in order to support this statement by objective evidence for the layman, such as Mr. Hoffman, I selected the largest and most important public hospital in New York City, a hospital used as a teaching institution by the three most important medical colleges in New York and in which good attending physicians and reasonably good records are to be expected, and obtained the results tabulated below. In these cases *not* the *initial* diagnosis, as Mr. Hoffman would have us believe, but the clinical diagnoses *available at the time of death* were compared with the anatomical diagnoses. During the year 1912 this hospital had 3170 deaths, of which only 482, or 15·2 *per cent. came to the* test of a post-mortem examination—a very small number compared to the 80 to 90 per cent. of necropsies in European hospitals. The records of the 482 consecutive necropsical cases were used for a comparison of clinical and necropsy findings. Of these 92 were infants. In practically all these latter the necropsy disclosed important lesions not suspected, but the clinical observation had been too brief for accurate diagnosis, and they were for that reason *not included* in the following classification for comparison of post-mortem and clinical diagnosis.

	Cases.		Per cent.
I. Clinical diagnosis confirmed	87	...	22·3
II. Clinical diagnosis correct, but necropsy disclosed important additional lesions. (Example: Lobar pneumonia diagnosed correctly, but necropsy showed cancer of the uterus in addition)	116	...	29·7
III. Clinical diagnosis partly correct, but other important lesions that had contributed to the diagnosed lesion were found. (Example: Acute peritonitis diagnosed correctly, but necropsy showed a perforated gastric ulcer) ...	54	...	13 8
IV. Clinical diagnosis not confirmed	109	...	27·9
V. No clinical diagnosis	24	...	6·2
	390	...	99·9

It will be seen that the necropsy confirmed the clinical idea of the diseased body in 87 cases only of 390, while in the majority the post-mortem examination revealed important additional evidence, which in a considerable number put the case in an entirely different light after necropsy. ...... Now, when it is further considered that in 133 cases of 390, or 34·1 per cent., diagnosis was either entirely wrong or not made at all, and that in some cases *the clinical diagnoses are recorded after necropsy had been performed*, it will be seen how uncertain or even misleading would be any statistics made up of clinical diagnosis or records alone. Consider further that we possess in this instance only the necropsied records of 482 cases in 3170 and apply the same ratio of comparison to the remaining unnecropsied cases, and that the death certificates do not even show what cases have been confirmed by necropsy, would anyone attempt to use figures or data obtained from such material for serious consideration? Still these figures represent the work of a large public institution used for teaching purposes, with which prominent physicians and surgeons are connected and in close affiliation with medical colleges of excellent reputation. In a subsequent paragraph I added: We move under present conditions (in America) in a vicious circle; our clinical records and death certificates are poor, because our physicians lack the objective training that can be derived only from necropsies and competent teachers. We cannot expect to improve in these respects until this training and knowledge become greater.

Thirdly, I enumerated and mentioned in detail many instances which illustrated the prevalent lack of consideration and responsibility of physicians as well as heads of institutions in regard to the recording of accurate statistics. I quoted from my own rather extensive experiences with the public service in New York and from some other States, and I may say mildly, for I did not propose to create a public scandal, which certain of my evidence certainly would have done, but endeavoured to impress upon physicians, State and municipal officials, and the public alike, the actual state of affairs and the urgent necessity for reform. For this reason I did not, for instance, go into the well-known incompetency and the disgraceful conditions of the coroners' office in New York and many other cities, an office which is responsible for practically all death returns in cases of sudden and "unusual" death, and I even avoided mentioning the powerful influence which the mass of mediocre, ignorant and unfit physicians, whose existence we owe to the inferior and vile medical schools and low educational standards (so well exposed by the Carnegie Foundation), must have on the correctness of death returns in the United States. Even the present State examination in New York stands on a relatively low level as regards testing a man's real knowledge and fitness to practise. It consists of written questions which may be answered with the knowledge of cram catechisms. There exists neither an oral nor a practical test, and a man may be allowed to enter practice in New York who cannot tell the section of a liver from that of a spleen. How can one *trust* the death returns under such conditions?

What I said in my article was, it will be appreciated by all well acquainted with American conditions, not new, but really only a repetition of general knowledge, and recorded once more the well-recognised results of the American wretched educational system which, combined with an unrefined political system, has *been* a serious drawback to American science and progress.

These views, says Mr. Hoffman, have not been accepted by qualified critics. I *do not* know who these are, for Mr. Hoffman, in a manner somewhat unusual in scientific controversy, does not even consider Dr. Bashford worthy of references to verify his statements, but I do know that they have been keeping their criticisms very quiet or published them by private subscription only in which I have not been included. On the other hand, Professor Graham Lusk, in a paper read at the International Medical Congress in London last summer on Medical Education in the United States,[1] says, in referring to the scarcity of necropsy experience in the State and City of New York: "If the physician were sure that, in case of death, his diagnosis would be checked by the pathologist, he would be likely to exercise greater care in his work, and he and his pupils would learn to better understand the limitations of diagnosis. Also, the value of vital statistics would be immeasurably enhanced. And further, this very ill-advised policy on the part of the law-making power (he refers to the severe restrictions in performing necropsies in New York) has had a further effect of discouraging pathological morphology, so that many pathological laboratories have turned attention to experimental pathology, &c. ...... The enforced neglect of morphological pathology has been a grave obstacle in the path of medical progress." There are other statements in Professor Lusk's article which may be read with profit in this connexion—for example, that as recent as 1912 the authorities of the State of Tennessee presented the spectacle of licensing 175 (!) individuals who were not graduates of any medical school whatever, and there are several other States in which it is not even necessary that an applicant for medical licence be a graduate of a reputable medical college. (Few States required any State examination before 1890, many even of the Eastern States not until after 1890.) Furthermore, in 1904 (!), when the Council on Medical Education of the American Medical Association began its activities, there were 166 medical schools in the country. Now there are, fortunately, only (!) 110, in contrast with 21 in England, 20 in Germany, 20 in Italy, and 5 in France; and the Council ranks (1913) only 21 in Class A plus as acceptable medical colleges well organised and thoroughly equipped, giving acceptable courses and requiring for admission one or more years of university science. This is really not, as will be seen, an exceptionally high standard, and this list of 21 does not include some of the New York State and City schools, and is silent about the standards of homœopathic and eclectic institutions and their contribution to the medical proletariat.

Enough has been said, I think, to show again that any statistics based on returns from an uncertain medical profession of such a heterogeneous composition covering a vast territory, difficult to control, largely poorly trained in general knowledge and in anatomical diagnosis in particular, must be taken very cautiously. As pointed out by me, even in New York City and State and some of the other Eastern States conditions are far from satisfactory.

I cannot take up more space of your valuable journal, but I think that if Mr. Hoffman would investigate conditions seriously he would find that the foundations for his statistical conclusions rest on very thin ice. His manner of disposing of my utterances and recommendations and the general misinterpretations which he gives them show that he is far from a scientific understanding of his material. What is more serious, his letter shows both the inaccuracy of passionate annoyance and the tendency to hasty generalisation with which an unfortunately still too large class of Americans resent any criticism of their institutions whatsoever.

I am, Sir, yours faithfully,
HORST OERTEL.

St. James's-street, S.W., April 11th, 1914.

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[1] Science, N.S., vol. xxxviii., No. 980, pp. 491-499, Oct. 10th, 1913.

THE FACULTY OF MEDICINE OF THE UNIVERSITY OF LONDON AND EXTERNAL STUDENTS.

To the Editor of THE LANCET.

SIR,—As one of the oldest medical representatives on the standing committee of Convocation I have taken a deep interest in your leading article on this subject of March 21st, and in Dr. Graham Little's two letters that have appeared in your columns. I find myself very much puzzled to reconcile two statements of fact. You say explicitly that all the medical schools but one urged the abolition of the external degree in medicine. The division taken at the last meeting of the Faculty, we are told by Dr. Little, was so close that the transfer of one vote would have produced an absolute equality. Dr. Little in his earlier letter, with its informing analysis of the composition of the Faculty, demonstrated that it consisted almost exclusively of teachers in the incorporated colleges and schools. How is it, then, that the enormous disparity of opinion indicated by your statement is not reflected in the division of the Faculty?

I have a further personal interest in the matter, for as an old Guy's man I am sorry to think that my school may be included in the majority which urged the abolition of the external degrees. This would be a singularly ungracious act, for had it not been for the opportunities provided by these, Guy's would have been deprived of two of its best teachers in my time. The career of one of these, my dear friend the late Dr. Wade, offers one of the most powerful of concrete arguments for the retention of the external degree.

I am, Sir, yours faithfully,
A. PERCY ALLAN.

April 10th, 1914.

** The facts are as stated in our leading article. We refer our correspondent to the Final Report of the Royal Commission on University Education in London, Part IV., p. 179, and to the Appendix to the Fifth Report of the Commission, p. 85 *et seq.*, and p. 142. The statement of evidence given on behalf of Guy's Hospital appears in this Appendix.—ED. L.

THE DEPENDENCE OF ARTHROPATHY ON NERVE INFLUENCE.

To the Editor of THE LANCET.

SIR,—I have read Dr. P. W. Latham's letter in THE LANCET of March 28th with much interest, and am glad to see that he has again brought forward evidence to show that affections of nerves may be followed by a condition resembling rheumatic arthritis or even rheumatoid arthritis. I cordially side with him in all he says, and for many years have carried out the treatment he advocates. I continue to do so, and the more I see of it the more convinced I am that it is one of the most powerful measures at present known for combating intractable arthritis and neuritis. I can readily call to mind two striking cases.

1. The patient was a man, aged 66, who fell down a long flight of steps and injured his left shoulder badly. There was no fracture, and the exact nature of the effects of the accident was never made out. The forearm and hand swelled within a comparatively short time and pain was an early symptom, both in the joint and along the whole arm. As time went on the upper arm wasted, the forearm became œdematous, and the joints of the fingers assumed a rheumatoid aspect. Pain increased in severity in spite of treatment, including massage. The patient emphatically stated that

the latter made him worse. The general health became seriously impaired. At the end of three months he was sent away for change of air and came under my care. I applied a large blister on his back on the left side of the upper dorsal vertebræ, and subsequently kept the raw surface open by means of savin ointment. The effect was most gratifying. Within a few days pain became less and eventually ceased. Six months later the patient wrote saying he was in excellent general health and had a useful arm. In this case, whatever else may have happened, I am certain there was severe neuritis of the brachial plexus.

2. A similar case. Patient aged 57. He fell twice from his bicycle, injuring his left shoulder each time. As in the former case, œdema of the forearm and a rheumatoid condition of the hand set in. Pain became so intense the patient was at times delirious. At the end of about three months he also was sent away from home and I took charge of him. I again resorted to a large blister as before. The result was equally gratifying for a time, but subsequently the head of the humerus became sarcomatous.

In each case a celebrated consultant was called in before I saw the patient, but his suggestions led to no relief of suffering. I mention this in no spirit of vaingloriousness, but merely to emphasise the fact that the blister succeeded when all else had failed. It is generally acknowledged that pain means tension, and in my opinion a blister relieves tension.

Dr. Latham refrains from any suggestion as to why joints become rheumatoid when their nerve-supply is impaired, and makes no mention of germs. I feel strongly that these cannot be put aside. Whatever else may be going on in a swollen joint there is beyond all question a local accumulation of toxins. Germs are a source of extremely irritating toxins, and as no living man is ever germ-free, toxins are being constantly produced in his system. There are many who believe that the application of a blister is followed by an increased leucocytosis and production of antibodies. I personally believe that both micro-organisms and toxins are freely extruded through the raw surface produced by a blister, especially if savin ointment is applied once or twice daily as long as necessary.

I am, Sir, yours faithfully,

Bournemouth, April 3rd, 1914. W. J. MIDELTON.

CHANGES IN THE BLOOD IN SURGICAL SHOCK.

To the Editor of THE LANCET.

SIR,—I think one is justified in expressing considerable surprise at the nature of the admission made by Mr. A. Rendle Short as to his CO_2 estimations. In his original article he describes his technique in these words: "A bandage was tied round the patient's arm, and the skin sterilised with iodine." He now states that only in certain cases was such a bandage applied. What is to be thought of physiological observations in which it is regarded as immaterial whether a profoundly disturbing factor is introduced or not? Mr. Short passes the matter over lightly by suggesting that as the bandage was only applied for about a minute, the blood could not have received much additional CO_2. May I refer him to a paper published in THE LANCET of June 19th, 1909, p. 1741, in which Dr. A. P. Beddard, Dr. M. S. Pembrey, and Dr. E. I. Spriggs record the observation that by bandaging the arm for two minutes they could raise the CO_2 content of the venous blood from one-fifth up to the normal value. As Mr. Short describes the sterilisation of the arm with iodine after the application of the bandage, is he really certain that these operations occupied only one minute?

It may here be remarked that, apart altogether from the matter of bandaging, the CO_2 of the venous blood is a very variable factor, and differs widely in different regions. There are other disturbing factors, so that at best merely a rough estimate is possible from these examinations as to the CO_2 content of the arterial blood. A more accurate method is by analysis of the alveolar air, an impossible proceeding, of course, in Mr. Short's cases. Hürter,[1] however, has shown that blood may be easily and safely taken from the radial artery.

The real object of my note was not to uphold the acapnia theory as opposed to the theory of Crile, but merely to point out a source of fallacy in Mr. Short's protocols. As to the general question, there is a tendency to lose sight of the fact that there are different kinds of shock, and the causes are correspondingly diverse. If any one should doubt, for instance, that shock is associated (to put it at the lowest) with acapnia, let him maintain forced breathing for a sufficient number of minutes, and then after recovering his senses he will remain a sceptic no longer. In surgical shock the degree of acapnia present may be roughly guessed by observing the antecedent pulmonary ventilation. Now in the experiments of Janeway and Ewing, to which Mr. Short refers, and which, by the way, were first published in the *Biochemical Journal* for April, 1913, shock resulted just the same when the CO_2 content of the blood was artificially maintained. Seelig[2] also found that the injection of CO_2 into the veins did not prevent shock artificially induced in dogs. The contention of Janeway and Ewing is that the shock in artificial hyperrespiration was due to inhibition of the venous *return to the* heart. But here let it be noted that the intrapulmonary air pressure induced in these experiments was enormous, sufficient practically to empty the thoracic veins, and therefore by no means comparable to the natural hyperrespiration which takes place in the human subject. Accordingly, the relationship of acapnia to shock in man is not disposed of in such experiments.

The adoption of "spinal" shock by Mr. Short as supplying the clue to surgical shock is to my mind rather unfortunate. Both Yandell Henderson and Janeway and Ewing found the bulbar centres perfectly active, and so the latter authors fall back on "local peripheral causes."

I am, Sir, yours faithfully,

A. G. AULD.

Henrietta-street, Cavendish-square, W., April 4th, 1914.

THE LATE COLONEL J. O. WILL, R.A.M.C.

To the Editor of THE LANCET.

SIR,—We venture to appeal to the charity of those members of the medical profession who are in a position to render help to the widow and family of the late Surgeon-Lieutenant-Colonel J. O. Will, R.A.M.C. The deceased leaves an honourable record of work done in many parts of the Empire. Among many who personally tendered to him their thanks for valued services were the late General Wauchope in South Africa and Sir F. M. Hodgson in St. Vincent after the disastrous eruption in that island.

Early in this year Dr. Will, having retired from the Army, purchased a practice in the village of Dunton Green, near Sevenoaks. After only seven weeks he fell a victim to pneumonia. The evening before his death his eighth child was born, the mother's mental and bodily suffering being increased by a perilous obstetric complication. The widow is left with a family of eight to bring up, the eldest being a girl of 16. A yearly allowance to be made by the War Office represents practically her entire income; under the circumstances no great sum can be expected from the sale of the practice, which was a small one. Her only relatives are not in a position to afford substantial aid; and we feel that many medical men would like to do what is in their power to help.

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[1] Archiv für Klinische Medizin, 1913, cxiii, 1.

[2] American Journal of Medical Sciences, August, 1913.

The Rev. E. Mort, vicar of Dunton Green, has opened a fund, and any contributions we may receive as a result of this appeal will be added to it and thankfully acknowledged.

We are, Sir, yours faithfully,
JAMES E. BLOMFIELD, M.A., M.D. Oxon.
R. J. DICK, M.D. Edin.
GERALD SICHEL, F.R.C.S. Eng.

Sevenoaks, April 14th, 1914.

THE SCHOOL MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—It may not have come to the knowledge of some school medical inspectors or assistant school medical officers that an organisation has been formed within the Society of Medical Officers of Health with the object of safeguarding and forwarding their general interests.

On Saturday, May 2nd, at 2 P.M., it is proposed to hold a meeting at 1, Upper Montague-street, Russell-square, W.C., for the purpose of bringing together all those of the above classes who work in the metropolitan area—i.e., in Greater London or neighbourhood. To the rank and file of school medical workers there will be no need at the present juncture to labour the necessity of having some organisation adequately to press their claims, hitherto somewhat overlooked. It is therefore sincerely to be hoped that all those, of whatever rank, who are interested in the present and future welfare of the school medical service will strain a point to attend at the time specified. Those who cannot do so will materially help by sending their names and any suggestions they wish to make to me.

I am, Sir, yours faithfully,
S. B. WALSH.

Hampden Club, Phœnix-street, N.W., April 14th, 1914.

DONATIONS AND BEQUESTS.—By will the late Dame Sarah Annabella Boughey, of Sundorne Castle, Shrewsbury, bequeathed £15,000 for the purchase of land and the erection thereon of a cottage hospital at Newport, Salop, to be called the "Annabella, Lady Boughey Cottage Hospital."—The following institutions will benefit under the will of the late Mr. Frederick Ingle: British Home and Hospital for Incurables, Streatham, £1000; West London Hospital, £1000; St. Luke's House (Home for the Dying Poor), £1000; Maternity Charity and District Nurses Home, Plaistow, £500; Miller General Hospital, Greenwich, £500; Victoria Hospital for Children, Chelsea, £500; All Saints, Hospital, Vauxhall Bridge-road, £500; Westminster Hospital, £550; Western Ophthalmic Hospital, £500; Bolingbroke Hospital, £500; and Metropolitan Convalescent Institution, £500.—Under the will of Mrs. B. S. Grewcock, of Pershore, University College Hospital, London, receives £1500 for the endowing of a bed to be called the "John and Bridget Grewcock Bed," and a similar sum is received by Epsom College for the provision of pensions "for retired legally qualified medical men who from old age, permanent incapacity from illness, reduced circumstances, or other causes in the opinion of the Council are in need of such allowance or pension."

THE NATIONAL INSURANCE ACT.

THE STATE MEDICAL SERVICE ASSOCIATION.

A PUBLIC meeting was held recently in London at the Essex Hall by the State Medical Service Association, under the presidency of Sir George Kekewich, when Sir John Collie moved the following resolution:—

> That this meeting, being of opinion that the present arrangements for the prevention and treatment of disease are wholly inadequate to the needs of the community, calls upon the Government to establish a complete State Medical Service, freely available to all, as the only means by which the health of the nation can be efficiently maintained.

Sir John Collie, in proposing the resolution, dwelt upon the difficulties attending the prevention of malingering under the Insurance Act and of consequent excess of disbursement on sickness benefits. He spoke of the institution of a medical service as inevitable when the dependents of those now insured became entitled to medical attendance. Professor Leonard Hill, in seconding the resolution, dwelt upon the advance of medical science in the direction of prevention, and advocated a medical service as a means of combining the prevention with the treatment of disease. Mr. A. G. Gardiner and Dr. A. Salter also spoke, the latter describing the difficulties which under existing circumstances tended to render inadequate the supply of medical men in working-class districts. He further pointed out that whereas the Chancellor of the Exchequer had estimated that about 30 per cent. of the insured patients on a practitioner's list would be attended by him in the course of a year, the secretary of the British Medical Association had estimated that in the light of experience about 65 per cent. would be much nearer the mark. According to the speaker's personal experience in his own practice and of that of other medical practitioners in the East-end, from 82 to 92 per cent. of the insured had to be seen in the year. In order to provide the necessary increase in the numbers of the medical profession he recommended the democratisation of the profession, and made suggestions as to the lines upon which education for this purpose might be arranged. The resolution was carried.

MANCHESTER INSURANCE COMMITTEE AND CRITICISM OF PANEL PRACTICE IN MANCHESTER.

Dr. T. A. Helme, at a recent meeting of the Manchester Insurance Committee, made a vigorous speech with regard to the allegations of inadequate medical service at Manchester, the consideration of which has been referred to a subcommittee. Resolutions of the Medical Committee were read, *calling the Insurance Committee's* attention to (*a*) the insufficiency of medical remuneration, the income available having proved hitherto less by £70,000 than what would be necessary to pay medical men on the panel on the official scale arranged; (*b*) the insufficiency of the drug fund to provide and in particular to its inadequacy for the provision of the most appropriate remedies for many serious cases; (*c*) unfair charges publicly made of malpractice and careless treatment, resulting in resentment and consequent lack of interest in insurance work on the part of medical men. Dr. Helme declared that patients had been given under the Act as good treatment as they had enjoyed as private patients before it. He impugned the honesty of the attacks made upon the medical profession. The allegations were untrue in fact and unfair in the manner in which they had been made. The medical practitioners themselves had constituted a special committee for the sifting of complaints carefully and dispassionately round a table where laymen and medical men would do their best for the insured. The persons making charges had not used the official means provided for the purpose, and he would challenge them to bring definite cases before the committee. He made on behalf of the medical profession in Manchester a cordial offer to them to do their very best to make the Act a success if possible. After the chairman had made some observations it was resolved to refer the resolutions of the Local Medical Committee to the Special Committee already appointed.

BRISTOL INSURANCE COMMITTEE.

At its last meeting this committee considered several matters of medical interest. The chairman said that, in response to a request for information offered by some of the panel practitioners, the remuneration per visit had been calculated on a wide and representative basis. It worked out at about 1*s.* 4½*d.* per visit. Negotiations are proceeding for the allocation of those persons who have not yet chosen a doctor. A resolution devoting the unallocated funds formed by the allowance for these persons to the provision of home nursing and other benefits for the insured was carried by a large majority; an amendment proposing its delay for further consideration of the claims of the panel to receive this money being negatived. It was stated that premises accommodating about 24 patients would shortly be open, in addition to those already available, for the reception of tuberculous patients for sanatorium treatment.

PANEL PATIENTS AND EXTRA FEES.

At a meeting of the Leicestershire Insurance Committee a resolution was passed to the effect that medical men on the panel should be reminded by a recommendation forwarded by the Committee that insured persons on their lists were entitled to the benefits provided by the Act without charge, and that it should be intimated that the committee would view with disfavour any suggestion made by any medical man that patients should make any additional payment.

LEICESTER ROYAL INFIRMARY.—The opening ceremony of the reconstructed Children's Hospital in connexion with this institution will be performed by the Hon. Mrs. G. Murray Smith, on Wednesday next, April 22nd, at 3.15 P.M.

BRITISH HOSPITALS ASSOCIATION.—The fifth annual conference of this association will be held at Newcastle-upon-Tyne from June 18th to 20th, 1914. The Lord Mayor of the city (Councillor Johnstone Wallace, J.P.) will preside and deliver an address, and various papers dealing with hospital matters will be read and discussed. Full particulars of the conference will be announced in due course.

MR. H. W. ARMIT, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Editor of the *Medical Journal of Australia*, and will leave England to take up his duties this month. The *Medical Journal of Australia* will replace the existing *Australasian Medical Gazette* and *Australian Medical Journal*, and the offices will be situated in Sydney, New South Wales.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At the Quarterly Examination in Practical Pharmacy, held on April 2nd, the following candidates were approved :—

Finlay Cameron, King's College and Charing Cross Hospital; Hugh Collins, Madras and London Hospital; Eric David Despard Davies, Cambridge University and St. Mary's Hospital; Frederick Graham Leslie Dawson and George Stanley Deane, London Hospital; Horace Silva Drabble, Sheffield University; Hassell Dyer Field, St. Thomas's Hospital; Luis Hernando Garces, London Hospital; Ralph Byron Gibson, Sheffield University; Arthur Dodsworth Haydon, Cambridge University and St. Thomas's Hospital; Arthur Maddock Jones, Charing Cross Hospital; Tom Jones, Cambridge and Manchester Universities; Theodore Louis Kan, King's College and St. Thomas's Hospital; Felix Edward Ricardo Laborda, Guy's Hospital; Constantine Lambrinudi, Cambridge University and Guy's Hospital; Eric Delafield Lindow, King's College Hospital; Archibald Daniel Marston, Guy's Hospital; Benjamin Robert Mayman, King's College Hospital; Bhamini Mohan Mitra, Calcutta and Middlesex Hospital; Leonard William Mortimer, London Hospital; Noel Spencer Nairne, St. Thomas's Hospital; Guy William Parry, St. Bartholomew's Hospital; Sachchidananda Hosen Paul, Calcutta and Charing Cross Hospital; Frederick Stanley Lawrence Piggott, Cambridge University and St. Thomas's Hospital; Herbert Sharpe, Cambridge University and Guy's Hospital; Bawa Harkishan Singh, Lahore Medical College and Middlesex Hospital; Robert Masters Somerset, Sheffield University; Frank Hugo Stuttaford, St. Mary's Hospital; Samuel Leon Szpigner, London Hospital; Karl Johan Fredrick Westman, Guy's Hospital; Henderson Whyte, London Hospital; and Thomas Wilson, Manchester University.

LONDON SCHOOL OF TROPICAL MEDICINE.—The following were the successful candidates at the examination held at the end of the forty-fourth session (January–April, 1914) :—

G. G. Jolly (Colonial Service) and N. S. Williams (with distinction), G. M. Millar (Colonial Service), C. J. B. Pasley (Colonial Service), A. L. Fitzmaurice, V. StJohn Croley, J. Marmion, I. Ridge-Jones, S. Colyer, S. F. Chellappah, Bernard Haigh, E. Gibson (Colonial Service), Miss E. N. M. Ross, and J. H. Castro.

UNIVERSITY OF GLASGOW.—At the Final Professional Examination, held recently, the following candidates were successful :—

Robert Armstrong, George Flett Barr, Robert William Brander, William Hunter Brown, Ethel Crawford, Robert Frew, Adolph Robert Hanns Geyer, Alexander John Gibson, Thomas Gilchrist, David Hardie, John Wishart Welsh Hewitt, David Johnston, George Smith Livingston, Daniel Steel M'Bean, Charles Robertson M'Intosh, Jessie Gordon M'Laren, Neil Macleod, Frederick William M'Millan, Robert Martin M'Minn, Ewen Stewart Macphee, James Kennedy Manson, William Strelley Martin, Walter John May, William Meikle, Alexander Dryden Moffat, William Luddington Peacock, John M'Lean Pinkerton, David Reid Eccles Roberts, Robert Cecil Robertson, Stanley Robertson, Stuart Robertson, Stuart Dewar Robertson, Archibald M'Kerrow Russell, John Fraser Steven, Henry Stewart, John Symington Stewart, Ronald Stewart, Ian Dishart Suttie, Robert Tennent, Robert Noel Thomson, William Thomson, John Cuthbertson Walker, Henry Currie Watson, Sara Adam Watson, Grace Birrell Whish, Alexander Sweet Wilson, and Thomas Wilson Wylie.

At the examinations for the degrees of M.B. and Ch.B. the following candidates passed with distinction in the subjects indicated :—

Zoology and Chemistry.—James Rognvald Learmonth, Peter Alexander Mackay, John William Peden, and Agnes Petrina Routledge.
Botany.—Donald Maclean.
Zoology.—John Barlow, Barclay Barrowman, Thomas M. Burton, Margharita Mary Lamont Couper, John Donald, William John Ferguson, Grace Anderson Fleming, Tom Osborne Howie, Robert Ebenezer Kerr, Elizabeth Cochrane Loudon, and Isabella Quarrier M'Fadzean.
Physics.—Thomas Robertson.
Chemistry.—Isaac Ladipo Oluwole.
Anatomy and Physiology.—Thomas Arthur Letters.
Materia Medica and Therapeutics.—David Campbell and Clive Alan Whittingham.
Pathology and Medical Jurisprudence and Public Health.—Ernest M'Murchie Dunlop.
Pathology.—John Mandeville Macfie.
Medical Jurisprudence and Public Health.—John Glaister and John Desmond Milligan.
Surgery and Clinical Surgery and Practice of Medicine and Clinical Medicine.—Robert Tennent.
Surgery and Clinical Surgery.—George Flett Barr, Stanley Robertson, and Stuart Robertson.

CONJOINT EXAMINATIONS IN IRELAND BY THE ROYAL COLLEGE OF PHYSICIANS AND THE ROYAL COLLEGE OF SURGEONS.—At examinations held recently the following candidates passed in the examinations as undernoted.

Preliminary Examination.—Daniel Casey, Baron Asher Cohen, Edward Patrick Connolly, David Clein, John Duffy, Joseph Forbes, John Francis Gallagher, Thomas Philip Harper, Daniel Hegarty, Thomas Joseph Hurley, John Joseph Lee, James McAleer, Thomas Fulton McCay, Christopher MacCormack, Peter Eugene Macnamara, Thomas F. Minford, Victor Franz Von Nauman, Joshua Pousner, Patrick Joseph Roddy, and Louis Scher.

First Professional Examination.—Henry Bell, William E. Cooke, Thomas N. D'Arcy, Sylvester J. Healy, Timothy Lynch, Thomas H. K. McLoughlin, Victor J. J. O'K. Murphy, Carl O'Connor, Bernard F. O'Reilly, and Gilbert R. Wilson.

Second Professional Examination.—M. Briscoe (with honours), J. P. Morgan (with honours), J. F. Seale (with honours), D. J. Steele (with honours), J. H. Barrett, J. J. Bourke, G. H. M. Crofts, W. O'C. Hunt, H. Levison, and J. E. Lucas.

Third Professional Examination.—C. H. Brennan, W. E. R. Dimond, J. A. Fretton, J. A. McKinnon, A. C. McQuaide, G. M. Moffatt, T. F. Moran, V. A. Power, R. O'C. Redmond, A. P. Reilly, N. E. Stephens, and M. A. Sullivan.

Final Examination.—Charles M. G. Campbell, Ernest Connell, James J. Donegan, Joseph J. Elliott, Edward Green Foley, John M. Gilmor, William Lumley, Louis L. McKeever, John A. O'Driscoll, Patrick J. O'Reilly, James J. Reynolds, and Robert P. Weldon.

Diploma in Public Health.—Henry Blyth, M.B. Edin., Capt. Howard Crossle, I.M.S., M.B. Dub. (with honours), and Henry Lloyd, M.D. Durh.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON AND TUBERCULOSIS.—We are asked to say that the "statement concerning the infectivity of tuberculosis," which was adopted by the council of the College at its last Comitia and summarised in our report last week, can be had on application at the College, Pall Mall East, London, S.W.

THE ROYAL SANITARY INSTITUTE.—A lecture will be delivered at 90, Buckingham Palace-road, S.W., on Wednesday, April 29th, at 5 P.M., by Dr. E. F. Bashford, director of the Imperial Cancer Research Fund Laboratory, on "The Bearing of Comparative and Experimental Investigations on the Association of Cancer with Chronic Irritation."

HUNTERIAN SOCIETY.—The last meeting of the session will be held on Wednesday next, April 22nd, in the library of St. Bartholomew's Hospital. After the election of officers for next session, the winner of the society's annual medal, Dr. B. T. Parsons-Smith, will read a paper, founded on his prize essay, and dealing with the intermittent pulse. The society's silver medal and certificate will then be presented to him by the President.

GUY'S HOSPITAL.—An invitation is extended to medical men to attend a course of six lectures on "Industrial Medicine," to be delivered at the Medical School of this hospital by Dr. Frank Shufflebotham, lately Milroy lecturer on that subject at the Royal College of Physicians of London. The lectures will be given on Fridays at 4 P.M., commencing on May 8th, and will be illustrated by the epidiascope, by pathological specimens, and by clinical cases.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Easter Holidays.

THE House of Commons adjourned on Wednesday, April 8th, until Tuesday, April 14th, for the Easter holidays.

HOUSE OF COMMONS.

TUESDAY, APRIL 7TH.

Uncertified Deaths.

Mr. HIGHAM asked the President of the Local Government Board what was the statutory authority for the amended regulations recently issued by the Registrar-General on the subject of uncertified death; whether the regulations had been advertised in the *London Gazette*, in pursuance of Section 44 of the Registration Act 1874, and, if not, why were they not so advertised; and whether the regulations forbade registrars to register such deaths until they had been dealt with by the coroner, or whether it was intended that the registrar should register such deaths as heretofore, and then report them to the coroner, if this had not been done already.—Mr. HERBERT SAMUEL replied: The statutory authority for the regulations referred to is Section 5 of the Births and Deaths Registration Act, 1836, which does not require their publication in the *London Gazette*. As regards the last part of the question the new regulations follow the previous regulations in providing that in all cases in which the registrar reports to the coroner he must await the coroner's decision before registering the death.

WEDNESDAY, APRIL 8TH.

Flies as Carriers of Infection.

Mr. CHARLES BATHURST asked the President of the Local Government Board whether his attention had been called to the warning recently addressed to the public by 123 medical officers of health as to the prevalence during the summer months of infantile enteritis and other diseases traceable to the common house fly, and the increased human mortality consequent thereon; and whether the Board were taking any, and if any what, steps to effect the reduction of the fly population and of the diseases caused thereby.—Mr. HERBERT SAMUEL replied: The answer to the first part of the question is in the affirmative. As regards the last part of the question the Local Government Board are fully alive to the importance of this matter. They have issued six reports on flies as carriers of infection. They have warned local authorities by circular both in 1911 and 1913 of the danger of allowing accumulations of refuse which may form breeding grounds for flies to remain in their districts, and they have for some time been urging individual local authorities who are not dealing satisfactorily with the refuse of their districts to improve their methods.

Medical Officers of Health in Scotland.

Replying to Mr. ASTOR, Mr. MCKINNON WOOD (Secretary for Scotland) wrote: In Scotland there are 134 medical officers of health. Of these, 33 are full-time officers and 101 are part-time officers. Of the whole-time officers 16 have salaries of £500 or over and the remainder receive less than £500.

Sleeping Sickness in East Africa.

During the debate on the East African Protectorates (Loan) Bill, Mr. L. HARCOURT (the Colonial Secretary) mentioned that inquiries were still being made by a committee at the Colonial Office into the subject of sleeping sickness in East Africa. It presented a difficult problem, which was also being investigated on the spot. He warned honourable Members against running away with the idea that game or domestic animals were the only carriers of the disease.

TUESDAY, APRIL 14TH.

Funds for Sanatorium Purposes.

Mr. MONTAGU (Secretary to the Treasury) informed Mr. F. HALL (Dulwich) that the question of giving special facilities for loans from the Local Loans Fund for Sanatorium Purposes was under consideration.

Beds for Jews in Sanatoria.

Mr. GODFREY LOCKER-LAMPSON asked the President of the Local Government Board whether the Jewish board of guardians had reported that there was no large increase in the total number of beds in sanatoria available for Jews.—Mr. HERBERT SAMUEL answered: The reply is in the affirmative, but no complaint has been made to me that the number is inadequate.

Domiciliary Treatment in Perth.

Mr. GODFREY LOCKER-LAMPSON asked the honourable Member for St. George's-in-the-East, as representing the Insurance Commissioners, whether the Perth Insurance Committee had so far neglected to provide domiciliary treatment for consumptives; whether this neglect had followed as a result of a conference with the Scottish Insurance Commissioners; and, if so, whether the Government would take steps to see that this necessary treatment was provided.—Mr. WEDGWOOD BENN replied: I am informed that there is no foundation for the statement in the first part of the question. Both in the burgh and in the county of Perth, as in all other parts of Great Britain, domiciliary treatment is provided for under the doctors' agreements with the Insurance Committee. No conference of the kind referred to by the honourable Member has been held, and the last part of the question does not therefore arise.

Ireland and Medical Benefits.

Mr. A. HENDERSON asked the Chancellor of the Exchequer whether he intended to make an attempt this session to secure the passage of the Bill to extend medical benefits under the National Insurance Act to insured persons in Ireland.—Mr. WEDGWOOD BENN (who replied) said: I regret that in my right honourable friend's unavoidable absence I am unable to make any statement.

Milk and Dairies Bill.

Replying to Mr. CHARLES BATHURST, Mr. HERBERT SAMUEL said that he hoped to be able to introduce the Milk and Dairies Bill shortly.

Preservatives in Cream.

Answering Mr. HUME-WILLIAMS, Mr. HERBERT SAMUEL (President of the Local Government Board) said: For the period 1909–12 inclusive legal proceedings in respect of cream containing added preservative resulted in convictions in 74 cases. Of the 74 samples of cream in question 21 contained less than 0·25 per cent. of boric acid, 39 samples contained between 0·25 and 0·5 per cent., and 14 between 0·5 and 0·75 per cent. Complete information is not available for any later period.

Mr. HUME-WILLIAMS asked the right honourable gentleman (1) whether his attention had been called to the confusion existing in the dairy trade owing to the fact that no regulations had been made defining the amount of preservative which might legally be added to cream before it was sold; whether it was his intention to issue such regulations, and if so, when; and (2) whether his attention had been called to the fact that on August 11th, 1909, Dr. J. M. Hamill, one of the medical inspectors of his department, made a report in which he recommended that 17½ grains to the pound of boric acid might without injury to health be added to cream during the cooler months of the year and 28 grains to the pound during the months from May to October; and whether he would take that report as the basis for regulations to be issued with reference to the use of preservatives in cream.—Mr. HERBERT SAMUEL replied: I have received representations to the effect that an alteration of the regulations is desirable, and the matter is receiving my consideration. As at present advised I am not satisfied that an official recognition of a limit of preservative is desirable.

WEDNESDAY, APRIL 15TH.

Uncertified Deaths.

Mr. CHARLES BATHURST asked the President of the Local Government Board whether his attention had been called to the recent speech of Sir Charles Cameron, M.D., formerly M.P. for the College Division of Glasgow, when presiding at the annual meeting of the Cremation Society, in which he protested against the scandalously lax requirements of the burial law which afforded every facility for the concealment of crime and conduced to the compilation of worthless statistics, and alleged that death certificates given by medical practitioners were filled up in a most perfunctory manner, too often on hearsay and without personal knowledge, and that many thousands of deaths were each year registered which were not certified by any medical practitioner; whether, in the opinion of his advisers, such allegations were well-founded; and, if so, whether it was proposed to introduce legislation dealing with this matter.—Mr. HERBERT SAMUEL said in reply: I have not seen a report of the speech referred to. Under a recent Regulation issued by the Registrar-General uncertified deaths are required to be reported to the coroner. With respect to the last part of the question, the Registrar-General is considering the question of what amendments are desirable in the law relating to the registration of births, deaths, and marriages, but I am not at present in a position to made any statement as to legislation on the subject.

Mr. BATHURST: Is the right honourable gentleman not aware that death certificates are given in a very unprecise manner by medical practitioners at the present time?—Mr. HERBERT SAMUEL: I would not be prepared to make any sweeping condemnation of the manner in which medical practitioners perform the duties cast upon them, but I have no doubt that there are defects in a certain number of cases.

BOOKS, ETC., RECEIVED.

BELL, G., AND SONS, London.

Demonstrations on Infant Care, for Elder Girls. By Mrs. K. Truelove. With Introduction by Lady St. Helier. Price 8*d*.

BUTTERWORTH AND CO., London, Sydney, Calcutta, and Winnipeg.

A Digest of the Law and Practice Relating to Local Government in England and Wales (including London). By Arthur D. Deane and E. J. Rimmer.

Genito-Urinary Diseases and Syphilis. By Edgar G. Ballenger, M.D., Adjunct Clinical Professor of Genito-Urinal Diseases, Atlanta Medical College; assisted by Omar F. Elder, M.D.

The Wassermann Reaction. By J. Edgar Paullin, M.D. Second edition, revised, with 103 illustrations. Price 15*s*. net.

CHURCHILL, J. AND A., London.

School Lighting. By Edwin H. T. Nash, D.P.H., Medical Officer of Health and School Medical Officer to the Borough of Wimbledon. Price 1*s*. net.

FROWDE, HENRY, AND HODDER AND STOUGHTON, London.

Arteriosclerosis. A Consideration of the Prolongation of Life and Efficiency after Forty. By Louis Faugeres Bishop, A.M., M.D., Clinical Professor of Heart and Circulatory Diseases, Fordham University School of Medicine, New York City. Price 10*s*. 6*d*. net.

HEFFER, W., AND SONS, LIMITED, Cambridge. Agents: SIMPKIN, MARSHALL, AND CO., London.

Elizabethan Drama and its Mad Folk, being the Harness Prize Essay for 1913. By Edgar Allison Peers, B.A. Price 3*s*. 6*d*. net.

HODGE, WILLIAM, AND CO., Edinburgh and London.

Problems of School Hygiene. Being a Report of the First Conference of Scottish School Medical Officers. Edited by W. Leslie Mackenzie, M.A., M.D., LL.D., and Lewis D. Cruickshank, M.D., D.P.H. Price 2*s*. 6*d*.

JARROLD AND SONS, London.

How to Breathe, Speak, and Sing. By Robert Stephenson, [illegible] Price [illegible] net.

LEWIS, H. K., London.

Anaesthetics. Their Uses and Administration. By Dudley [illegible] M.D., B.S. [illegible] Price [illegible] net.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ALLFREY, F. H., M.B., B.C. Cantab., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Shoreham District of the county of Sussex.

DAVIES, E. T. H., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Tredegar District of the county of Monmouth.

EVANS, ALBERT EDWARD, M.B., B.S. Lond., has been appointed a Medical Inspector under the Board of Control (Medical Deficiency Act).

ORCHARD, J. E. R., M.B., Ch.B. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Crewkerne District of the county of Somerset.

PRIDMORE, J. W., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Medical Officer to the Royal Isle of Wight County Hospital.

REDWOOD, R. V. DE A., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Rhymney District of the county of Monmouth.

RICHMOND, J. R. M., L.M.S.S.A. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the St. Just District of the county of Cornwall.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ARGYLL, COUNTY OF.—Assistant County Medical Officer and Executive Tuberculosis Officer. Salary £300 per annum.

BARNSLEY, BECKETT HOSPITAL AND DISPENSARY.—Second House Surgeon, unmarried. Salary £100 per annum, with apartments, board, and laundry.

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL.—House Surgeon. Salary £120 per annum, with residence, board, and laundry.

BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

BIRKENHEAD UNION INFIRMARY.—Senior Resident Assistant Medical Officer. Salary £150 per annum, with board, apartments, &c.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer and Resident Surgical Officer. Salary £80 per annum each, with board, washing, and attendance.

BIRMINGHAM GENERAL DISPENSARY.—Resident Medical Officer, unmarried. Salary £220 per annum, with apartments, fire, light, and attendance.

BOLTON INFIRMARY AND DISPENSARY.—Senior House Surgeon. Salary £150 per annum, with apartments, board, and attendance.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £120 per annum, with board, residence, and laundry.

BRADFORD ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing.

BRISTOL CITY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, washing, and attendance.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House Physician. Salary £80 per annum, with board, rooms, attendance, and laundry.

BRISTOL ROYAL INFIRMARY.—Two House Surgeons, House Physician, and Throat, Nose, and Ear House Surgeon, all for six months. Salaries at rate of £100 per annum, with board, apartments, and laundry.

BROADMOOR, CROWTHORNE, BERKS, STATE CRIMINAL LUNATIC ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £225 per annum, with quarters, coal, gas, and attendance.

BURNLEY, VICTORIA HOSPITAL.—Second House Surgeon for six months. Salary at rate of £100 per annum, with residence, board, and washing.

BURY INFIRMARY.—Junior House Surgeon. Salary £100 per annum, with board, residence, and washing.

CARLISLE, CUMBERLAND AND WESTMORLAND ASYLUM, Garlands.—Junior Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, and washing.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary £200 per annum, with apartments.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd-street, St. Pancras, W.C.—House Surgeon. Salary at rate of £50 per annum, with board and residence.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's-inn-road, W.C.—Resident House Surgeon. Salary £50 per annum, with board and laundry.

CHELTENHAM GENERAL HOSPITAL.—House Physician, unmarried. Salary £100 per annum, with board, lodging, and washing.

CHICHESTER, WEST SUSSEX COUNTY MENTAL HOSPITAL.—Junior Assistant Medical Officer. Salary £200 to £250 per annum, with apartments, board, laundry, and attendance.

DERBY COUNTY ASYLUM, Mickleover, Derby.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, and washing.

DERBY, COUNTY BOROUGH OF.—Assistant Medical Officer of Health. Salary £150 per annum, with board and residence.

DEVONPORT, ROYAL ALBERT HOSPITAL.—House Surgeon, unmarried. Salary £[illegible] for first six months, £[illegible] for second six months, and at rate of £150 per annum during second year. Also Assistant House Surgeon, unmarried. Salary at rate of £[illegible] per annum, with board and laundry.

DEWSBURY AND DISTRICT GENERAL INFIRMARY.—House Surgeon. Salary £120 per annum, with board, residence, and laundry.

Doncaster Royal Infirmary and Dispensary.—Assistant House Surgeon. Salary £100 per annum, with board, apartments, and washing.

Dudley, Guest Hospital.—Senior Resident Medical Officer. Salary £120 per annum, with board, residence, attendance, and washing.

Durham County Asylum.—Junior Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, and washing.

Durham County Council.—Assistant Tuberculosis Medical Officer. Salary £300 per annum.

Eccles and Patricroft Hospital.—House Surgeon. Salary £70 per annum, with board, washing, and lodging.

Edinburgh Royal Infirmary.—Clinical Pathologist. Salary £250 per annum.

Enniskillen, Fermanagh County Hospital.—House Surgeon. Salary £104 per annum.

Essex, Administrative County of.—Assistant Tuberculosis Officer. Salary £300 per annum.

Evelina Hospital for Sick Children, Southwark, S.E.—House Surgeon for six months. Salary at rate of £75 per annum, with board, residence, and washing.

Grange-over-Sands, Westmorland Consumption Sanatorium and Home, Meathop.—Second Assistant Medical Officer. Salary £150 per annum.

Halifax Royal Infirmary.—Second House Surgeon and Third House Surgeon, unmarried. Salary £100 and £80 per annum respectively, with residence, board, and washing.

Halifax Union Poor-Law Hospital, Salterhebble.—Resident Medical Officer. Salary £120 per annum, with apartments, rations, and washing.

Hastings, East Sussex Hospital.—House Physician. Salary at rate of £80 per annum, with residence, board, and washing.

Hereford County and City Asylum.—Locum Tenens Assistant Medical Officer for three to four months. Salary £5 5s. per week, with board, lodging, and washing.

Hospital for Epilepsy and Paralysis, and other Diseases of the Nervous System, Maida Vale, W.—Resident Medical Officer for six months. Salary at rate of £75 per annum, with board, lodging, and washing.

Hull Royal Infirmary.—House Physician, unmarried. Salary £100 per annum, with board and apartments.

Huntingdonshire County Council.—Assistant County Medical Officer and Assistant School Medical Officer (female). Salary £300 per annum.

Kidderminster Infirmary and Children's Hospital.—House Surgeon, unmarried. Salary £100 per annum and board.

Leeds Maternity Hospital.—Honorary Medical Officer.

Leeds University, Department of Pathology.—Locum Tenens for Demonstrator of Bacteriology.

Leeds, West Riding Asylum, Menston.—Fourth Assistant Medical Officer. Salary £200 per annum, with board and apartments.

Leicester Poor-Law Infirmary.—First Resident Assistant Medical Officer and Second Resident Assistant Medical Officer. Salary £200 and £150 per annum respectively, with rations, apartments, and washing.

Maidstone, Kent County Asylum.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

Manchester Children's Hospital (Out-patients' Department), Gartside-street.—Assistant Medical Officer for six months. Salary £50 per annum.

Manchester, Monsall Fever Hospital.—Third Medical Assistant. Salary £130 per annum, with board, lodgings, and washing.

Manchester Northern Hospital for Women and Children, Park-place, Cheetham Hill-road.—Honorary Physician for Diseases of Children. Also House Surgeon.

Miller General Hospital for South-East London, Greenwich-road, S.E.—Junior House Surgeon for six months. Salary at rate of £85 per annum, with board, residence, and laundry.

Newark-upon-Trent Hospital.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and laundry.

Newcastle-upon-Tyne, Corporation City Hospital for Infectious Diseases.—Resident Medical Assistant. Salary £200 per annum, with board, lodging, &c.

Newcastle-upon-Tyne, Hospital for Sick Children.—Junior Medical Officer for six months. Salary £80 per annum, with board, lodging, and laundry.

Newcastle-upon-Tyne, Royal Victoria Infirmary.—Resident Medical Officer and Assistant Resident Medical Officer. Salaries £200 and £150 per annum respectively, with board and residence. Also Medical and Surgical Registrars.

Norfolk Education Committee.—Assistant School Medical Officer. Salary £250 per annum.

Nottingham General Hospital.—Assistant House Physician. Salary £100 per annum, with board, residence, and laundry.

Oldham Royal Infirmary.—Senior House Surgeon and Second House Surgeon for six months. Salary £140 and £120 per annum respectively, with residence, board, and laundry.

Preston Royal Infirmary.—Resident Medical and Surgical Officer, unmarried. Salary £150 per annum, with board, residence, and laundry.

Prince of Wales's General Hospital, Tottenham, N.—Senior House Physician. Salary £75 per annum, with residence, board, and laundry. Also Pathologist. Salary 120 guineas per annum. Also Honorary Medical Registrar.

Reading, Royal Berkshire Hospital.—Second House Surgeon for six months. Salary at rate of £80 per annum, with lodging, board, and washing.

Rochdale Infirmary.—Senior House Surgeon, unmarried. Salary £110 per annum, with board, residence, and laundry.

Rotherham Hospital.—Assistant House Surgeon. Salary £100 per annum, with board, lodging, and washing.

Royal College of Surgeons of England.—Election to the Court of Examiners.

Royal London Ophthalmic Hospital.—Assistant Surgeon.

Royal Westminster Ophthalmic Hospital, King William-street, West Strand, W.C.—House Surgeon for six months. Salary at rate of £50 per annum, with board, residence, and laundry.

St. Mark's Hospital for Cancer, Fistula, and other Diseases of the Rectum, City-road, E.C.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

Salisbury Infirmary.—Assistant House Surgeon, unmarried. Salary £75 per annum, with apartments, board, lodging, and washing.

Sheffield Royal Infirmary.—House Surgeon and Ophthalmic House Surgeon for six months. Salary £80 per annum each, with board and residence.

Sheffield Union Hospital, Firvale.—Resident Assistant Medical Officer, unmarried. Salary £140 per annum, with apartments, rations, &c.

Southampton, Royal South Hants and Southampton Hospital.—Junior House Surgeon. Salary at rate of £100 per annum, with rooms, board, and washing.

Stoke-on-Trent, North Staffordshire Infirmary, Hartshill.—House Physician, unmarried. Also Casualty and Out-patient Officer, unmarried; for six months. Salary at rate of £110 per annum each, with board, residence, and washing.

Stroud General Hospital.—House Surgeon. Salary £120 per annum, with board, lodging, and washing.

Throat Hospital, Golden-square, W.—Honorary Dental Surgeon.

Tottenham Education Committee.—Assistant School Medical Officer. Salary £300 per annum.

Trinidad, British West Indies.—Three Medical Officers required to Conduct Campaign against Ankylostomiasis. Medical Officer in Charge, salary £600 per annum. Two Assistant Medical Officers, salaries £400 per annum.

Wakefield, West Riding Asylum.—Locum Tenens Assistant Medical Officer. Apartments, board, &c.

Walsall and District Hospital.—Senior House Surgeon and Assistant House Surgeon. Salary £150 and £110 per annum respectively, with board, residence, and laundry.

Warrington, Lancashire County Asylum, Winwick.—Locum Tenens Medical Officer for about five months. Board, apartments, attendance, and washing provided.

West End Hospital for Diseases of the Nervous System, Paralysis, and Epilepsy, 73, Welbeck-street, W.—Out-Patients' Physician.

West Ham Union Sick Home, Forest-lane, Forest Gate.—Second Assistant Resident Medical Officer. Salary £160 per annum. Also Female Assistant Medical Officer at Workhouse, Union-road, Leytonstone, N.E. Salary £140 per annum.

West Hartlepool, Cameron Hospital.—House Surgeon, unmarried. Salary £120 per annum, with rooms, board, &c.

West London Hospital, Hammersmith, W.—Ophthalmic Surgeon.

Westminster Hospital.—Surgical Registrar. Salary £50 per annum.

Wigan, Royal Albert Edward Infirmary and Dispensary.—Junior House Surgeon. Salary £100 per annum, with board, apartments, and washing.

Wolverhampton and Staffordshire General Hospital.—Resident Medical Officer. Also Two House Surgeons. Salary in each case £125 per annum, with board, rooms, and laundry.

Woolwich Infirmary, Plumstead.—Assistant Resident Medical Officer, unmarried. Salary £180 per annum, with apartments, rations, and washing.

Workington, Borough of.—Lady Health Visitor. Salary £25 per annum.

The Chief Inspector of Factories, Home Office, London, S.W., gives notice of a vacancy for a Certifying Surgeon under the Factory and Workshop Acts at Kirkcaldy, in the county of Fife.

Births, Marriages, and Deaths.

BIRTHS.

Addison.—At Prestwood, Great Missenden, on Easter Sunday, the wife of Dr. Christopher Addison, M.P., of a son.

Callender.—On April 5th, at Inverard, Sidcup, the wife of Thomas Marshall Callender, M.D., F.R.C.S. Edin., of a daughter.

Steadman.—On April 7th, the wife of F. St. J. Steadman, D.P.H., M.R.C.S., L.R.C.P., L.D.S., a daughter.

Warner.—On April 7th, at The Square, Fakenham, Norfolk, the wife of Howard F. Warner, M.B., B.S. Lond., of a son.

MARRIAGES.

Philp—Fussell.—On April 16th, at Upton St. Leonards, Gloucester, by the Rev. A. J. Rendle, M.A., Vicar of Bleddington, Glos., brother-in-law of the bride, assisted by the Rev. Canon Brewster, Rector of the Parish, Claude Hastings Philp, B.A., M.B., B.C. Cantab., only son of Mr. and Mrs. G. Hastings Philp, of The Wells, Podsmead-road, Gloucester, of Cantilupe House, Hereford, to Margaret, youngest daughter of the late W. F. Fussell, of Mells, Somerset, and Mrs. Fussell, of "Carnarvon," Bournemouth.

Sladden—Williams.—On April 15th, at Dowlais, Arthur F. S. Sladden, M.D., second son of Julius Sladden, of Badsey, Worcestershire, to Mary Christabel Williams, third daughter of the Rev. Ll. M. Williams, Rector of Dowlais.

Smith—Johnston.—On April 11th, at the Cathedral, Newcastle-on-Tyne, Henry Gordon Smith, M.B., B.S. Lond., D.P.H., to Alice Grace, daughter of James Harvey Johnston, of Newcastle-on-Tyne.

DEATHS.

Charlton.—On April 13th, at Glendarroch, Lenton, Nottingham, Alfred Charlton, M.B., C.M.

Collyer.—On April 9th, at Paignton, South Devon, Bertram Joseph Collyer, M.R.C.S., L.R.C.P., aged 44 years.

Hilder.—On April 9th, Ridley Thomas Hilder, M.B., M.R.C.S., of Teviot House, Upper Tooting, London, S.W., and Cockfield, Suffolk, in his 70th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE PROPOSED NEW PHARMACY LEGISLATION.

THE Assistants to Chemists and Druggists (Qualification) Bill, which is now before Parliament, seeks to introduce into pharmacy law a new principle. The main effects of the existing Pharmacy Acts are to protect certain pharmaceutical titles and to restrict to registered chemists and druggists the sale of poisons, these measures being based upon the assumption that the public is best protected from the misuse of poisons by educating the poison seller. There is nothing apparently in these enactments to prevent persons who are not qualified from compounding medicines providing the actual sale of preparations containing scheduled poisons is performed by registered pharmacists. To some extent, however, the National Insurance Act corrected this deficiency by providing that medicines for insured persons should be dispensed either "by or under the direct supervision of a registered pharmacist or by a person who, for three years prior to the passing of this Act, has acted as a dispenser to a duly qualified medical practitioner or a public institution." This provision only applies to medicines for insured persons, and leaves untouched the question of medicines prescribed by medical practitioners for their private patients. An extension of this principle is aimed at in the new Bill, which appropriately enough has been drafted by the Pharmaceutical Society in pursuance of a promise made while the Insurance Bill was before Parliament that steps would be taken to promote a measure to make provision for dispensers. The first clause of the Bill proposes to make it an offence for "any person, who not being a duly registered chemist and druggist, or registered under this Act, acts as assistant to a chemist in compounding any medicine prescribed by a duly qualified medical practitioner." The usual reservation is, however, made for medical practitioners who desire to dispense their own medicines, and there is an exemption in favour of registered apprentices who compound medicines under the supervision of registered chemists. To make more secure the object of the first clause, a subclause prohibits chemists from employing non-registered assistants for compounding medicines. With the exception of certain persons who would be eligible for registration as assistants without examination, those desirous of being registered would be required to pass an examination, and the Bill proposes to empower the Council of the Pharmaceutical Society to make by-laws enabling them to establish an examination, and, in fact, to regulate the proper carrying out of the provisions of the measure. Qualified military dispensers, certified assistants under the Apothecaries Act, and persons who had been for not less than three years immediately preceding the passing of the Bill employed by a medical practitioner or by a chemist as an assistant in compounding medicine, would be entitled to registration without examination. These are briefly the provisions of a measure which appear to be based upon a sound principle, but the probability of the measure reaching a final stage during the present session of Parliament seems to be remote.

GLYCOSURIA AND THE SUGAR INDUSTRY.

To the Editor of THE LANCET.

SIR,—I should like to know if people (white and coloured) living and working on cane sugar estates are subject to glycosuria, and if so are there any statistics on the subject? Perhaps some of your readers would be able to furnish the answer through the columns of your valuable journal.

I am, Sir, yours faithfully,

F. C. MACNALTY, M.D. Dub.

Winchester, April 13th, 1914.

VITAL STATISTICS OF BERMUDA.

IN a belated report on the Blue-book for 1912 of the Colony of Bermuda (a cluster of small islands situated in the west of the Atlantic Ocean, in 32° 15' N. lat. and 64° 51' W. long., comprising an area of about 19 square miles), Mr. R. Popham Lobb, the Colonial Secretary, gives the estimated total population, including the naval and military establishments, as 22,073. The resident civil population numbered 19,591 (7,000 white (3,3[illegible] males and [illegible] females) and 12,5[illegible] coloured (6,0[illegible] males and 6510 females). The birth-rate was 33·22 (22·57 per 1000 white and 37·15 per 1000 coloured). The mortality during the year was exceedingly low. The death-rate among the [illegible] was [illegible] per 1000, [illegible] 12·32 for white and 15·[illegible] for coloured. The deaths of children under 5 years of age formed 40·5 per cent. of the total deaths. There has hitherto been no hospital maintained by the Colonial Government, but during 1912 an Act was passed providing for the building of a general hospital, to be known as the King Edward VII. Memorial Hospital, of which the surgical unit and operating-room are being in the first instance erected. There is a cottage hospital near the city of Hamilton which is supported by voluntary contributions, and hospitals are also maintained in connexion with the Imperial naval and military establishments. There is a lunatic asylum under the superintendence of the medical officer of health, and the number of patients in this institution at the end of the year was 65. The mean temperature of the air in 1912 was 71·1°. Rain fell on 167 days, the total rainfall registered being 51·38 inches, of which 35·9 per cent. fell in the two months of July and August. The islands are much frequented as a health resort by Americans and Canadians, and the number of tourists who arrived during 1912 was 24,830. Many additions have been made to the smaller hotels and several new ones started.

BUSINESS METHODS IN THE MEDICAL PROFESSION.

To the Editor of THE LANCET.

SIR,—That medical men are unbusinesslike is proverbial, but I have never before come across quite such a document as the one, headed "Balance Sheet for 1913," which has just reached me from the Metropolitan Police Surgeons' Association.

In the first place it is not usual to head a balance sheet with "Dr." and "Cr." but with "Assets" and "Liabilities." On the right-hand side of this balance sheet—the side usually reserved for assets—occurs the item "musical entertainment, £5 5s." How such item finds its way into a balance sheet I know not, unless the unfortunate musicians have not yet been paid for their services, in which case I would respectfully suggest that the item should be transferred to the other side of the page to figure amongst the liabilities. Of course, this document is *no* "balance sheet" at all, but simply a "cash account." This being so, may I point out that cash received is "Dr." and cash paid out is "Cr.," and not the reverse as herein stated. Further, it is usual for "Dr." to appear on the left side of the page and "Cr." on the right, not *vice versâ*.

Finally, I observe that the item for "Printing and postages" represents a sum equivalent to 45 per cent. of the year's income. Surely I cannot have received my due supply of literature.

Can it be a fact that this association possesses no assets beyond its cash balance? If so, I would congratulate the honorary treasurer on his marked success in getting in all his annual subscriptions before the end of the year, and the members on their promptness in paying.

Perhaps I may be told that outstanding subscriptions and other assets are included in the "balance" shown in this document. If this be so, then I erred in calling it a "cash a/c," and will substitute the words "capital a/c," in which case the "income" and "expenditure" appear on their wrong sides of the page.

In short, it is a hopeless muddle.

I am, Sir, yours faithfully,

April 11th, 1914. A METROPOLITAN POLICE SURGEON.

THE WORKMEN'S COMPENSATION ACT: A NOVEL POINT.

AT Tavistock, Devon, before his honour Judge Lush-Wilson, K.C., the point was raised whether the illegitimate child of a second wife, not by her husband, should be treated as her husband's stepson, and consequently become a *dependent* and entitled to a share of the compensation money. His honour said it was a nice point, but eventually decided against the child being allowed compensation.

CLIMATOLOGY.

Italian.—With regard to the effects of mountain climates on man there is the Italian work of Professor Angelo Mosso on the "Life of Man on the High Alps" (T. Fisher Unwin, London), 1898, translated from "Fisiologia dell'Uomo sulle Alpi" (Frat. Treves, Milano), 1897. The best work is still probably "Höhenklima und Bergwanderungen in ihrer Wirkung auf den Menschen," by Professor Dr. N. Zuntz, Professor Dr. A. Loewy, Dr. Franz Muller, and Dr. W. Caspari, published by the Deutsches Verlagshaus Bong und Co., Berlin W.57, Potsdamerstrasse 88, and Leipzig, Wien, Stuttgart and Paris, first edition, 1906, which contains references to most previous publications on the subject. Since then there have appeared many articles on portions of the subject by various authors—e.g., works by Dr. J. S. Haldane, "Methods of Air Analysis," published in 1912 at 5s. net by Charles Griffin and Co., Limited, London, and articles in the German "Zeitschrift für Balneologie." In regard to the effects of sea air and mountain air generally, reference should be made to "Climatotherapy and Balneotherapy," by Sir Hermann

Weber, M.D., and F. Parkes Weber, M.D., third edition published in 1907 at 15*s.* net by Messrs. Smith, Elder, and Co., 15, Waterloo-place, London; and "A Handbook of Climatic Treatment, including Balneology," by William R. Huggard, M.D., published at 12*s.* 6*d.* net by Messrs. Macmillan and Co., Limited, London. Of the former book (Weber) a shorter German version was published (Paul Mayer) which has been in its turn translated into French, Russian, and Polish, but not into Italian.

PRECIPITATE LABOUR.

A CURIOUS case of attempted concealment of birth occurred recently in Australia. A popular pleasure steamer left Melbourne for Geelong to pick up the members of a picnic party. A few passengers had embarked at Melbourne, and while steaming down the bay the body of a recently born infant was found on the floor of the female lavatory. A police constable who happened to be on board was informed, and he interviewed all the female passengers at once, but no one admitted to the ownership of the infant. Suspicion fell upon a young woman who was seated in the company of a young man, and she was detained on arrival at Geelong. She subsequently admitted having given birth to the child on the steamer, and she and the infant were removed to hospital. The child died next morning. The case has a medico-legal interest, as the steamer would not occupy more than an hour and a half on the run between the two jetties.

HEALTH OF ST. VINCENT.

THE Administrator and Colonial Secretary of St. Vincent, the Hon. C. Gideon Murray, in his report for 1912–13, just presented to Parliament, gives the population of the colony as 44,434. The births registered during the year numbered 1678 (of which 59·83 per cent. were illegitimate), as against 1790 in the preceding year. The deaths totalled 878, being 19·75 per 1000 of the estimated population; the infant mortality constituted 21·07 per cent. of the total number of deaths. In the towns the authorities are realising more and more the importance of stricter sanitation and are taking steps accordingly. In the villages, however, sanitary matters are still on a primitive basis. The establishment of an organised sanitary department now under contemplation should have far-reaching effect. A trained nurses' association has recently been formed, which has for its object the better training of nurses and midwives and the prosecution of women practising midwifery illegally. Early in the year 1911–12 the old military hospital was renovated and opened as a yaws hospital capable of holding 50 patients. The disease of yaws has long been ravaging the homes of the labouring population in the colony, and the institution of this hospital is much appreciated by them. The introduction of salvarsan has more than doubled the number of patients passing through and out of this hospital as cured during the year. The rainfall for the year was 94·89 inches, as against 119·07 inches in 1911–12. Rain fell on 275 days during the year. The mean monthly temperature was 78° F.; the maximum for the year was 80·6° in September and the minimum 73·5° in February. Except in August and September, when the atmosphere is uncomfortably hot, although not even in those months insalubrious, the climate may be regarded as most healthy for both Europeans and coloured persons. Malaria is hardly known, while yellow fever has proved itself to be a disease of the past. The approaching opening of the Panama Canal is already causing an influx of visitors to these Caribbean seas, and if exquisite scenery and a healthy climate be inducements to travellers, then as years speed on it may be expected that St. Vincent will be one of the most favoured tourist spots amongst the many beautiful West Indian Islands.

ROAD RULES FOR PEDESTRIANS.

Dr. C. W. Hutt, senior school medical officer to the county borough of Brighton education committee, inquires where he can obtain some simple road rules for the use of children attending elementary schools, so as to prevent as far as possible their being run over in the streets. He has an impression that he saw a reference to some such rules a few years ago in one of the medical journals. His intention is to send them to the head teachers of the elementary schools with a view to their being explained and taught to the children.—We believe that one of the leaflets issued lately by the London General Omnibus Company gave simple rules for pedestrians crossing the road. A correspondent in this connexion has sent us these rules, which apply to traffic in large towns: "Pause on the curb facing the roadway; look to right and then to the left. If the road is reasonably clear, cross to the middle, where pause and look to the left; if course is clear, proceed to opposite curb. When crossing, face slightly the approaching streams of traffic. Avoid running, but be ready to spring suddenly if danger threatens. When dismounting from a vehicle always make for the nearest curb immediately, no matter where you want to go afterwards."

Mr. F. Hiller.—The makers of Dr. Rogers' "Tycos" sphygmomanometer are Messrs. Short and Mason, Limited, Macdonald-road, Walthamstow, London, N.E.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced:—

April 15th–18th (Berlin).—Forty-third Congress of the German Surgical Society.
" 19th–21st (Berlin).—"Jubilee" Congress of the German Röntgen Society.
" 20th–23rd (Wiesbaden).—Thirty-first German Congress for Internal Medicine.
" 27th–May 1st (London, Royal Horticultural Hall).—Nursing Conference and Exhibition.
May 1st–Nov. 1st (Lyons).—International Town Hygiene Exhibition.
" 15th–Oct. 15th (Berne).—Swiss National Exhibition.
May 18th–21st (London, Imperial Institute).—Victoria League Imperial Health Conference.
May–October (London, Shepherd's Bush).—Anglo-American Exposition.
June 8th–10th (Berne).—Seventh International Dairy Congress.
" 18th–24th (London, Church House, Westminster).—International Conference on the Blind.
June–July (Groningen).—University of Groningen 300th Anniversary Celebration.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

FRIDAY.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—F. Langmead, Philip Turner, W. J. Midelton): at 4.30 P.M.

Demonstration of Cases.

SECTION OF EPIDEMIOLOGY AND STATE MEDICINE (Hon. Secretaries—G. S. Buchanan, William Butler): at 8.30 P.M.

Paper:

Dr. Harold Kerr and Professor H. J. Hutchens, D.S.O.: An Outbreak of Food Poisoning caused by the Bacillus Enteritidis (Gaertner) in Milk.

LONDON DERMATOLOGICAL SOCIETY, St. John's Hospital, 49, Leicester-square, W.C.

TUESDAY.—4.30 P.M., Cases will be shown. 5.15 P.M., Discussion on Some Dermatological Problems, opened by Dr. P. White (Wigan).

CHELSEA CLINICAL SOCIETY, Club Rooms of the Medical School, St. George's Hospital, S.W.

TUESDAY.—8.30 P.M., Papers:—Dr. E. G. Reeve: Some Points in the Administration of Intensive Nascent Iodine Treatment.—Dr. H. Dally: Some Observations on the Intense Nascent Iodine Treatment. A discussion will follow.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY.—5 P.M., Mr. Shattock: Specimens illustrating Osteoma. (Museum Demonstration.)

FRIDAY.—5 P.M., Prof. Keith: The Comparative, Surgical, and Pathological Anatomy of the Great Bowel. (Museum Demonstration.)

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. H. B. Carlill: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Ear and Throat. 3.15 P.M., Special Lecture:—Sir Dyce Duckworth: The Diagnosis of Hepatic Abscess.

TUESDAY.—Out-patient Demonstrations:—10 A.M., Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine. 4.15 P.M., Sir Malcolm Morris: Skin.

WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. H. B. Carlill: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.——2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery. 3.15 P.M., Special Lecture:—Mr. L. V. Cargill: The Routine of Ophthalmoscopic Examination.

THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. H. R. Prentice: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. Dr. A. Davies: Pathological Demonstration. 3.15 P.M., Dr. R. Wells: Medicine. 4.30 P.M., Special Lecture:—Dr. C. E. Zandel: Tachycardia.

FRIDAY.—Out-patient Demonstrations:—10 A.M., Dr. C. E. Zundel: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin. ——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford: Medicine. 3.15 P.M., Mr. L. McGavin: Surgery.

SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. H. B. Prentice: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. B. Bickerton: Eye.——10 A.M., Col. Barry: Radiography.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. Mr. B. Harman: Diseases of the Eye.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Dr. Simson: Diseases of Women, and Diseases of the Eye.

THURSDAY.—9 A.M., Dr. Bernstein: Bacterial Therapy Department. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Mr. B. Harman: Diseases of the Eye.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear, and Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, Medical School, City-road, E.C.

MONDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Cardiac Department, Dr. Stott; Out-patient Department, Dr. Phear, Dr. S. Thompson. 3 P.M., Wards, Dr. Phear.

TUESDAY.—9 A.M., Laryngological Department, Mr. Mant. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department, Dr. M. Leslie, Dr. B. King; Operations, Mr. A. Evans. 3 P.M., Wards, Dr. White. 4 P.M., Wards, Dr. M. Leslie

WEDNESDAY.—2 P.M., Wards, Dr. A. Davies; Out-patient Department, Dr. Drysdale, Dr. Kellie. 4 P.M., Wards, Dr. Drysdale. 4.30 P.M., Roentgen Ray Department, Dr. Jordan.

THURSDAY.—9.30 A.M., Dental Department, Mr. G. Thomson. 10 A.M., Cardiac Department, Dr. Stott. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department, Dr. Phear, Dr. S. Thompson. 4.30 P.M. Laryngological Department, Mr. Mant.

FRIDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Wards, Dr. Calvert; Out-patient Department, Dr. M. Leslie, Dr. B. King.

SATURDAY.—10 A.M., Out-patient Department, Dr. Drysdale, Dr. Kellie. 11.30 A.M., Roentgen Ray Department, Dr. Jordan.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn-road, W.C.

FRIDAY.—3 P.M., Lecture:—Dr. J. Atkinson: Suppuration in the Region of the Pharynx.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.

THURSDAY.—5.15 P.M., Clinical Lecture.

LONDON LOCK HOSPITAL, 91, Dean-street, Soho, W.

Special Course of Instruction in Venereal Diseases, for Post-Graduates and Students, with Practical Demonstrations of the Various Methods of Treatment:—

MONDAY.—Clinics:—1 P.M., Mr. Ryall; 6 P.M., Mr. Gibbs.

TUESDAY.—Clinics:—2 P.M., Mr. Lane; 6 P.M., Mr. Paterson.

WEDNESDAY.—Clinic:—6 P.M., Mr. Shillitoe.

THURSDAY.—Lecture:—2 P.M., Mr. Lane: The Primary Chancre, its Varieties, Diagnosis, and Treatment.

SATURDAY.—Clinic:—2 P.M., Mr. McDonagh.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS.

TUESDAY.—MANCHESTER AND SALFORD HOSPITAL FOR SKIN DISEASES.—4.30 P.M., Prof. R. B. Wild: Radium in Dermatology.

WEDNESDAY.—ROYAL INFIRMARY.—4.30 P.M., Mr. Buckley: Hæmaturia.

THURSDAY.—ANCOATS HOSPITAL.—4.15 P.M., Dr. D. E. Core: Clinical Examination of the Nervous System.

UNIVERSITY OF SHEFFIELD, at the University.

Post-Graduate Course on Syphilis:—

TUESDAY.—3 P.M., Dr. H. Henry: Biology of the Spirochætes.

FRIDAY.—3 P.M., Dr. H. Henry: The Spirochæte of Syphilis (with cinematograph illustrations).

For further particulars of the above Lectures, &c., see Advertisement Pages.

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IT is most important that communications relating to the Editorial business of THE LANCET should be addressed exclusively "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 15th, 1914.

Date	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radio in Vacuo	Maximum Temp. Shade	Min. Temp.	Wet Bulb	Dry Bulb.	Remarks.
April 9	29·73	S.W.	0·05	89	52	42	45	49	Fine
" 10	29·73	S.W.	0·07	122	57	41	45	50	Cloudy
" 11	[illegible]	N.W.	0·05	94	63	47	48	52	Cloudy
" 12	30·20	S.W.	—	122	60	47	43	57	Fine
" 13	30·15	N.W.	—	97	64	41	53	58	Cloudy
" 14	30·22	N.W.	—	115	58	41	43	45	Fine
" 15	30·42	N.	—	97	58	42	43	43	Fine

The following journals, magazines, &c., have been received:—Journal of Surgery, Monthly Cyclopedia, Journal of Tropical Medicine and Hygiene, South African Medical Record, Dublin Journal of Medical Science, Clinical Medicine, Quarterly Journal of Experimental Physiology, Annales de l'Institut Pasteur, Revue de Gynécologie, Policlinique, International Journal of Surgery, Calcutta Medical Journal, American Journal of Tropical Diseases and Preventive Medicine, American Journal of Medical Sciences, Revue de Médecine, [illegible], Revue de Chirurgie, Archives de Médecine et de Pharmacie Militaires.

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The Lumleian Lectures

ON

SOME MODERN THEORIES CONCERNING HYSTERIA.

Delivered before the Royal College of Physicians of London on March 19th, 24th, and 26th, 1914,

BY J. A. ORMEROD, M.D. OXON.,
F.R.C.P. LOND.,

REGISTRAR TO THE COLLEGE; CONSULTING PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL AND TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, QUEEN SQUARE.

LECTURE I.

Delivered on March 19th.

MR. PRESIDENT, FELLOWS, AND GENTLEMEN,—The first part of my task, and a most pleasant part, is to thank you, Sir, and the Censors for appointing me to the honourable post of Lumleian lecturer. But when one considers the long line of distinguished Fellows who, since the reign of Queen Elizabeth, have delivered these lectures, including the greatest of our Fellows, William Harvey, one may well feel diffident in occupying this place. And perhaps I feel the more diffident because I am simply your Registrar, a person whose chief ambition must now be to keep the annals of the College as accurately as my predecessor—if, indeed, that be possible. But I do not doubt, Sir, that in making this appointment you had a precedent in view—namely, that in 1835 and on several subsequent occasions a well-known Registrar of this College, Dr. Francis Hawkins, was Lumleian lecturer. And I may say, Sir, that I, too, have a precedent for the choice of my subject, not only in the interesting Bradshaw lecture on Hysteria, which you heard last autumn from Dr. T. R. Glynn,[1] but also in the fact that Dr. Thomas Mayo, one of your eminent predecessors in the Presidential chair, delivered in 1842 Lumleian lectures on Nervous Apoplexy, Palsy, and Hysteria. And further, looking to the modern doctrine that hysteria is a kind of mental disability, it is interesting to note that Dr. Mayo wrote a book entitled "Elements of the Pathology of the Human Mind." But I cannot find that he correlated the two subjects in any way.

HYSTERIA AND NEURASTHENIA.

Between those diseases which are the peculiar province of the alienist, sometimes called psychoses, and those nervous diseases which we call organic and consider to be *due to* some definite bodily change, there lies a large class of affections to which we apply the vague but convenient term "functional nervous diseases." Sometimes we call them "neuroses," and the people who are prone to them "neurotics." Now this large class falls into several groups. The distinction between these groups is difficult, because in dealing with them we are bereft of the sure support of morbid anatomy. Yet some of these distinctions can easily be made. First, at the organic end of the scale appear several well-known and very definite diseases, which can only be called "functional" in a very qualified and provisional sense, since it seems certain that they have some physical or chemical basis, though we do not yet know it. Such diseases are epilepsy, migraine, chorea, and others. But beyond these as we pass from the organic to the psychical there come two groups of very common nervous affections concerning the bodily nature of which we know so little, that a tendency has now arisen to neglect this aspect of them and to study them chiefly from the side of psychology. These two groups are hysteria and neurasthenia: the first recognised from the early days of medicine, the second modern in name, though I suppose not in reality. Most of us will agree, I think, that we have in them two distinct types of disease, though of course there may be cases in which they overlap. Indeed, tables are laid down in text-books of the clinical points of difference between them. I will here only mention two of these differences.

1. That in hysteria we expect to find, at some time in the course of the disease, outward and visible symptoms, such as fits, paralysis, anæsthesia, and the like, which are objective at least in this sense that they force themselves on the attention of the physician, whereas in neurasthenia the symptoms are subjective and cannot be verified by observation. 2. That the patients have a different mental outlook; to the neurasthenic his symptoms are always a source of distress and may be a burden to his whole life, whereas the disabilities of the hysterical patient (perhaps I should say the confirmed hysterical patient) tell far less upon her, and she may even bear her cross with complacency; in short, the reality of the disease appears in the one case greater to the observer, and in the other to the patient.

But we must admit that in order accurately to define either of these diseases we must have a theory as to the essential nature of it, seeing that there is no easy physical means of recognising them, like the bacillus in tubercle, or the hepatised lung in pneumonia. I shall endeavour, Sir, in my second and third lectures to lay before you some of the current theories about hysteria.

The Nature of Functional Nervous Disease.

Now the first difficulty in theorising about these diseases is to settle whether we are to look on them as mental or as bodily affections. I do not propose to discuss neurasthenia in these lectures, but perhaps I may be allowed to say a few words about it in illustration of this difficulty. Under this general term "neurasthenia" are included several groups of cases. There are the patients described by Beard—perhaps we may call them simple neurasthenics—who suffer indeed from subjective feelings of exhaustion and incapacity, but whose principal symptoms—pains, headaches, backaches, giddiness, palpitations—might well be, and generally are, ascribed to physical causes. Then there are the neuropaths described by Dejerine, whose physical functions appear to be deranged, for they are unable (it may be) to walk, or sleep, or swallow, or micturate properly, yet no organic disease can be found in them, and Dejerine traces their complaints back to mental and moral causes. Lastly, there are the psychasthenics of Janet, in whom the psychical element is obviously preponderant, who are tormented by obsessions, doubts, crises of mental agitation, phobias, or by inarticulate and inexpressible feelings of distress—so-called borderland cases, though they do not always cross the border so as to become insane. Are all these classes of neurasthenics suffering from the same disease? And if we say, as appears incontrovertible, that the psychasthenic is affected mentally, then what of the simple neurasthenic? Why cannot he face his day's work? Has he some physical affection—say, malnutrition or toxæmia (if you like these words) of his nerves and muscles, or is he, too, a psychoneurotic, who is suffering from a mental depression, and has forgotten the truth of the song of Autolycus—

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[1] THE LANCET, Nov. [illegible], 1913, p. [illegible].

> A merry heart goes all the way,
> Your sad heart tires in a mile-a?

Now while the clinical delimination of hysteria is more easy than that of neurasthenia, because it is a more definite type of disease, yet there is the same difficulty in discussing its nature. Is it a mental or a bodily disease? There are those who look on it as a problem in physiology, to be solved by knowledge of the anatomy, chemistry, and functions of the brain. There are those who would solve it by psychological methods. I think it is no contradiction to say that both are right. It is a question of difference in their points of view, their methods of work, and perhaps their predilections. As to the point of view, if I was to hold up to you, Sir, say half a crown, you might say it was heads, I from my side of the table should have to say it was tails. Not that I should be contradicting you, Sir, unless indeed I forgot that the two faces are indissolubly connected, just as there is some unknown but certain connexion between mind and matter. And as to the method, the physiologists and psychologists are like two gangs of workmen excavating opposite ends of a tunnel; they may hope to meet some day if they have a due regard to the direction of each other's work. But I am afraid the physiologists are apt to think that the psychologists' work is child's play, mere beating the air; whereas the psychologists retort that the physiologists have reached a stratum much too hard for them to work—namely, the task of exhibiting mental phenomena in terms of nerve cells and nerve fibres.

SYMPTOMS OF HYSTERIA.

Anyhow there exist these two ways of regarding functional nervous disease, and probably it will be a long time before they are satisfactorily combined. Now I propose, Sir, to defer for the present the consideration of systematic theories of hysteria, and in this lecture merely to review some of the symptoms of the disease in such a way as to show that it is not always easy to choose between the physiological and psychological explanations, or to adopt one to the exclusion of the other. And if in so doing I travel over familiar ground, I must plead in excuse that for the purpose in hand the common symptoms are perhaps more valuable than the less well known.

Hysterical Fits.

The hysterical fit or paroxysm has always been considered one of the most characteristic features of the disease. The points of diagnosis between the fits of hysteria and those of true epilepsy or of Jacksonian epilepsy are so well known that I need not repeat them. But, indeed, there are as great differences between the varieties of hysterical fits *inter se*. Consider the simple hysterical fit as described by Briquet, corresponding to the popular "fit of hysterics," in which the patient feels a lump in the throat or some other odd sensation, sinks into a chair, gives a mild emotional display of gesticulation, tears, or laughter, and speedily comes to again, having never lost consciousness of her surroundings or passed beyond the reach of help from her friends. How greatly does this differ from the hystero-epileptic fit as described by Charcot, in which the patient loses consciousness and unfolds a regular panorama of striking, one might almost say terrible, events, in the four stages of epilepsy, meaningless contortions, dramatic display, and delirium. One might well suppose that these two varieties of fit had nothing to do with each other. There is, however, a third variety, which stands between these two extremes, common enough in this country and elsewhere; to which Sir William Gowers gave the name of "hysteroid." In this type of fit there are loss of consciousness, though this may vary in degree in different cases, rigidity of the limbs, and very frequently opisthotonos, and movements of a purposive or coördinated character, in which, however, it may be impossible to trace any one dominant idea.

It is difficult to see what single explanation will fit these three kinds of attacks, not to mention the other forms, small and great, such as hysterical petit-mal, swoons, prolonged sleep, ecstasies, and so forth. For the simple kinds of fit some simple physical explanation, such as variation in the cerebral blood-supply, might perhaps suffice, and there is a fact, rather lost sight of nowadays, which seems distinctly of the physical order, I mean the copious secretion of watery urine which may take place after a fit, to which Gilles de la Tourette added a variation in the chemical composition of the urine. The psychological explanation, on the other hand, takes for its starting-point the dramatic stage of the hystero-epileptic fit. The patient appears to be transported to some scene of her past life; it absorbs her whole consciousness, and she acts it out regardless of her present surroundings. This can be demonstrated in cases where this phase of the fit is well developed. It is reasonably argued that the same mental process is going on in the other kinds of hysterical fit, where the patient, however, does not do the acting so well. This may be so with our own countrywomen, who are not, perhaps, histrionic by nature. But it is difficult to construe in this way the meaningless movements and rigidities which are so common, especially the frequently recurring *opisthotonos*. *The particular (sexual) significance that has been* ascribed to the opisthotonos does not apply to its extreme form the "arc de cercle" or to some of the varieties of this position.

It must be mentioned, however, that serious doubts are now thrown upon the genuineness of Charcot's hystero-epileptic fits. I believe that they are not now seen in Paris, and are considered by some Parisian authorities to have been a piece of display on the part of certain well-trained patients who knew what was expected of them, and did it. There may be truth in this, but I can scarcely think it is the whole truth, for the reason that in this country, and in patients who have been subjected to no sort of suggestion, one sometimes sees attacks to which the term hystero-epileptic might quite reasonably be applied. Take first the apparent combination of epilepsy and hysteria. I remember a woman among my out-patients at the National Hospital for the Paralysed and Epileptic who while sitting in front of me had an attack which (except for the absence of tongue-biting and of micturition) most closely resembled epilepsy, and when this ceased she passed into hysterical convulsions. It may be said, perhaps, that this was hysteria following a true epileptic attack, what Sir William Gowers called post-epileptic hysteria. But in the following instance that order was reversed. the hysterical attack coming first.

A woman (Mrs. A), who had been several times in hospital, and who is no doubt a first-class hysteric. is subject *inter alia* to fits. These have been always diagnosed as hysterical, yet several observers have noticed that they look very like epilepsy. On Nov. 15th last I saw a fit of the following nature. I had just been hypnotising her, and had been pressing her rather strongly with the suggestion that she was to get rid of her symptoms. I mention this because she is rather apt to have a fit when she is too much bothered by examination or remedial suggestions. She had returned to her normal state, and was being helped into her walking jacket by her husband, when she closed her eyes, began to moan, and sank limply into his arms. He put her into a chair and then movements of the body began. I think of the nature of opisthotonos, which she often has. Thus far there was no suggestion of epilepsy; but then instead of coming round her eyes opened, rolled upwards and to the right, her face became congested, her right arm became rigid at first and then banged up and down on the side of the chair. This second stage of the attack was repeated about three times. Here, then, was a good representation of epilepsy, and indeed of unilateral epileptic convulsions, preceded by a distinct hysterical stage and, as I think, hysterical throughout.

On the strength of these and other cases I believe in the existence of hystero-epilepsy. I quite admit that I have never seen the complete and regular drama in four acts, which appears to have been the rule in the palmy days of "*la grande hystéric*" at the Salpêtrière—consisting of epilepsy, contortions or clownism, *attitudes passionnelles* or dramatic stage, and delirium, in regular sequence—but I suppose we have all seen selections from it: the common hysteroid fit represents in a mild way the clowning stage, and sometimes we witness the dramatic stage in which a past scene is re-enacted by the patient. Here is an instance.

A young sailor was sent into Queen-square Hospital with the following history. In the course of a gun drill an explosion had happened and a piece of flying metal had struck him on the head and rendered him unconscious. Ever since he had been subject to fits characterised (we were told) by unilateral convulsions. But in the hospital nothing happened until the day when he was about to leave. Then he had a fit, witnessed by the resident medical officer, in which he acted out the scene of the gun drill. He listened for the word of the commanding officer, made the proper reply, went through the manipulation of the gun, and, finally, presumably when the explosion happened, fell down on the floor.

Let us leave the subject of fits and consider some of the interparoxysmal symptoms, and in the first place those symptoms which are so common that Charcot considered them to be characteristic marks or "stigmata" of hysteria.

Anæsthesia.

The most important of them is anæsthesia, and the characters of hysterical anæsthesia are so important from the point of view of theory that I must dwell on them a short time, though doubtless they are familiar to you. Hysterical anæsthesia may be so extended and so well defined as inevitably to [illegible] a local lesion of the nervous system. What can be more natural than to suppose that a hemi-anæsthesia of the face, trunk, and limbs is due to an affection of the posterior part of the internal capsule on the opposite side? Yet in other cases where the anæsthesia is less widely spread it can be easily shown that it corresponds to no anatomical lesion. The anæsthesia which covers the area of a long glove or stocking might, it is true, be produced by a peripheral neuritis, but this explanation fails when the fingers or the feet are left out of this glove or stocking, as sometimes happens. Indeed, it is now generally admitted that hysterical anæsthesia corresponds, not to any real distribution of nerves, but to the patient's conception of her anatomy. And that the anæsthesia is conceptual (if I may use that term) can be shown in a really curious way. It can be demonstrated in some cases, where the anæsthesia appears to be absolute, that the patient really does feel after all. This fact—now known, I think, as Janet's sign—was first shown to me many years ago by Dr. R. H. Crowley, now a Member of our College, and at that time house physician to St. Bartholomew's Hospital. The demonstration was simple, you might say ludicrously simple. A girl, who had other puzzling nervous symptoms, exhibited certain areas of anæsthesia. When after closing her eyes you put a finger on one of these anæsthetic places several times, at the same time saying to her, "Say 'yes' when I touch you," she said nothing. But when you did the same thing and said to her "Say 'no' when I don't touch you," she regularly said "no" each time she was touched. Of course, shamming was suggested, but at best it must have been a very stupid sham; and I have seen this symptom in so many hysterical cases since that I feel sure it is genuine. Some patients, as might be expected, will see at once the absurdity of being asked to say "'no' when I don't touch you," and will tell you so. And even with those who reply readily enough at first, if the absurdity is brought home to them, as it may be by incautious laughter on the part of the bystanders, you will never get them to answer thus again. Still you may be able to apply the test in other ways—say as follows.

A woman was completely anæsthetic on the right half of the body and had only partial use of the right hand. I put my finger on the left part of her chest, where sensation was natural, and told her to touch with her right (semi-paralysed) hand the place that I had touched. She did so with some effort. Then after reminding her that she could use her left hand quite well, I touched the right (anæsthetic) side of her chest and told her to touch the spot with the left (non-paralysed) hand. She did so, thereby showing, of course, that she had felt the touch. I tried this a second time and she did not touch the spot, but nevertheless lifted up her hand to do so, again showing that she had felt the touch. I tried once more and this time she did nothing.

When the anæsthesia involves the muscles and deeper parts, as well as the skin, a very striking condition is produced, which is generally associated, I believe, with the name of Lasègue, though it is recorded also by Duchenne. The patient, Mrs. A, whose fit I described just now, has exhibited this condition for many years. Her left arm, and indeed all her left side, is entirely anæsthetic both as to the skin and as to the deeper parts. When she watches it she can use it moderately well; when she shuts her eyes she cannot move it at all for she is unconscious of its existence. She does not know where it is, and if you tell her to grasp it with her right hand she fumbles about to find it; and if while she is doing this you put your left hand into her right she thinks she has got hold of her own left hand. One sometimes hears of patients who after amputation of a limb retain a "phantom" of it; but here is a patient with a sound limb, who nevertheless when she shuts her eyes has not got "the ghost of a notion" of it. Nevertheless, this anæsthesia is not real, for she has been seen doing up her hair, with both her hands behind her head, where she could not watch them.

It is certainly very difficult to explain this contradictory character of hysterical anæsthesia. I do not think it has ever been described in anæsthesia dependent on organic disease. I do not know of any region of the brain, to deficient functioning of which it can be ascribed. All that one can say so far is that the patient is in a peculiar mental condition in which she feels, but does not feel that she feels. But then, again, before we explain it in a purely psychological way, there is another fact that must give us pause—namely, that in many such cases the anæsthetic parts do not bleed when they are pricked. This seems to bring us back to the brutal world of flesh and blood.

Retraction of Field of Vision.

About the second "stigma" of hysteria, concentric retraction of the field of vision, similar remarks may be made. It does not inconvenience those who are affected by it. Janet noticed patients, whose visual fields were much restricted, playing at ball in the court of the Salpêtrière without any inconvenient turning of the head to watch the ball. He also quotes the case of a boy who, having been frightened by a conflagration, had fits whenever he saw a flame. His visual field was reduced to 5°, and beyond this limit he seemed to see nothing, But when a lighted match was introduced into this blind part of the field a fit followed. Again, when a hysterical patient has quite lost the sight of one eye, it is possible by means of prisms and other apparatus known to ophthalmologists to show that the blind eye still sees.

Hysterogenic Zones.

The third "stigma" is the hysterogenic zone. This term expresses the fact that pressure upon certain parts of the body will produce, or it may be stop, a hysterical fit. I think that with regard to these "zones" we in this country are in the same position as we are with regard to hystero-epileptic fits. We do not commonly see them in a complete form. Sometimes, however, we do, and often we see them in a modified or ill-developed form. Dr. Glynn mentioned in his Bradshaw lecture the case of a boy under Mr. Luther Holden, who fell down in convulsions whenever a place on his skull was touched. I remember an out-patient at Queen-square Hospital in whom, without the least expecting it, I produced a hysterical fit by "ovarian" pressure. I ought to say inguinal pressure, because the patient was a man. I also remember a young woman with a persistent hysterical cough. Sudden pressure under the left breast produced a wince, a gasp, and a cessation of the cough. I found this out quite unexpectedly whilst looking for tender points. Now as to such tender points, I suppose everyone knows that they are very common in hysterical patients, and that they may be found without any suggestion in patients examined for the first time. They are commonest where the hysterogenic zones are commonest—i.e., in the inguinal region (so-called ovarian region), the inframammary region, the spine and to each side of it. Sometimes they are more than tender, and the patient will say that the pressure causes an oppression at the chest, a lump in the throat, or makes her "feel queer." I therefore regard these tender points as the basis upon which is developed the full-fledged hysterogenic zone.

According to psychological theories the hysterogenic zone is a subsidiary agent. That which really produces the fit is the emergence of the particular memory or idea with which the fit is invariably connected. Touching the "zone" is only a sort of signal for the explosion of the mine. This seems a reasonable explanation in some cases —for instance, where a fit can be produced by touching the site of an old injury. It is not so readily applied to the commoner cases. These tender points have a fairly regular distribution over the body. The ideas, on the other hand, upon which the fits depend must be very various in different cases. Why should touching the same stop produce such different tunes?

So much, then, for the stigmata of Charcot. It is somewhat pathetic to think that in the very land that gave them birth they have fallen from their high repute. One eminent French physician maintains, as we shall see, that the real stigmata of hysteria are mental, not bodily; another, that these bodily stigmata are due to sheer suggestion. They may, no doubt, have been over-estimated by physicians and over-elaborated perhaps by certain patients. But they exist, in a rudimentary form perhaps, in patients who never heard of their importance, so they are not, in my opinion, mere passing fashions, like ladies' ruffs or crinolines. Even at that estimate they deserve some attention as "milestones" in the history of the disease.

Contracture of Muscles.

Hysterical contracture of muscles is a very common symptom and important for our purpose, because it may be regarded from either point of view, the physical or the mental. At first sight it appears a purely physical phenomenon, and quite comparable to the contracture which occurs in connexion with disease of the pyramidal tracts. As in a transverse myelitis, so in hysteria we may witness rigidity of the lower limbs, with extension of the feet and legs and internal rotation of the thighs, so that to tell whether the case is hysterical or not we may have to appeal to other factors than the contracture itself; and even then the condition of the plantar reflex may be the only point to decide the diagnosis absolutely. It is, of course, universally held that the presence of an extensor plantar reflex indicates organic disease. And to this I should agree with one proviso—viz., that the extensor reflex should be permanent. For we know that such a reflex may occur temporarily after an epileptic fit. And I have seen it under the following circumstances:—

A boy was admitted into St. Bartholomew's Hospital. When I saw him (which was once only, on the day before his death) he had vomiting, progressive coma, and extensor plantar reflexes on both sides. I thought he had a cerebral tumour, but the post-mortem examination showed that he died from Addison's disease. Nothing abnormal was found either in the brain or the spinal cord, and a careful microscopical examination of the cord made by Dr. Farquhar Buzzard showed that it was perfectly normal.

But my point, from which I have digressed, was the close resemblance between hysterical contracture of the lower limbs and that resulting from disease of the pyramidal tracts—so close, indeed, that it has been suggested that a malnutrition of the pyramidal tracts is actually the cause of such hysterical contracture.

Nevertheless, if we consider the way in which some hysterical contractures originate, we shall be tempted to believe that in certain cases they are dependent upon mental influences. Such an origin has been suggested even for the ordinary cases of paraplegic rigidity which I have just mentioned. Most of us have seen cases where, for the relief of pain or other reasons, a splint has been put on the forearm, and after its removal the muscles have remained rigid. That this is not a mere local affection, caused by the mechanical restraint, is shown by the fact that the rigidity may spread beyond the muscles originally confined by the splint, perhaps to the whole limb. Immobility seems to have become a fixed idea. Perhaps the rarer cases of contracture of the muscles of the trunk may seem more convincing, because in them the possible influence of pyramidal tract disease can be eliminated. The examples which I will now give are from Professor Janet's book on "Neuroses and Fixed Ideas"; they illustrate his view that muscular contractures may depend upon a mental state.

1. (Vol. I., p. 304, Obs. 8.) A girl who was living in a state of much depression since the death of her only relative became the subject of a criminal assault. Her assailant, however, only succeeded in placing his hand on the right side of her abdomen. She subsequently became subject to hysterical attacks and other symptoms. On admission to the Salpêtrière the right side of the abdomen was intensely tender to touch and the abdominal muscles were rigid, particularly on the right side.

2. (Vol. II., pp. 423–428, Obs. 126.) A man had, amongst other symptoms, hysterical hemiplegia with hemianæsthesia. While this was half cured he went back to work and tried carrying parcels on his shoulders. This gave rise first to pain at the back of the neck, then to contracture of the muscles there, so that his head was constantly drawn backward, and he could not bend forward. Curiously enough, when this contracture developed the hemiplegia got well. One day he again attempted to carry a parcel, and was very much upset because he let it fall. But the result was that the contracture suddenly disappeared.

This sudden and apparently unaccountable recovery from hysterical symptoms is remarkable, though not uncommon. It is a fact that should be remembered by those who have theories as to the results of treatment.

3. (Vol. I., p. 234, Obs. 1.) Contractures of the abdominal muscles, lumbar muscles, and thigh muscles of the left side, followed by contracture of some of the neck muscles, fixing the patient in a peculiarly awkward position, resulted from the following circumstances. A girl stumbled over the body of a drunken man and ran away in a great fright. A month later hysterical fits developed, in which she had the hallucination of a man pursuing her, and tried to escape, at the same time turning her head to watch him. After each fit she assumed the following attitude—spine arched to left, body bent forward, abdomen folded on left side, head turned to left. This position gradually became permanent, owing to continuous contracture of the muscles concerned.

4. (Vol. II., pp. [illegible], Obs. [illegible].) The position of another patient was as follows: Slight flexion of the trunk to the left, owing to contracture of the left abdominal muscles—viz., rectus and obliques; slight flexion of the left thigh with adduction and inversion of the limb, which was fixed in this position by rigidity of the thigh muscles, though she could move the foot and knee. This rigidity had been preceded by clonic spasms of the muscles concerned. The actual outbreak of the hysteria was recent, and was due apparently to the loss of a sister and other troubles, but the peculiar form of it—that is, the position determined by the muscular contractures—was ascertained to correspond with the position which the patient had been in the habit of assuming years previously, under emotional circumstances of a certain kind. Later on the muscles on the left side of the abdomen, which had been rigid, became paralysed, and she fell over to the right side, almost reversing the previous position.

This last case reminds me of a girl who was under my care in St. Bartholomew's Hospital some two years ago, who could not walk without persistently bending her trunk to the left. The left lower limb was also affected, but almost in the reverse fashion to the French case which I have just quoted, for the thigh was rotated outwards and the foot dragged behind her, at the same time pointed outwards. In this way she limped along, all hunched over to the left side. It appears that she had had pains in her back, and on getting medical advice about them had been told that she had curvature of the spine. After this the peculiar attitude gradually developed. I think the idea of spinal disease must have taken great hold of her, for even in hypnosis (and she was a particularly good subject) I had much difficulty in getting her to admit that she had no such disease. The inclination of the trunk was a passable representation of lateral curvature, but I could not account for the peculiar position of the left lower limb. She eventually recovered, got married, and the last time I saw her was going out to her husband's farm in Canada.

Peculiar Features about Hysterical Contractures.

Now although it would seem that some hysterical contractures may be dependent upon a persistent or recurrent mental state or "idea," yet I doubt whether they can all be explained in this way. At any rate, contracture seems to be a symptom which would well repay careful investigation.

There are two peculiar features about hysterical contractures which I might mention here, without discussing them at length.

First, that such contractures, or, at any rate, some of them, persist during sleep. It is not always easy to observe this for oneself. There was a woman in Queen-square Hospital last year whose hand was fixed in the "obstetric position." Dr. Adie, house physician, kindly observed her at my request during her sleep, and found the position the same. Mrs. A, the patient whose fits and anæsthesia I have already described, came to me last year with her right middle finger firmly flexed into the palm. Her husband assured me that the contracture remained during her sleep. So it did during hypnotic sleep, though in this condition the finger could be easily coaxed to open. The persistence of a hysterical contracture during natural sleep is not, perhaps, what we should expect, yet it has long been known. F. C. Skey, the well-known surgeon of St. Bartholomew's Hospital, notices the fact in his lectures delivered in 1856. After commenting on the fact that chloroform anæsthesia will remove hysterical contractions of the fingers or elbow he says: "To bring this morbid state of the muscle within the influence of the mind as its cause is almost of necessity to infer the local evil to be wilful; but if it were so, the state of unconsciousness during sleep would remove it, which it does not, for the contraction is constant by night and by day."

The second point is that, when such contractures are forcibly overcome, the patient seems to suffer intense pain. The reason is not obvious. Is it due to some purely local condition of the muscles? Or is it the expression of some more general law? For some authors have noticed that pain in the head occurs when functions which hysterical patients have lost, such as memory, sensibility, or motility, are being restored in the course of treatment. Now, since permanent hysterical symptoms, such as paralysis, anæsthesia, contractures, and the like, are often ushered in by pain, it may be that in the reverse stage, from symptom to cure, pain is a stage through which the patient must pass.

Of course, in these remarks about pain and the persistence of contractures during sleep I exclude cases in which adhesions have formed about the joints—a complication which, according to Weir Mitchell, readily occurs in hysterical cases.

Vaso-motor and Nutritional Symptoms.

All the symptoms that I have mentioned as yet are common and well-known symptoms. I have dwelt on them chiefly to show that they may reasonably be interpreted from the psychological point of view. This, indeed, is the kind of interpretation which most modern theories on hysteria employ. But it will have occurred to you, no doubt, that there is another class of symptoms which are by no means easy to interpret in this way; I mean the rarer class known as vaso-motor and nutritional symptoms. Examples of this class are—fever, muscular atrophy, certain skin affections, œdema, congestions, not to mention obscure affections of secretion and excretion, as of sweat, milk, and urine. The existence of many of these has been denied, and others have been relegated to the limbo of malingering—perhaps correctly, but I doubt whether we can get rid of all of them in this way.

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Skin affections have been described, mostly vesicular or bullous in appearance, ending in superficial ulceration; and the eagle eye of the dermatologist will pick you out lesions worthy to be dignified with the name "dermatitis neurotrophica"; but generally there hangs over these a cloud of grave suspicion that there has been some self-inflicted injury. This difficulty arose in the case of a woman who was for a long time under my care in St. Bartholomew's and Queen-square Hospitals. A very marked hysteria was in her case combined with disseminated sclerosis (the latter verified post mortem). The right loin, right side of abdomen, and right lower limb, all of which parts were anæsthetic in a hysterical sense, were covered with oval scars, the sequelæ of superficial ulceration, which were edged round with dark pigment, so as to form quite a striking picture.[2] This pigmentation I believe to have been due to arsenic, which had been freely administered before I saw her. She developed very few lesions while in my wards, so that I cannot speak with certainty as to the method of their production.

This question of self-infliction of injuries in relation to hysteria is an extremely interesting one, but can hardly be discussed in the time at my disposal.

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Gilles de la Tourette[3] observed the following case. A girl, aged 19, had some mental upset one evening, upon which followed a storm of weeping, bad dreams all through the night, and towards morning pain on the inner side of the right leg. Next day at this spot there were an oval patch of ecchymosis (5 cm. × 3 cm.) and right hemianæsthesia most marked in the painful leg. She was confident that the mark had not been there before and that it was not the result of a blow.

I need hardly remind you that the stigmata of mediæval saints which sometimes appeared during trance or ecstasy have been interpreted, rightly or wrongly, as hysterical hæmorrhages; and the same interpretation might be given to the story of the woman who averred that certain black bruises on her thighs were caused by Satan lashing her with his iron tail, because she resisted his temptations, or to that of Alizon Device, one of the Lancashire witches, who said that a blue mark under her left breast was caused by the devil in the form of a black dog sucking there.

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Hysterical œdema was described by Sydenham. He says:[4]—

> Just as this disease attacks all the internal parts, so also does it sometimes take possession of the external ones—namely, the muscular flesh of the jaws, shoulders, hands, legs, and ankles; sometimes causing pain, sometimes swelling. Of such swellings, that of the ankles is most remarkable, differing in two ways from that of dropsy. Dropsical swellings are, in the first place, greatest towards the evening; in the second, they retain the mark of the finger just like wet paste. In hysteria there is no such impression, and the puffiness is greatest in the morning. Generally also it is one ankle that swells. In respect, however, to size and shape, hysterical and dropsical swellings are so much alike that the patient can rarely be undeceived as to their nature.

Sydenham does not mention any change of colour in the skin, but Charcot and his school[5] described a "blue œdema" in which the surface shows a dusky congestion or cyanosis, and it would seem, according to the statements of other authors, that exceptionally the skin may even be red and hot, and that incisions have actually been made into such swellings.

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> Young women are subject to an affection of the breast corresponding to the hysterical affections of the joints, and indicated by very similar symptoms. These cases have been noticed by Sir Astley Cooper in his observations on disease of the breast. The patient complains of pain in the breast, and shrinks on pressure being made with the fingers or even on the skin being slightly pinched. Not infrequently the examination of the part produces twitches and motions of the body; yet if it can be dexterously managed while the examination is being made that the patient's attention should be otherwise engaged, not only these motions do not occur, but she may seem scarcely sensible of pain. The morbid sensibility is not confined to the breast, but extends to the axilla and down the arm. No distinct tumour is perceptible in the breast, but when the disease has been of long continuance the whole organ becomes slightly enlarged, probably in consequence of an increased determination of blood to the small vessels; yet there is no redness of the skin, and indeed the skin is even paler than natural, with a somewhat glossy appearance of its surface.

Pain and tenderness were therefore the leading feature in the cases seen by Brodie; and further, from what he says concerning the twitchings and movements produced by handling the breast, we may suspect that it was not only tender, but might have formed a hysterogenic zone. But certain other physical phenomena, missing in his description, are much in evidence in the description of Gilles de la Tourette[7] and other French authors. The nipple becomes erect, the breast swells, it may be to twice its natural size or more; the skin, which in some cases retains its normal colour, in others becomes bluish-red or bright red, and this congestion has been said actually to go on to gangrene of the skin. Féré has witnessed such swelling and redness develop in a very short space of time, apparently for no other reason than that the patient's attendant had said something that offended her. These phenomena are for the most part paroxysmal, but the pain and swelling may persist in the intervals of the attacks.

Causation of Physical Symptoms.

If I have spent your time, Sir, in speaking about these particular forms of hysteria, it is because they seem to have a particular theoretical interest. They do not fit very easily into the psychical interpretation of hysteria. We can readily understand that hysterical convulsions may be produced by the overwhelming power of some terrible memory; that pain and loss of sensation (which, after all, are but modifications of consciousness) may be produced by affections of the mind; that paralysis, or prolonged contractions, of voluntary muscles might be due to some perversion of volition. Moreover, all these things may be artificially produced by skilful hypnotism. But it is difficult to see how such outward and visible signs as œdema, congestion, or ecchymosis can be produced by purely mental agencies.

This much, however, may be said: First, that we hardly know as yet how much emotion may do towards modifying our bodily states. And emotion is certainly an important factor in hysteria. Secondly, that these same physical symptoms which I have been discussing sometimes appear and disappear in a way which seems to suggest that they depend upon the patient's state of mind. I will conclude this lecture with two cases which point this way; they shall be very briefly put.

1.[8] A girl, under the care of Professor Janet, had œdema of the wrist and dorsum of the hand. She had also anæsthesia of that side affecting both the skin and the deeper parts, so that (like the case I previously mentioned) she could only move the parts while she was looking at them. The œdema could be dispersed in the following way. While her attention was diverted to some other subject a whispered command was given to her to move her fingers. This she did unconsciously. She was then told to look at her hand, and she said in surprise, "Why, my fingers are moving. I suppose the swelling will go next." And so it did within an hour. The removal of the one symptom through some curious mental connexion effected the removal of the other.

2.[9] A case is given by Dr. Charon and Dr. Courbet relating to the mode of production of a hysterical breast. In an institution for children at Amiens was a girl, aged 13½, who was subject to hysterical convulsions and attacks of sleep. She had menstruated twice; her breasts were highly developed for her age. It so happened that the sister of the ward had an abscess of the right breast which had to be opened. Secondary hæmorrhage occurred after the operation, and caused great alarm in the establishment. The girl was particularly upset, for her own mother had died a year and a half previously from cancer of the breast, which had twice been operated upon. She lay awake for a long time in the night and in the morning felt a sharp pain in the right breast, and found it to be red and swollen. She said nothing, hoping it would pass off, but the following day, when she was having a douche, the affection was discovered. The right breast was swollen, immobile, of a uniform bluish-red colour, hot to touch, tender, but not otherwise very painful. She asked the doctor whether it was serious; he reassured her and the breast soon got well.

The authors of this paper are confident that any sort of trickery could be excluded, and they consider that it was a case of "vaso-motor affection," due to "auto-suggestion."

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[6] De Morbis Convulsivis, Cap. xi, Obs. 1.

[7] Nouvelle Iconographie de la Salpêtrière, vol. viii., p. 127.

[8] Névroses et Idées Fixes, vol. ii., p. 511.

[9] Nouvelle Iconographie de la Salpêtrière, 1913, March-April.

MEDICAL MAGISTRATE.—Dr. James Cardwell Gardner, of Amersham, has been appointed by the Lord Chancellor to the commission of the peace for the county of Bucks.

CHELSEA HOSPITAL FOR WOMEN.—The rebuilding fund of this institution is to benefit on May 5th and 6th by a sale of work, which will take place at 35, Chesham-place, S.W., by permission of the Baroness de Goldsmid. The sale will be opened on the first day by the Marchioness of Londonderry, and on the second by the Countess of Ilchester, President of the Ladies' Committee, who is also taking a stall.

be wilful; but if it were so, the state of unconsciousness during sleep would remove it, which it does not, for the contraction is constant by night and by day."

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The hysterical breast, which in its fully developed form must be a very striking symptom, appears to be a combination of pain, œdema, and congestion, localised in this particular organ. The first reference to it was made, I believe, in 1667 by that distinguished Fellow of our College, Thomas Willis.[6] He describes the pain, tenderness, and swelling of the breast, and the associated hysterical convulsions. Later, an equally distinguished surgeon, Sir Benjamin Brodie, says in his remarks upon local hysterical affections:—

> Young women are subject to an affection of the breast corresponding to the hysterical affections of the joints, and indicated by very similar symptoms. These cases have been noticed by Sir Astley Cooper in his observations on disease of the breast. The patient complains of pain in the breast, and shrinks on pressure being made with the fingers or even on the skin being slightly pinched. Not infrequently the examination of the part produces twitches and motions of the body; yet if it can be dexterously managed while the examination is being made that the patient's attention should be otherwise engaged, not only these motions do not occur, but she may seem scarcely sensible of pain. The morbid sensibility is not confined to the breast, but extends to the axilla and down the arm. No distinct tumour is perceptible in the breast, but when the disease has been of long continuance the whole organ becomes slightly enlarged, probably in consequence of an increased determination of blood to the small vessels; yet there is no redness of the skin, and indeed the skin is even paler than natural, with a somewhat glossy appearance of its surface.

Pain and tenderness were therefore the leading feature in the cases seen by Brodie; and further, from what he says concerning the twitchings and movements produced by handling the breast, we may suspect that it was not only tender, but might have formed a hysterogenic zone. But certain other physical phenomena, missing in his description, are much in evidence in the description of Gilles de la Tourette[7] and other French authors. The nipple becomes erect, the breast swells, it may be to twice its natural size or more; the skin, which in some cases retains its normal colour, in others becomes bluish-red or bright red, and this congestion has been said actually to go on to gangrene of the skin. Féré has witnessed such swelling and redness develop in a very short space of time, apparently for no other reason than that the patient's attendant had said something that offended her. These phenomena are for the most part paroxysmal, but the pain and swelling may persist in the intervals of the attacks.

Causation of Physical Symptoms.

If I have spent your time, Sir, in speaking about these particular forms of hysteria, it is because they seem to have a particular theoretical interest. They do not fit very easily into the psychical interpretation of hysteria. We can readily understand that hysterical convulsions may be produced by the overwhelming power of some terrible memory; that pain and loss of sensation (which, after all, are but modifications of consciousness) may be produced by affections of the mind; that paralysis, or prolonged contractions, of voluntary muscles might be due to some perversion of volition. Moreover, all these things may be artificially produced by skilful hypnotism. But it is difficult to see how such outward and visible signs as œdema, congestion, or ecchymosis can be produced by purely mental agencies.

This much, however, may be said: First, that we hardly know as yet how much emotion may do towards modifying our bodily states. And emotion is certainly an important factor in hysteria. Secondly, that these same physical symptoms which I have been discussing sometimes appear and disappear in a way which seems to suggest that they depend upon the patient's state of mind. I will conclude this lecture with two cases which point this way; they shall be very briefly put.

1.[8] A girl, under the care of Professor Janet, had œdema of the wrist and dorsum of the hand. She had also anæsthesia of that side affecting both the skin and the deeper parts, so that (like the case I previously mentioned) she could only move the parts while she was looking at them. The œdema could be dispersed in the following way. While her attention was diverted to some other subject a whispered command was given to her to move her fingers. This she did unconsciously. She was then told to look at her hand, and she said in surprise, "Why, my fingers are moving. I suppose the swelling will go next." And so it did within an hour. The removal of the one symptom through some curious mental connexion effected the removal of the other.

2.[9] A case is given by Dr. Charon and Dr. Courbet relating to the mode of production of a hysterical breast. In an institution for children at Amiens was a girl, aged 13½, who was subject to hysterical convulsions and attacks of sleep. She had menstruated twice; her breasts were highly developed for her age. It so happened that the sister of the ward had an abscess of the right breast which had to be opened. Secondary hæmorrhage occurred after the operation, and caused great alarm in the establishment. The girl was particularly upset, for her own mother had died a year and a half previously from cancer of the breast, which had twice been operated upon. She lay awake for a long time in the night and in the morning felt a sharp pain in the right breast, and found it to be red and swollen. She said nothing, hoping it would pass off, but the following day, when she was having a douche, the affection was discovered. The right breast was swollen, immobile, of a uniform bluish-red colour, hot to touch, tender, but not otherwise very painful. She asked the doctor whether it was serious; he reassured her and the breast soon got well.

The authors of this paper are confident that any sort of trickery could be excluded, and they consider that it was a case of "vaso-motor affection," due to "auto-suggestion."

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[6] De Morbis Convulsivis, Ch. vi., Obs. 1.

[7] Nouvelle Iconographie de la Salpêtrière, vol. viii., p. 107.

[8] Névroses et Idées Fixes, vol. ii., p. 511.

[9] Nouvelle Iconographie de la Salpêtrière, 1913, March-April.

MEDICAL MAGISTRATE.—Dr. James Cardwell Gardner, of Amersham, has been appointed by the Lord Chancellor to the commission of the peace for the county of Bucks.

CHELSEA HOSPITAL FOR WOMEN.—The rebuilding fund of this institution is to benefit on May 5th and 6th by a sale of work, which will take place at 35, Chesham-place, S.W., by permission of the Baroness de Goldsmid. The sale will be opened on the first day by the Marchioness of Londonderry, and on the second by the Countess of Ilchester, President of the Ladies' Committee, who is also taking a stall.

INTESTINAL TOXÆMIA.

WITH SPECIAL REFERENCE TO THE INDICATIONS FOR OPERATIVE TREATMENT.[1]

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(*With Illustrative Plate.*)

IN his instructive opening of the discussion on intestinal toxæmia, published in the Transactions of the Edinburgh Medico-Chirurgical Society for 1913, Professor William Russell dealt at considerable length with the scientific side of the subject, time not permitting him to consider in any detail its practical aspects.[2] He dismissed the clinical aspects of the subject by stating that "there is no doubt amongst us at all as to the general proposition that the retention of alimentary excreta is deleterious and injurious to the vast majority of people." "You have," he went on to say, "isolated cases where apparently this retention of alimentary excreta has no apparent injurious effect." It is interesting to compare this statement with the definition of intestinal stasis given by Sir Arbuthnot Lane in his introduction to the discussion on alimentary toxæmia at the special meeting of Fellows of the Royal Society of Medicine in 1913.[3] Lane defines the condition as an abnormal delay in the transmission of intestinal contents through some portion or portions of the gastro-intestinal tract, resulting in the absorption into the system of a greater quantity of toxic material than the organism is able to deal with effectively by means of the organs whose function it is to eliminate it. The toxins circulate through the tissues and produce definite degenerative changes in them. Finally, the organs whose functions it is to convey, convert, and eliminate the several toxic products circulating in the blood, themselves undergo degeneration, under the influence of prolonged and progressive strain. Then the degenerative changes in the tissues progress more rapidly in proportion to the failure of the organs of elimination. It is probable that most clinicians will agree with the general propositions stated by Professor Russell, but on the all-important points of detail there may be a good deal of difference of opinion. There may be some who attach as much importance to intestinal toxæmia as I do, others who think my views fanciful and exaggerated, and yet others whose ideas on the subject are less determined, and accordingly it may be instructive if we come into closer grips with the subject in its practical aspects. In the following paper I will deal more particularly with cases of intestinal toxæmia which have proved intractable to medical treatment, and discuss the question of appropriate operative treatment.

At this date it is hardly necessary to elaborate the importance of the subject. We all know that in the past few years there have been a very large number of abdominal operations performed for chronic disease, more especially the removal of the appendix, and to a lesser extent operations on the stomach, in which the results of the operation have proved disappointing to the patient. It is too commonly assumed that the responsibility for this erroneous treatment is entirely surgical; in fairness, the responsibility has to be shared by the physician and surgeon alike. In fact, I would rather say in connexion with the class of case that I am considering that the physician is more to blame than the surgeon, as too often the surgeon is called in in these chronic cases to diagnose the condition, whereas it is really the duty of the physician to exhaust the possibilities of modern methods of investigation, and to form a provisional opinion as to the nature of the condition, and the best method of treatment by medical or by surgical means.

1. *The Pathological Basis for Intestinal Toxæmia.*

Stated shortly, this consists in the following, in various combinations:—

(*a*) *The presence of constipation.*—The existence of this is determined to some extent by the history of the patient, and also by the use of the enema and the X rays. The X rays have special value in so far as they are the only means at our disposal for locating the part of the bowel primarily affected. In this connexion it is important to bear in mind the comparative frequency with which we meet in practice cases of severe constipation in patients whose bowels move—though very imperfectly—every day.

(*b*) *An associated catarrh of the large bowel, and in aggravated cases the lower end of the small intestine.*—The existence of this is shown by excessive putrefaction in the stools with frequently marked excess of mucus, and it may be, attacks of diarrhœa, alternating with constipation. The urine is also frequently abnormal, containing catarrhal cells, white or red blood corpuscles, oxalate of lime crystals and bacteria, this condition of the urine being directly associated with and dependent upon the diseased state of the bowel.

(*c*) *Dilatation of the bowel, more especially the cæcum and colon, often associated with visceroptosis.*—These conditions are revealed by the presence of splashing on manual examination, more especially of the epigastric and cæcal regions, and by the results of X ray examination. In cases associated with marked ptosis the contour of the abdomen in the erect posture is distinctive, being flat in its upper half and prominent and bulging in its lower part. It is probable that in some of these cases a congenital weakness of the abdominal musculature is an important factor, this weakness being aggravated by defective posture and by pressure from tightly fitting corsets. In cases associated with marked ptosis the stasis is aggravated by the ptosis and conversely.

(*d*) *The presence of adhesions, membranes, pathological kinks, &c., mechanically interfering with normal intestinal movement, with resulting stasis in the large and small bowel.*—These conditions are suggested or revealed by the presence of isolated areas of tenderness on pressure, often erroneously attributed to the appendix, and by X ray examination.

2. *The Clinical Association of Normal Intestinal Functions.*

The chief indication of this is absence of any symptoms of ill-health, digestion being performed in the painless, unconscious manner characteristic of good health, and, objectively, the following.

A. *Normal stools.*—A normal stool consists largely of bacteria; it is acid, neutral, or faintly alkaline in reaction, and is free of offensive odour. Under the influence of an aperient a healthy stool acquires a more distinctly fæcal odour; in cases of intestinal toxæmia the stools may be markedly alkaline in reaction, and they are exceedingly offensive, often containing marked excess of mucus, the condition indicating abnormal putrefaction in the large bowel. When a healthy bowel is cleared out by an enema and subsequently irrigated with plain water, the returned fluid should be practically clear; in cases of severe intestinal toxæmia a very different result is obtained, the returned fluid being fæcal and foul-smelling and containing great excess of bacteria. The correction of this state of the stools is usually accompanied by the disappearance of the symptoms.

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[1] A paper read before the Edinburgh Medico-Chirurgical Society on Jan. 21st, 1914.

[2] THE LANCET, July 19th, 1913, p. 146.

[3] THE LANCET, March 15th, 1913, p. 755.

B. *The elimination of a normal urine.*—In this connexion attention should be particularly directed to the following points, the significance of which is, I think, not sufficiently appreciated, the different conditions referred to occurring in various combinations.

(*a*) A deficiency in the total amount of urine passed. An extreme example of this may be cited in the case of a stout lady affected with chronic rheumatism who was under my care some years ago, the total amount of urine voided in three days being just under 20 oz.

(*b*) The presence of cellular elements in the urine in marked excess of the normal. The examination of a centrifuge deposit of a normal urine obtained fresh may show the presence of two or three epithelial cells, and very occasionally a white blood corpuscle. In the cases under consideration the deposit in the centrifuge tube may be considerable, consisting of epithelial cells, white blood corpuscles, and a few red cells.

(*c*) The presence of numerous oxalate of lime crystals is a feature in not a few cases.

(*d*) The presence of bacteria in the urine; these bacteria being either voided in the urine or multiplying at an abnormal rate when voided, the latter condition indicating an unduly toxic condition of the urinary excretion.

I lay comparatively little stress on the presence or absence of indican, the one test on which reliance is laid in text-books.

The examination of the urine from these points of view requires, I think, much more attention than is commonly given to it.

In connexion with the bacteriological examination of the urine *in men* I never feel justified in passing the catheter, as this, in my opinion, is an unnecessary proceeding and not without danger. I rely on obtaining a sample of urine taken direct into a sterile *tube from the* middle of the stream with all due antiseptic precautions.

3. *X Rays. The Presence of Abnormal Intestinal Stasis.*

In recent years considerable light has been thrown on many gastro-intestinal disorders by the application of the X rays after a bismuth meal. Since Cannon first investigated the normal intestinal movement in animals by bismuth meals a vast amount of work has been carried out on intestinal movements in human subjects, notably by Hertz and others, and there is now an extensive literature on the subject. A great deal of very valuable information has been obtained, which is of value to the physician and surgeon alike in the diagnosis of various gastro-intestinal disorders, and it may safely be said that our knowledge of the great value of X rays in the diagnosis of abdominal conditions is still in its infancy. At the present time there are difficulties in regard to the completeness of the information gained by their use. These arise in the interpretation of the results, and are due largely to the absence of any standard method in connexion with the routine X ray examination. A further difficulty is the absence of sufficient data as to the range of normal limits in people who may be perfectly healthy. It would be a great advantage if radiographers adopted a standard bismuth meal and if the routine examination were made at uniformly recognised periods, as by this means we should be better able to compare the results of different observers.

We will first refer briefly to certain elementary facts which are generally accepted as established in connexion with the passage of bismuth meals.

Hertz, with a view to determining the rate of movement in the small and large bowel, examined 18 normal subjects after a bismuth meal at different intervals, in two cases every hour, in the majority of cases four times a day, and once or oftener on the day following. He found that the shadow appeared in the cæcum most frequently *four hours* after the meal, the hepatic flexure was reached from four to eight hours, the splenic flexure at 7 to 14 hours, and the junction of the descending colon with the iliac colon from 8 to 16 hours. In the pelvic colon the rate of progress was more slow. These figures represent an average.

It may be useful to follow the course of a bismuth meal as observed with the screen and radiograms. All my cases have been examined privately by Dr. W. Hope Fowler, the patients being screened immediately after the taking of the meal, and on four, five, or six occasions subsequently, at intervals ranging from 3 to 72 hours. Screen examinations were made in every instance by Dr. Fowler and myself, a very large number of photographs being taken at the same time. The meal consisted in an emulsion of 10 oz., containing 60 grm. of oxychloride of bismuth, followed by 30 grm. of the same preparation, with 4 grm. of lactose, given with 6 oz. of water. Examinations were made chiefly in the vertical position. The *shape* and the *position* of the stomach are first determined; normally the stomach hangs vertically to the left side of the middle line, and is shaped like the letter J, the lower end of it reaching from a little above to a little below the umbilicus. The *tone* of the stomach is then observed; this is revealed by the manner in which the organ grips its contents and by the rate and degree of *peristalsis*, which must be carefully observed. Immediately after food enters the stomach the organ at once commences to discharge its contents into the duodenum. The food passes into the first part of the duodenum, forming a characteristic duodenal cap, which is usually, but not invariably, revealed. After its passage into the second part of the duodenum the food may be seen passing quickly through the small intestine, but its rate of movement is usually such as to preclude a photograph being taken. In favourable cases a delicate stippling of a photographic plate may be seen, indicating the bismuth contents in the small intestine. The food is next visible in bulk when it reaches the terminal coils of the ileum and cæcum, the latter being reached in from four to six hours after the meal is taken. At the end of the sixth hour practically the whole of the food should be in the cæcum. On the following morning the bismuth contents are largely expelled, a screen examination may reveal a shadow in the rectum, pelvic colon, or iliac colon, these representing the remaining part of the bismuth meal. Our knowledge of the mechanism of the movement of the large intestine is still incomplete. The evidence available justifies the view that intestinal movements of the large bowel take place four or five times daily, as the result of which the more solid contents in the large bowel are propelled onwards over a large area.

It may safely be assumed that in cases in which the bismuth meal is not completely voided within 48 hours a pathological stasis is present, the degree and situation of this stasis being determined by the situation and amount of the bismuth contents present. Thus the presence of a residue in the rectum and pelvic colon at this time may indicate a defect in the power of the rectum to expel its contents, but this is naturally a much less severe stasis than would be indicated by the presence of the whole meal or the major part of it in the cæcum and ascending colon at the same period.

The three most common sites of stasis are the lowest part of the ileum, the cæcum and ascending colon, and the rectum. At the present time a good deal of difference of opinion exists as to the degree of ileal stasis that is met with, and as to the existence of an associated and dependent duodenal stasis. Dr. A. C. Jordan, who has directed special attention to these points, attaches great importance to ileal stasis as a common pathological condition, and claims that it is associated with marked slowing of movement in the duodenum due to the dragging of the membranous attachments at the duodeno-jejunal junction. His views are based on a large series of cases radiographed by himself and subsequently observed at operations performed by Sir Arbuthnot Lane.

Hertz, on the other hand, regards ileal stasis as largely a physiological condition, and he has further been unable to confirm Jordan's X ray findings of a dilated duodenum. A very crucial point is here involved, and it is highly important that it should be determined which view is the correct one. For my own part, while originally sharing the views advocated by Hertz, I have lately seen reason to change, and am satisfied from a more adequate first-hand knowledge of the technique adopted by Jordan that his teaching on these important points is substantially correct. I have recently seen four cases in which this duodenal stasis was present in marked degree, the X ray diagnosis being amply confirmed in one instance at which operation has been performed. The appearance of the duodenum and jejunum in one of the four cases is well shown in Fig. 1. The appearances in the figure lead me to make the suggestion that cases of diabetes should be specially investigated by means of X rays in order to determine whether this condition of the duodenum is a common one, and whether it has special significance in regard to the etiology and treatment of the disease.

4. *Clinical Conditions Induced by Intestinal Toxæmia.*[4]

Long-continued observation of many cases of chronic disease, and more especially private cases, which I have had the opportunity of investigating by the aid of modern methods of diagnosis has led me to recognise three distinct groups of conditions that arise mainly or entirely from intestinal toxæmia. These are (1) a neurasthenic group (this includes some cases at present regarded as neurotic, and also a subgroup in which the symptoms are mainly mental); (2) rheumatoid arthritis; and (3) a "dyspeptic" group. The division between these groups is somewhat arbitrary, but their separate consideration is justified on practical grounds. A few words may be said by way of elaborating these points.

1. *Neurasthenia.*—Constipation and other gastric symptoms met with in neurasthenia are, according to some writers, a result and not a cause of the neurasthenic condition. A different view is now held by many clinicians. This is well brought out in the course of a discussion on the application of surgery for the relief of neurasthenic conditions published in the Transactions of the American Surgical Association for 1910. In introducing the discussion, Blake writes as follows: "While the neurologist is apt to consider the lowered blood pressure, the disturbance of intestinal functions, the concomitant putrefaction, gas formation, and auto-intoxication as symptoms of neurasthenia there can be no doubt but that they are in a large measure causative." I fully share the view so well expressed by Blake. In the course of the last few years I have had under my care many patients the subjects of neurasthenia, some of whom have suffered from the condition for years, in which the critical analysis of the symptoms and the careful examination of the stools, the urine, and of the digestive tract by means of the X rays pointed clearly to an unhealthy state of the prima via as the primary causative factor of the disease. The patients referred to made a complete and satisfactory recovery coincident with the use of measures directed to restore the gastro-intestinal tract to a healthy condition. In some of these cases the patients had previously been regarded as neurotic, and treatment based on that diagnosis had failed to relieve the symptoms. I believe that not a few patients who are at the present time regarded as poor "neurotic" creatures are suffering from intestinal toxæmia, and the "neurotic" manifestations would largely disappear if a correct diagnosis were made and appropriate treatment applied. I have also seen in the course of the last year or two a number of advanced cases of neurasthenia associated with more or less visceroptosis which were also largely the result of a severe intestinal toxæmia. In some of these cases, which will be illustrated later, the results of medical treatment in my hands have been much less satisfactory and in regard to them the question of the advisability of operative treatment has to be considered.

A subgroup of these cases comprises patients whose symptoms are mainly mental. Three well-marked cases of melancholia have lately been under my care, which were clearly shown to be the results of an undetected septic condition of the large bowel. These all made a satisfactory recovery when the condition was recognised and treated appropriately. In two of these cases the primary source of the infection was to be found in the septic state of the teeth and gums. It is probable that most alienists could cite similar cases. Two cases may be cited illustrating the clinical features and the difficulty in deciding the most suitable form of treatment.

CASE 1.—The patient, aged 34, complained of severe constipation and depression, of easily feeling tired, and of a "dead-weight feeling behind the sternum," having to lie down a little every day so as to get energy. The symptoms had existed for over three years and many forms of treatment had been tried. The patient was fairly well nourished

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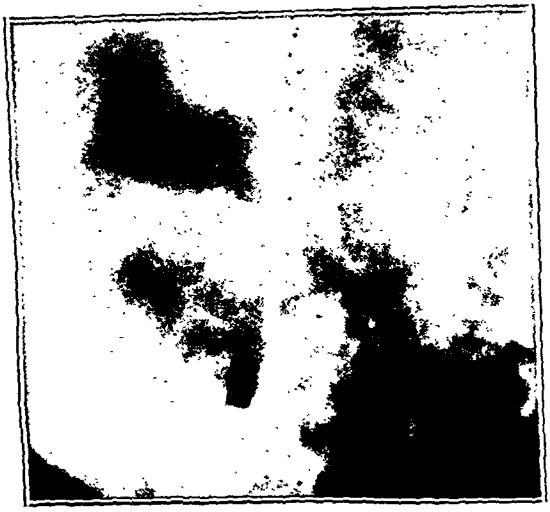
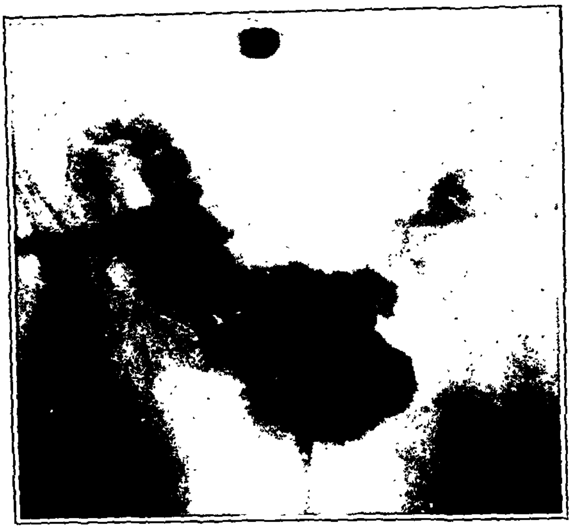
[4] The cases here referred to in detail are selected from a large number described and illustrated by series of radiograms at the meeting.

FIG. 1



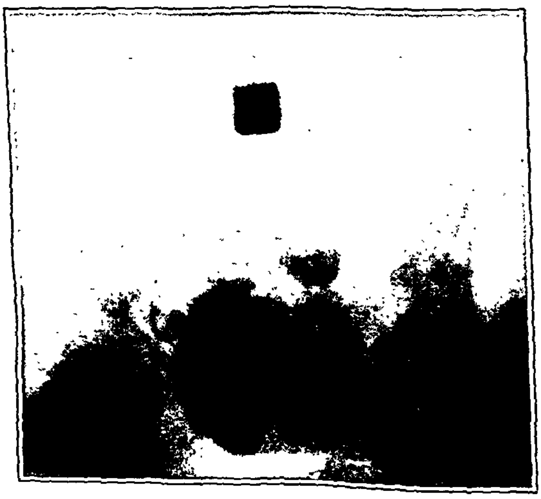
Skiagram from male diabetic, aged 45, taken 15 minutes after bismuth meal in recumbent posture. Stomach hypertonic. Bismuth contents retained in duodenum and jejunum.

FIG. 2



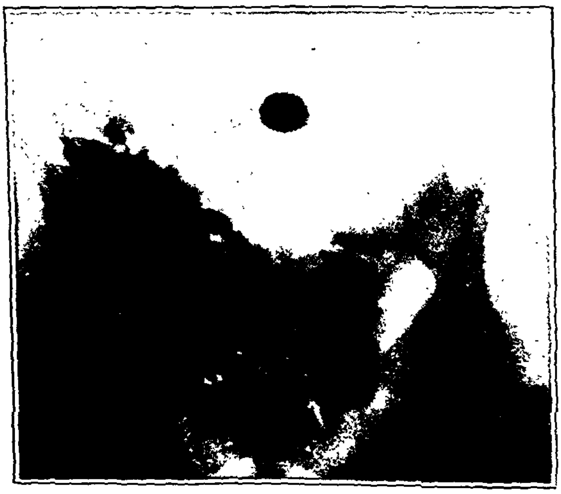
Skiagram from female patient, aged 34, taken 72 hours after bismuth meal. Note the pronounced cæcal and colon stasis.

FIG. 3



Skiagram taken 6 hours after bismuth meal. Note the food delayed in the terminal coils of the ileum indicating marked ileal stasis.

FIG. 4



Skiagram from a female patient, aged 45, taken 6 hours after a bismuth meal. Note the presence of bismuth in small amount in the stomach (slight gastric stasis); also a shadow 1 inch above the umbilicus, due to presence of food in first part of duodenum; also marked ileal stasis.

TO ILLUSTRATE DR. CHALMERS WATSON'S PAPER ON

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slightly anæmic, with marked splashing in the epigastric region, stools constipated, and offensive with excess of mucus. Examination after a bismuth meal showed enlarged proptosed stomach, pronounced ileal stasis after six hours, and very pronounced cæcal and colon stasis, with proptosis of the colon, the condition of things after 72 hours being as shown in Fig. 2.

Careful medical treatment, with prolonged rest, massage, including vibratory massage of the abdomen, intestinal lavage, petroleum, &c., was carried out for a couple of months, the benefit being slight and not permanent. An interesting feature of the case was that the heart hung too vertically (cardioptosis), and there was marked depression on the left half of the diaphragm, for which no adequate cause above the diaphragm could be found. As the patient and her husband are anxious that everything possible should be done to obtain relief I have now no hesitation in recommending operative treatment by a surgeon with special experience of the operation of short-circuiting with or without colectomy.

The second of these two cases illustrates the restricted success which in some instances of chronic intestinal toxæmia follows an operation specially directed to the relief of adhesions in the right lower quadrant.

CASE 2.—The patient, aged 38, unmarried, complained of troublesome symptoms of over eight years' duration. She lacked energy, became too easily tired, and had recurring attacks of indigestion associated with abdominal pain and coming on at irregular intervals without apparent cause. She had had various courses of treatment, such as rest cures, &c. She was a capable and keen woman with a pale, muddy complexion, and her muscular system was soft and flabby. There was occasional localised tenderness in the right iliac and epigastric regions, with slight splashing in the cæcal area, and the stools were very constipated and foul. This condition was very difficult to correct. The urine contained catarrhal cells, white blood corpuscles, and oxalate of lime crystals. Other sources of toxic absorption could be eliminated. The case was clearly one of intestinal stasis with toxæmia of long standing.

An attempt was made to correct the condition by medical means, with rest, vibratory massage, enemas and lavage, and general tonics. Distinct benefit followed this line of treatment, but it failed materially to improve the patient's vigour or her capacity for work, or to get rid of her indigestion. X rays were then taken, and they showed very marked ileal stasis, as seen in Fig. 3, and also general colon and cæcal stasis.

At the operation the cæcum was found to be enlarged and mobile, marked bands were found involving the terminal coils of the ileum, and the appendix was adherent, showing evidence of some old inflammation. The adhesions were liberated, the appendix was removed, and the cæcum was plicated and anchored in position.

Too short a time (four months) has elapsed since the operation to express any definite opinion as to the result of the operation; the patient is markedly better, but the incomplete relief from the indigestion and the present state of vigour lead me to think that the operation has been only partially successful, and has raised in my mind the question as to whether, in view of the clinical facts, a short circuiting operation would not have given more satisfactory results. Four months later the report is more satisfactory, the patient's general health and vigour being much better than it has been for many years previously.

2. *Rheumatoid arthritis.*—As a result of a close study of the disease I have been led to share the view now held by many clinicians as to its infective origin, the source of the infection being invariably one of the three mucous surfaces of the body. In the great majority of cases the infection comes from the gastro-intestinal tract, oral sepsis and pyorrhœa alveolaris being not infrequently primary factors in this intestinal infection; in the remaining cases the infection comes from the genito-urinary tract or the respiratory mucous membrane. With regard to the actual infective agent we have as yet no precise knowledge. For my own part I am doubtful whether the clinical pictures of rheumatoid arthritis, as we see them in their varied manifestations, are due to a single infecting agent. I think it probable that a slow infection by different organisms brings out the pathological conditions that are at present included in the term rheumatoid arthritis.

I am satisfied on this point, that the disease is essentially curable in its early stages, and that if early cases were adequately investigated and the appropriate treatment applied to the main source of infection we would soon see a profound change in the incidence of the disease in the severe forms at present met with. In the latter stages of the disease the intestinal mucous membrane, and especially the large bowel, has been seriously involved, and in some cases it is not possible to correct this by medical means. An illustrative case is here given.

CASE 3.—The patient, aged 52, married, complained of crippling pains in the left thigh, soreness and stiffness in the hands and fingers, sleeplessness, and want of vigour; duration of symptoms, over three years. She had had an attack of appendix trouble a few months before the illness set in and a good deal of digestive disturbance. Objectively there had been typical changes in the joints characteristic of rheumatoid arthritis, considerable muscular atony of the abdominal muscles with some splashing in the epigastric and cæcal regions, foul stools, urine containing many catarrhal cells, a few pus cells, and bacteriologically culture of staphylococci.

Prolonged medical treatment failed to improve the condition of the stools, and a short-circuiting operation was performed by Mr. Alexis Thomson. The patient was immensely benefited by the operation, her general health and vigour being much improved, and the soreness and pains in the joints practically subsided. Sleep is now satisfactory; she has taken no veronal for eight months, which she took regularly the previous two years. The bowels now move rather frequently. The one unfortunate result from the operation has been the tendency to diarrhœa, the bowels moving on an average four times daily.

3. *A "dyspeptic" group.*—This group, arbitrarily called a "dyspeptic" group, is characterised mainly by the symptoms of indigestion. Many cases of this group simulate very closely chronic appendicitis, duodenal ulcer, and gall-stones. A large proportion of patients who have in the past few years had an innocent appendix removed without relief of symptoms have undoubtedly been cases of intestinal toxæmia, in which the primary mischief was in the right lower quadrant of the abdomen, chiefly the cæcum and terminal coils of the ileum. It is interesting to refer to the change in opinion that has occurred in the past few years in regard to various gastro-duodenal conditions requiring surgical treatment. A few years ago ulcers in the duodenum were regarded largely as primary affections of these parts. At the present time Lane, Mayo, Moynihan, and others agree in regarding these as mainly secondary to disease either in the terminal portion of the ileum, cæcum, or appendix, often associated with adhesions and kinks in the bowel. In Lane's view the primary trouble is a stasis in the ileum and cæcum, the appendix trouble being secondary. Moynihan and others attach more attention to the appendix as the primary factor. My experience leads me to accept Lane's teaching on this point. The following is a typical example of this group.

CASE 4.—The patient, aged 45, married, had been under the care of Dr. W. L. Cullen, St. Boswells. She complained of bilious attacks with flatulence, severe headaches, a loss of weight of several years' duration. She was a poorly nourished, anæmic, tired-looking woman. In the epigastric region there was marked splashing and less marked splashing in the cæcal region, with slight pain on pressure in the latter. The stools were constipated and foul, and the urine contained many catarrhal cells and a few pus cells. Examination with the X rays showed a slightly enlarged and proptosed stomach, and retention of bismuth in the duodenum (Fig. 4), pronounced ileal stasis, as well as marked cæcal and colon stasis.

A course of medical treatment, including careful dieting, vibratory massage, enemas and lavage, was carried out for over six weeks, with very slight benefit, the symptoms returning as soon as the patient began to get about. An operation was decided on, preference being given to the short-circuiting operation.

At the operation, performed by Mr. Alexis Thomson, the stomach was found to be slightly enlarged, the pylorus was distinctly narrowed, the second and third parts of the duodenum were very markedly dilated, and numerous firm adhesions were found involving the terminal coils of the ileum, while bands connected the abdominal wall to the upper part of the ascending colon and to the first part of the descending colon, these findings amply confirming the X ray diagnosis recorded above. In view of the severity of the adhesions it was thought possible that the correction of these and anchoring the cæcum might suffice to give the patient relief. Accordingly the cicatricial bands in relation to the ileum and ascending colon were divided, the raw surfaces that resulted from this were covered with adjacent peritoneum, and the cæcum was anchored by the method of Wilms; all the raw surfaces in the affected areas were smeared with vaseline. The result of the operation, however, has not been satisfactory, it being doubtful whether the patient has derived, or is going to derive, any benefit from it. It is probable that a later short-circuiting operation or colectomy will be called for. Three months later the report is more satisfactory, the patient has benefited considerably from the operation, her condition, however, not being entirely satisfactory.

The results of operative treatment in this case, and I have seen several others with similar results, rather go to support Lane's teaching that the adhesions are more a result than a cause, and therefore treatment directed simply to the correction of adhesions will in most cases prove of little value.

General Remarks on the Operative Treatment of Advanced Cases of Intestinal Toxæmia.

Our views on the value of operative treatment in this group of cases must at present be tentative. The operative procedures requiring consideration are: (1) the treatment of any adhesions or pathological kinks which may be found on examination; (2) reducing the size of the cæcum and anchoring it *in situ*; (3) short circuiting; and (4) colectomy.

With regard to the treatment of adhesions Case 4 indicates a practical difficulty in so far as in some of these cases the benefit following the operation is slight. This must be explained either by the re-formation of fresh adhesions or by accepting Lane's view that these adhesions are a result and not a cause of the primary condition. With regard to the operation of plication of the cæcum I have had in the course of the past year a series of seven cases in private practice, in which Mr. Henry Wade has operated and reduced the size of the cæcum, anchored it to the abdominal wall, and severed any adhesions involving the terminal ileum and colon. Great benefit has followed the operation in four cases, the others being much less satisfactory. In the successful cases, the extent to which the benefit was due to the modification of the cæcum or to the correction of the adhesions is unknown. In one case in which the operation was unsuccessful the X ray examination yielded strong evidence which suggested that the stitches plicating the cæcum had given way. On the whole, I am less satisfied with the result of this operation than I was with my first two cases. There is, I believe, much to be said in favour of the wider application of the short-circuiting operation as recommended by Lane in cases that are specially selected. The number and type of cases likely to be benefited by short circuiting can only be determined after a much fuller and more extended experience of that operation in the hands of the skilled general surgeon. The operations of short circuiting and colectomy are open to grave abuse unless they are undertaken only after careful expert diagnosis of the condition and the previous application of a thorough course of medical treatment.

The general conclusions to which I draw attention are as follows.

1. The diseases under consideration are essentially medical conditions, capable of being cured by appropriate treatment if thoroughly carried out in the earlier stages; the question of surgical treatment should therefore seldom arise.
2. There are at present many advanced cases of these diseases in which prolonged medical treatment on the most modern lines produces little or no permanent benefit, and in which benefit may be looked for from appropriate surgical treatment, which effectively reduces the septic absorption from the large bowel. Examination by means of the X rays gives information of very great value in these cases; special attention should be directed to the cæcum, ileum (terminal part), and duodenum, and the results should be studied along with the other clinical findings.
3. The operation of short circuiting as recommended and performed by Lane is a simple one, but its nature is such as may readily lead to unsatisfactory results in less experienced hands.
4. Before any operation is decided upon a prolonged course of medical treatment, carried out with great attention to detail, is indicated.
5. When these medical measures have failed to relieve the operation of short circuiting, possibly combined with colectomy, partial or complete, as recommended by Lane, should be performed.

I have pleasure in expressing my indebtedness to Dr. W. Hope Fowler for the time and trouble he has taken in the investigation of the numerous cases forming the basis of my paper.

Edinburgh.

THE DRAINAGE-TUBE IN ABDOMINAL SURGERY.

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OF recent years the value of drainage in the treatment of peritoneal infections has been very seriously called in question, and in an admirable paper published in THE LANCET[1] Cuthbert Wallace gives it as his opinion that "drainage save in true intraperitoneal abscess is useless." He speaks from an extensive experience of every type of intraperitoneal infection, and states further that the surgeon's duty has been performed when the focus of infection is removed and the abdomen closed. This view implies that the faith of the operating surgeon must be placed in the bactericidal properties of the peritoneum rather than in a temporary exit to noxious and infective fluid from the peritoneal cavity. Such an attitude is certainly strengthened by recent investigations into the bacteriology of the infected peritoneal cavity, though there are still surgeons who advocate multiple drainage in septic peritonitis, and even drainage of non-infected areas to lessen the risk of spread from an infective focus. Wallace considers that the operation in acute abdominal diseases enables the surgeon to deal with the focus of infection and relieve intra-abdominal tension, and whilst I am in the main heartily in accord with his views, I think some consideration of the pathological aspects of the case may be of value.

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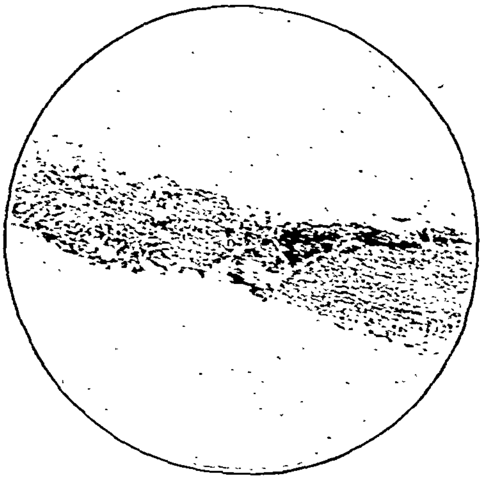
[1] THE LANCET, June 15th, 1912, p. 1603.

In a recent work on "Acute Abdominal Diseases"[2] Cassidy and I have pointed out that the resistance of the tissues of the abdominal wall is inferior to that of the peritoneum, and therefore we have advised drainage of the abdominal wall in such operations as those for the removal of an acutely inflamed appendix, and my own experience of such drainage in preference to placing a tube in the peritoneal cavity has been most encouraging. In a good many operations for acute, gangrenous, or suppurative appendicitis, both in adults and children, where a few years back a tube would have been left from the cæcum to the exterior, such tube drainage of the abdominal wall has been entirely successful and reopening of the wound has not once been called for. Wallace admits that complete closure of the abdomen in these septic cases is at times followed by virulent suppuration in the planes of the abdominal wall, and that the patient may die from such septic poisoning and not from peritonitis. Surely, such a catastrophe can be avoided by instituting free drainage of these muscular and fascial planes, and such a step appears to me to be called for in the "relief of tension," for dangerous tension is not merely that of the peritoneal cavity but of the abdominal wall also. This procedure is in keeping with the treatment of diffuse cellulitis, where suppuration is threatened, by multiple free incisions.

On the other hand, there is much truth in the saying that it is better to drain than not to drain, and it is manifestly wrong to close an acute intraperitoneal abscess; the difficulty lies in the distinction between a true abscess cavity within the peritoneum and an area infected with virulent organisms; if there is no definite space to drain it is probably better not to insert a drainage-tube. The following experimental observations throw some light on this question, but it is abundantly clear that the surgeon requires a knowledge of the bacteriology of his operations before he can truly decide where lie the uses and abuses of the drainage-tube.

To ascertain the changes induced by the presence of a rubber tube in the normal non-infected peritoneal cavity, I introduced a sterile tube into the abdomen of several rabbits; the tubes were passed into the peritoneal cavity amidst the coils of intestine and sutured at one end to the abdominal wall, which was then closed. This does not represent accurately the manner in which they are used in human beings, but the results correspond to the actual changes brought about by the presence of such tubes. I found that in a very few hours lateral openings in the tubes were closed by plugs of inflammatory exudate, and in 24 hours the whole of the tube was plastered over with newly formed fibrin, with numbers of red blood corpuscles and degenerated finely granular leucocytes. Cultures were taken before the introduction of the tubes and at the time of their removal; in all the experiments they remained sterile. The factors which determined these peritoneal changes were: (1) the presence of the foreign body, and (2) the pressure exerted by it; the latter was attributable to the fact of the tube being anchored to the abdominal wall, for in some other experimental cases where similar tubes were placed free in the peritoneal cavity little or no change occurred around them, and they could be easily withdrawn at the end of four days.

In the presence of organisms changes similar to these occur with greater rapidity, but the inflammatory processes do not stop at fibrinous closure of the tubes. One of the known effects of organisms is the liquefaction of the tissues, and therefore tubes in infected areas may be expected to yield fluid exudate. To reproduce in experimental animals the conditions obtaining in the operative treatment of human peritoneal infection is practically impossible, therefore in this direction I have investigated the effect produced by the presence of small infected cotton-wool sponges inoculated with 24-hour cultures of staphylococcus aureus. By analogy I think it is fair to infer that these results represent to some extent changes due to the pressure of foreign bodies in the presence of infection. In two cases out of seven where such infected sponges were used second cultures obtained by removing the sponge and dropping it into a broth tube showed the presence of bacilli as well as cocci; in one case the bacillus coli, and in the other the bacillus proteus, was so recovered, and in both the staphylococcus aureus was still present. The only possible source of these bacilli must have been the lumen of the gut, and the accompanying figure, which shows microscopically the formation of a fæcal fistula, readily explains the secondary infection of an embedded sponge. Macroscopically the gut over the sponge appeared thickened and inflamed, but stained sections reveal the fact that a portion of the wall is composed almost entirely of fibrin and inflammatory cells. In this connexion I may, perhaps, refer to a short note by Mr. A. E. Maylard,[3] in which he describes the way in which an



Section of intestine over sponge infected with 0·25 c.c. of broth emulsion of 24-hour agar culture of staphylococcus aureus. The sponge had remained in position for one month. Shows almost complete destruction of the intestinal wall proceeding from the serous to the mucous coat, the gap being filled up with inflammatory cells. This represents an early stage of fæcal fistula. Objective ⅔ inch.

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[2] Baillière, Tindall, and Cox, London, 1913.

[3] THE LANCET, Feb. 28th, 1914, p. 603.

iodoform gauze plug placed in the abdomen during a gall-stone operation ulcerated its way into the bowel and caused symptoms of obstruction. This was an operation performed in the presence of infection and the passage of the plug into the lumen of the gut was clearly due to infective ulceration from its peritoneal aspect, the site of entry being healed over and protected by adhesions. It was successfully removed some 14 days after the gall-stone operation.

The consideration of the secondary infections of drained wounds would be incomplete without reference to aerial contamination, and whereas such infection may be held to be very rare during the course of an operation it is well known that any wound, abdominal or otherwise, treated by tube drainage for any length of time is apt to yield cultures of such organisms as the bacillus proteus in addition to the original causative bacterium, or this latter may be entirely outgrown by such a contaminating bacillus. It is clear, therefore, that in the case of persistently drained abdominal wounds the primary infection may have added to it organisms from without or within; the former may be derived from the external air or implanted during the dressing of the open wound, the latter may come from the lumen of the bowel as the result of pressure on the bowel wall.

From these experimental and clinical observations the following conclusions appear to me to be justified. 1. That owing to the adhesions which rapidly form around drainage-tubes their value is distinctly limited in the treatment of peritoneal infections. 2. That since the tissues of the abdominal wall possess a much lower degree of resistance than the peritoneum, drainage of the former may frequently be called for where drainage of the peritoneum is not necessary. 3. That the presence and pressure of a drainage-tube in peritonitis may determine the transudation of organisms from the lumen of the gut to the peritoneal cavity.

With regard to the last observation this secondary infection is of less serious importance than might be supposed owing to the fact that the wound area has usually been shut off by surrounding adhesions before this occurs. To prevent adhesions between drainage-tubes and adjacent structures the tube should always be rotated whenever the dressing is done, and its gradual withdrawal from the wound should be begun from the third day after operation. I have said nothing about so-called gauze drains because I believe they are more properly termed gauze dams, except when used in the form of a small wick down the lumen of a tube as a "cigarette drain," and there the capillary action of the gauze may be of value in securing the escape of thin inflammatory fluid. In the case of thick pus they more often act as a cork at the orifice of the wound than as an external drain.

As to the value of the Fowler position and the pelvic drainage-tube there is still some difference of opinion. I think there can be no doubt that the former represents the ideal attitude of the patient both for the surgeon and the nurse during the early days of abdominal convalescence, and it seems clear that the complications of subphrenic, perisplenic, and other residual abscesses have been greatly reduced in frequency by its adoption. Pelvic drainage-tubes do not appear to form adhesions quite as readily as those in other situations, and when the tube is correctly placed so that its deep end lies about half an inch from the bottom of the pelvic basin drainage even in this uphill fashion can be secured for the first few days of convalescence.

At the present time it seems totally irrational to be a slavish adherent to the policy of either always draining or never draining, but it appears to me that much of the drainage of the peritoneal cavity now practised would be better limited in scope to the abdominal wall alone.

Devonshire-place, W.

THE WILD MONKEY AS A RESERVOIR FOR THE VIRUS OF YELLOW FEVER.

BY ANDREW BALFOUR, C.M.G., M.D. EDIN.,
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THE possibility of the wild monkey acting in certain places as a reservoir for the virus of yellow fever is a very interesting one. On my way to the West Indies I was told by a lady, Mrs. Randolph Rust, who has been long resident in Trinidad, that the old negroes there say they can always tell when there is going to be an epidemic of yellow fever in the island owing to the fact that prior to its appearance the red howler monkeys are found dying and dead in the High Woods. In view of Manson's injunction to search for a reservoir of the virus amongst some of the lower animals this negro belief struck me as curious and interesting, though naturally one did not place overmuch credence in it. Still it seems worthy of investigation, and Mr. Randolph Rust, the chief pioneer of the petroleum oil industry in Trinidad, whose land is in the south of the island at a place where monkeys abound, kindly promised to make further inquiries.

When I finally reached Port-of-Spain this question of the monkey assumed fresh interest and importance. Dr. H. L. Clare, the Surgeon-General, gave me particulars regarding the recent small outbreak of yellow fever at Brighton near the pitch lake in the south-west of Trinidad. He told me that the origin of the infection was shrouded in mystery, for there was no question of importation from the mainland or elsewhere, and, so far as could be told, there had been no mild cases of fever or illness amongst the coloured employees of the American company which is boring for oil in this vicinity. Further, the two men first attacked were employed during the day on an oil bore situated at the end of a road which had recently been cut for eight miles into the dense virgin forest. In this locality the red howlers occur, though they are only seen as a rule in the early morning. I told Dr. Clare the story about the negro belief. He had not heard of the latter, but was much interested, and agreed that it merited careful inquiry and investigation. At a later period I found several people who knew all about the negro view, but it had not struck them as deserving special attention. Mr. Rust got hold of his chief hunter, who confirmed the negro statement in every particular, and said that before the last large epidemic of yellow fever in Trinidad the red howlers were found dying and dead in large numbers. Further confirmation was forthcoming from Mr. F. W. Urich, entomologist to the Board of Agriculture, an acute and trained observer, who told me that he himself had seen the monkeys lying dead, and at the time thought they had probably perished from the effects of a protozoal blood parasite. He had not, however, specially associated this mortality with the subsequent outbreak of yellow fever.

Dr. Clare very kindly let me see the report written by Mr. A. L. George, the colonial medical officer who was sent to make inquiries as regards the Brighton outbreak. Briefly, the chief points are as follows. There were 10 cases of undoubted yellow fever, 9 amongst Americans, 1 in a Trinidadian. Three of the cases, including the first, proved fatal, and the diagnosis made by Dr. Campbell, medical officer to the Petroleum Company, was confirmed by post-mortem examination made by Dr. J. R. Dickson, who has charge of the public health laboratory at Port-of-Spain. It is only necessary to consider here such facts as may have a bearing on the monkey question.

Case 1, an American, had been five days in Trinidad. He had been in the West Indies before for one and a half years. He took ill on Nov. 21st, 1913, and the illness, as stated, terminated fatally. Case 2, an American, had been one year and seven months in Trinidad. He had never been in Trinidad prior to this period of residence. *He was also attacked on Nov. 21st, 1913,* and though he had the black vomit recovered. Cases 3, 4, and 5 were all attacked on Dec. 5th, 1913. Cases 3 and 4 were living at a bungalow in the forest, and Case 5 worked in the forest during the day, returning to Brighton at night. These three cases and those following them can all be explained by the ordinary man-mosquito infection, but the first two cannot be so easily accounted for and require some consideration. Case 1 had arrived in Trinidad from the Venezuelan mainland five days before being struck down, but Case 2, *who was taken ill almost at the same time as Case 1*, had not been out of Trinidad for one year and seven months.

Mr. George in his report expressly states: "There is not the slightest evidence that the disease was conveyed here from any outside source." His own view was that in all probability there must have been a mild unrecognised case amongst the coloured population, but he did not think this very probable, and it was admitted that the source of the outbreak was very puzzling. At my request Dr. Clare most kindly accompanied me to the oil-fields on Feb. 14th. The last case of yellow fever, and one which had terminated fatally, had occurred on Dec. 30th, 1913.

I had the pleasure of meeting Mr. George and Dr. Campbell and discussing the matter with them. It was ascertained that the two men first and well-nigh simultaneously attacked were, as already stated, working on an oil well at the end of the new asphalted motor road which had been cut into the heart of the High Woods, and which is a remarkable, indeed wonderful, engineering exploit. Further, it was found that these men spent ten hours a day on the oil-fields, going there every morning from Brighton and returning every evening. A bungalow stood in the clearing at the end of the road, and at the time of his inspection Mr. George found stegomyia fasciata vel calopus breeding there. I was informed that monkeys occurred in the woods, but there was nothing to show that they had been sick or dying. Attention had not been directed to the question. A point of interest is that there exists in these High Woods a forest species of stegomyia—namely, S. sexlineata—which closely resembles the known yellow fever carrier.

I had hoped to secure some specimens of blood from monkeys, but though I penetrated a short way into the forest, an education in itself, I saw nothing of the animals, which can only be approached when they are feeding, and then only by hunters familiar with their habits. It would, however, be interesting to examine the blood of these red howlers, both in the case of healthy and sick individuals, if the latter can be obtained. If Seidelin's paraplasma flavigenum was found to occur in their red cells it would certainly be a remarkable coincidence and perhaps go some way towards establishing the importance of the negro belief. At the same time there may be nothing in the latter.

Thanks to the kindness of Dr. Clare, to whom I am greatly indebted for much assistance when in Trinidad, of Mr. George, Dr. Campbell, and Mr. Urich, who also helped me greatly, I hope eventually to procure specimens of monkey's blood from Trinidad. In any case Dr. Clare intends to make further inquiries, so that possibly fresh light may be thrown on the question. My own time was, unfortunately, very limited, as I had a long journey before me. An attempt to get at monkeys in another part of the island ended in failure.

From Trinidad I proceeded to Ciudad Bolivar on the Orinoco, but yellow fever is rare there and, according to Dr. T. W. Parry, only imported cases occur. I was, however, told by a Canadian mining engineer that in the vicinity of Maracaibo in north-western Venezuela it had been noted that the men of the Caribbean Petroleum Company who caught yellow fever were those employed out in the bush. Accordingly, I decided to go to Maracaibo and prosecute inquiries there. On my way I visited Caracas and met Mr. Proctor, the manager of the company in Venezuela. He told me that my information was erroneous, and that the men attacked had all been resident in the town of Maracaibo. He had been much interested in the Trinidad outbreak, and informed me that, being greatly puzzled as to its origin, he had written to New York asking if monkeys were known to suffer from yellow fever as they were almost the only wild animals found near the oilfields. This is interesting as showing the view of a layman conversant with the local conditions.

On reaching Maracaibo I had the pleasure of meeting Dr. J. M. Coates Cole, who is ably upholding the prestige of British medicine in this out-of-the-way part of the world. He confirmed Mr. Proctor's statement. It seems that monkeys are not found at Maracaibo itself, but they occur along the banks of a river some 50 miles distant, and are also found abundantly in the bush on the other side of the lake, which, opposite the town, is some eight miles across. I could learn nothing about epidemics amongst monkeys there, but have set inquiries afoot and hope to obtain information through Dr. Cole, who knows the district well. Here I had an opportunity of reading the interesting paper by Dr. J. W. Scott Macfie and Dr. J. E. L. Johnston in the Proceedings of the Royal Society of Medicine, Vol. VII., No. 3, and I trust these observers will direct their attention to the monkeys of the West Coast of Africa.

The conditions in Trinidad were so interesting that, with Dr. Clare's kind permission, I wrote to Mr. H. J. Read, C.M.G., at the Colonial Office, suggesting that workers on the West Coast and elsewhere should be asked to make inquiries as regards monkey mortality, and to secure the blood of monkeys for examination.

There must, of course, be many places where monkeys can play no possible part in the etiology of yellow fever. Such a place is Curaçao, where there are no monkeys, but where yellow fever is said to be endemic and where certainly from time to time epidemics occurred, notably when warships from Holland containing non-immunes visited the island. At the same time, wild monkeys may conceivably act as a reservoir of the virus, be this Seidelin's bodies or some unknown parasite, in certain localities; and if such proved to be the case some puzzling outbreaks, like the recent one in Trinidad, would be explained. In any case it certainly seems advisable to direct attention to the possibility, and in this connexion I would cite a passage in a paper by Dr. J. Martinez Santàmaria on the Tropical Diseases of Colombia which appeared in the *Journal of Tropical Medicine and Hygiene* of April 1st, 1913. Speaking of yellow fever he says:—

> This occurs endemically and at long intervals along the Atlantic coast, Cucuta, all along the shores of the Magdalena river, and at the Muyo emerald mines. The last focus is important, as it is situated right in the middle of the country and in an uncultivated and isolated zone, with no possible communication with the Magdalena River, from which it is separated by thick and immense forests. The epidemic there is quite independent of the other focus. For the last ten years we have not had a single case in the Magdalena zone, while in Muyo three epidemics have occurred.

I am now on my way to Colombia, where I hope to obtain some more information as regards the possible association of the wild monkey, and more especially the red howler, with the occurrence of yellow fever.

Curaçao.

VACCINATION AGAINST HAY FEVER:

REPORT OF RESULTS DURING THE LAST THREE YEARS.

BY JOHN FREEMAN, M.D. OXON.,

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IN 1910 and the early part of 1911 the late Mr. L. Noon worked at active immunisation against hay fever by inoculations with a pollen vaccine. He was compelled by an illness which proved fatal to stop this work in the spring of 1911 before it had been actually put to the test in a hay fever season. He published his methods of work up to date in THE LANCET of June 10th, 1911. I was able to give the first results of my colleague's method of treatment as proved by the summer of 1911 in a paper published in THE LANCET of Sept. 16th, 1911, and I now propose to give further results.

Table I., How Compiled.

In the table given below the results are shown in the case of 84 patients with English hay fever who have been inoculated with phleum pratense pollen. The first 18 in the list were inoculated before the summer of 1911; the figures in brackets correspond to the serial numbers in the report of these cases published in THE LANCET of Sept. 16th, 1911. Nos. 19 to 43 were inoculated before the summer of 1912, and Nos. 44 to 84 were inoculated before the summer of 1913. This list of 84 cases is a complete one, and therefore includes cases which received inadequate treatment.

In the case of many patients it was found convenient, after they had undergone the preliminary eye-testing and had received from me the initial inoculations, to have the treatment continued by the local practitioner. In nearly all these cases the treatment was carried out as well as possible, but there were exceptions, which are dealt with under heading No. 2 when dealing with the discrepancy in result.

The value of the symbols by which the various results have been indicated is shown underneath the table, and some further indication of the standard of marking may be gained by comparing the marks here awarded to the first 18 cases inoculated in the year 1911 with the more detailed report of these same results published in the earlier paper.

The results here recorded have in nearly all cases been derived from the patient's own report. For instance, whenever the patient has reported after the hay fever season that the doses "did not seem to make much difference," the result has been recorded by the symbol "0." In the two cases where the "—" sign has been employed there was no suggestion that the treatment had been injurious, and the "0" would, in my opinion, have been more in accordance with fact. Nevertheless, since the reports of the patients suggested that the benefits received from treatment had been a minus quantity, that result has been ruthlessly recorded.

TABLE I.

Cases.	1911.	1912.	1913.	Cases.	1912.	1913.	Cases.	1913.
1 (1)	+++	......	......	29	0	......	57	++
2 (3)	0	......	......	30	++	......	58	+
3 (4)	++	......	......	31	++	......	59	+
4 (5)	+++	+++	......	32	+++	+++	60	++
5 (6)	+++	+++	+++	33	++	......	61	+
6 (7)	+	......	......	34	+	......	62	+
7 (8)	++	......	......	35	++	+++	63	+
8 (9)	++	++	+	36	......	++	64	++
9 (10)	0	+	+	37	+	......	65	0
10 (11)	++	+	......	38	++	+++	66	++
11 (12)	+++	+++	+++	39	++	+++	67	+++
12 (13)	++	......	......	40	+	++	68	++
13 (14)	++	++	......	41	+	++	69	+++
14 (16)	++	+++	......	42	+	......	70	++
15 (17)	+++	......	......	43	0	++	71	+++
16 (18)	+++	......	......	44	......	+++	72	+
17 (19)	+	++	......	45	......	+	73	++
18 (20)	+	++	+	46	......	+++	74	0
19	......	+	++	47	......	0	75	0
20	......	++	++	48	......	+++	76	++
21	......	++	++	49	......	+++	77	+
22	......	+	+	50	......	—	78	++
23	......	+++	......	51	......	0	79	0
24	......	++	......	52	......	+++	80	++
25	......	+++	+++	53	......	+++	81	+
26	......	++	+++	54	......	+++	82	+++
27	......	—	......	55	......	0	83	++
28	......	++	+	56	......	+++	84	+++

The symbols by which the results in each year are indicated have the following values: +++ = complete freedom from hay fever, or only the most insignificant symptoms. ++ = hay fever symptoms greatly diminished. + = hay fever symptoms diminished, but only to a slight degree. 0 = symptoms unchanged. — = symptoms worse. ...... = patient not inoculated in that year.

Results.

It will be seen from the table that the average of success shown in the earlier paper has been fairly well maintained in the succeeding years, both with the old cases and with the cases commenced since then. For the convenience of the reader they are here abstracted. The 84 cases have between them experienced 113 hay fever seasons after—or under—treatment. The results of these summers are as follows:—

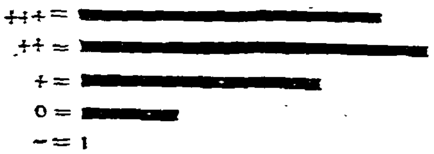
In 34 seasons (30·1 per cent.) the hay fever was completely cured or was so slight as to be insignificant.

In 39 seasons (34·5 per cent.) the hay fever was greatly diminished.

In 27 seasons (23·9 per cent.) the hay fever was admittedly diminished, but only to a slight extent.

In 13 seasons (11·5 per cent.) the hay fever was no better, and of these, two cases reported that they were worse.

This result is recorded in diagram form, thus:—



Or thus:—

The Experiential Method[1] *of Judging the Results.*

Anyone scanning Table I. and bearing in mind the reasons for its diversity of results will probably come to the conclusion that treatment is justified by statistics. They should be warned that (as is inevitable in medical statistics) such cases vary greatly in almost every important particular—e.g., the individual symptoms, the habitat of the patient, severity of the disease, amount of treatment, and the presence of complications.

But few people, and these only in rare circumstances, act on statistics. They act instead on experience, either of themselves or of others; and it seems desirable to consider what, in my experience, makes me convinced that this line of inoculation treatment is emphatically successful. When this is done, all the cases which, from their nature, approximate to the condition of crucial experiments, will come uppermost in the mind, and the other cases which, from conflicting circumstances, were very far from crucial experiments, will have relatively slight influence on the judgment in a general review of past treatment. The dramatically successful cases will affect the judgment powerfully in one direction, and the unmitigated failures will affect the judgment as powerfully in the opposite direction.

All the cases recorded in Table I. with the "+++" sign after them are satisfactory as far as results go and are all eminently quotable. As the eye runs over the cases one remembers the patients' remarks: No. 1, "Scot free"; No. 4, "farming for pleasure"—he who used to fly to the North of Scotland: No. 5, "going for walks to kick his old enemy the hay"; Nos. 7 and 8, invoking blessings and admitting the worth of the treatment, according to their different temperaments; No. 11, talking of "marvellous cures," ...... and so on; all very satisfactory and pleasant, but not so impressive as the cases where the long-continued, pitiable, and even desperate, previous condition made possible a profound change as the result of treatment, and rendered an accidental improvement almost an impossibility. For instance:—

CASE 20.—In awarding this case the "++" and "+++" signs of successful treatment no adequate idea is given of the remarkable difference between the patient's experiences during the two summers after inoculation and the summers of the previous 24 years. It was the worst case of hay fever I have ever met with. This opinion as to the severity of the case is emphatically confirmed by men of great experience of ophthalmic and nose and throat cases.[2] The inflammation of the conjunctival sacs during an attack was sometimes so intense that the conjunctiva peeled off the eyelids, leaving uncovered sore places. The continual dribbling of tears over the cheeks left them excoriated and intensely tender. The sensation of burning in the eyes was so severe that icebags were applied for long periods to give relief. Together with this the constitutional disturbance from the pollen poisoning was great, rendering the man incapable of work; for example, during hot weather in June the feet would become quite bloodless, and hot water bottles had to be applied to the extremities. For 19 years on end the patient, although absolutely dependent financially on his own personal exertions in business, was compelled to leave his work to take care of itself, and go for voyages in an ocean-going ship. Fortunately the severity of his troubles rendered him amenable to long-continued treatment, and after a very systematic inoculation carried on through the whole of the preceding winter and spring, he was able in the summer of 1912 to go on with his work in London in comfort; and in the summer of 1913 he was absolutely immune, going for bicycle excursions through hayfields during the week-ends.

CASE 32.—This case also gives no idea of the severity of the trouble from which the patient has been rendered immune. In this instance the asthma was so intense that the patient's father, who is a medical man, told me that he had been in grave fear of the death of his son from asphyxia and exhaustion. In 1913 the boy was immune except for a slight attack of conjunctival irritation one afternoon during an expedition in the country at the height of the hay fever season.

When one can call to mind such cases and others like them, one is driven to the conclusion that the method of treatment will work marvellously well on occasion. On the other hand, there are the disappointments, some of which are capable of explanation.

Explanation of Discrepancies in Result.

1. In the first place the bad result may be due to the amount of treatment the patient has received. No. 43 will serve as a case in point. In 1912 the patient did not come for treatment till the middle of June, and then only received two inoculations—result "0"; whereas in 1913 he came in March and received eight doses—result "++." It is for this reason that cases treated by me at the Inoculation Department, St. Mary's Hospital, have on the whole given rather better results than private patients because hospital patients will submit to treatment at Christmas or even earlier, if they are advised to do so, while private patients will for various reasons seldom submit to this. On the other hand, it must be admitted that some people demand a "cure" within a week or ten days, and

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[1] A. E. Wright on the Pharmaco-therapy of Pneumococcus Infections, and the Methods by which such Therapeutic Problems ought to be Investigated, THE LANCET, vol. ii., 1912, pp. 1633, 1701.

[2] Dr. W. A. Brailey, Mr. Charters J. Symonds, and Dr. H. L. Gregory.

somewhat to the surprise of the inoculator get what they ask for.

2. One reason for a bad result will disappear when the principles of vaccine therapy are better known—e.g., a practitioner who was continuing the treatment of a patient in the country had been supplied with several correct doses, and a letter was received from the patient saying that, "wishing to be in the best possible form at a flower show, the doctor gave me two doses at once." The result was naturally disappointing. (Case No. 47.)

3. Bacterial catarrhs of the air-passages may be an addition to, or a complication of, these pollen poisonings which constitute hay fever. When these two diseases are present together they seem to form a vicious circle; the bacterial catarrh seems to make the patient more prone to pollen poisoning, and the sodden condition of the mucous membranes produced by hay fever is an open invitation to any bacterial infection. No. 2 is a case in point. The patient suffered from a chronic nasal infection and sinusitis, and indeed had been for long inoculated against this with a streptococcus and diphtheroid vaccine. In addition he was found to have hay fever by the eye-reaction test; pollen vaccine failed to give him relief. Such cases are difficult to treat, and it is difficult to say which symptoms are due to the bacterial infection and which to the pollen poisoning. It is for this reason that many men have believed that hay fever is itself a microbic infection, and claim (no doubt with justice) that they have rendered great benefit with a bacterial vaccine. Vaccines made from Friedländer's B. pneumoniæ, streptococci, M. catarrhalis and pneumococci have all been used against hay fever and, it is alleged, with success. Those who would ascribe to bacteria more than a secondary rôle in hay fever should note that most hay fever patients have little or no bacterial infection of the nose passages during the summer, while the bacterial catarrhs which do occur in hay fever patients are not all due to one particular organism.

4. No. 8 is hardly a success, but the circumstances are unusual. It is the case of a university professor who lives practically in a botanical garden full of exotic plants. The inoculations work fairly well so long as he is away from home, but when he returns he collapses. The causal agent of hay fever in Europe is grass pollen and the professor may be considered to be, botanically speaking, outside Europe.

These four points account for a considerable proportion of failures or partial failures in Table I., but after all the explanations there remains an inexplicable residue. No. 29, perhaps, had too little treatment, No. 51, however, should have had sufficient, and No. 55 (a hospital case) had very systematic treatment, and yet seemed to receive no benefit. In the present state of our knowledge such cases may be credited, if we so please, to the idiosyncrasies of the patients.

In reviewing the cases which have shown these differences of result one gains the following impressions:—

Patients with marked constitutional disturbances, including asthma, do better than patients with slight and local symptoms.

Patients with an inherited tendency do better than people without such tendency.

Age makes no difference to the benefit derived from treatment.

How Long Does the Effect of Treatment Last?

Patients naturally wish to know whether they must be inoculated every year, or whether one successful series of inoculations will last for more than one year, or possibly last for ever. Three hay fever seasons have passed since the inoculations were first commenced.

In Table II. the results during the years in which the patients were inoculated is given on the left-hand side of the table, while the after-effects in the years during which the patients were not inoculated is given on the right-hand side of the table. It will be seen that where a patient has been inoculated for one year with complete success he has in the next year complete, or *almost complete*, immunity, but that in the third year he has only slight immunity left. Where patients have been successfully inoculated for two years they have, as might be expected, complete immunity during the third year, and time will show how long this complete immunity *will last*. Where patients have been only partially immunised for one or two years, little if any immunity is carried over to the year during which they have ceased the inoculations.

TABLE II.

Case.	During treatment.		No treatment.	
	1911	1912	1912	1913
4	+++	+++		+++
14	++	+++		++
16	+++		+++	+
1	+++		+++	+
15	+++		++	
23		+++		++
13	++	++		+
17	+	++		0
10	++	+		0
12	++		++	0
3	++		+	0
7	++		+	0
36		++		+
24		++		0
31		++		0
33		++		0
6	+		0	0
34		+		0
37		+		0
42		+		0

The cases have the same numbers as in Table I., but are here arranged according to the completeness of the immunisation. The symbols have the same value in both tables.

Conclusion.

Hay fever treatment by active immunisation with a pollen vaccine, whether judged by statistics or by the experiential method, has succeeded, and the immunity thus acquired seems to last for one year at least after treatment has been discontinued.

Devonshire-place, W.

MUNICIPAL HONOURS FOR MEDICAL MEN.—At the last meeting of the Glastonbury town council Dr. Maurice John Doidge was elected an alderman for the borough.—At the recent election for members of the Stonehouse urban district council Mr. William Edward Manderson Corbett was returned at the head of the poll.—Mr. Alfred Probus Trinder has been elected a member of the Wadebridge urban district council.—Mr. George Lestock Thornton has been elected chairman of the Exmouth urban council.

THE USE OF OMNOPON-SCOPOLAMINE COMBINED WITH LOCAL ANÆSTHESIA IN OPHTHALMIC SURGERY.

BY A. MAITLAND RAMSAY, M.D. GLASG., F.R.F.P.S. GLASG.,

OPHTHALMIC SURGEON TO THE ROYAL INFIRMARY, GLASGOW; AND LECTURER ON DISEASES OF THE EYE IN THE UNIVERSITY OF GLASGOW.

Omnopon or pantopon—the name by which it is known on the continent of Europe—was introduced by Professor Sahli, director of the medical clinic at Berne. He was anxious to obtain the full therapeutic effect of opium by hypodermic injection, and asked Hoffmann-La Roche and Co. to produce a preparation of opium in which the total alkaloids would be in a soluble form and free from all inert and irritating matters. In opium the natural alkaloids exist in the form of almost insoluble meconates, but after a series of experiments a preparation was produced in which they were present as readily soluble hydrochlorides. Omnopon forms a light brown powder, five times the strength of opium, and contains the alkaloids in the same proportion as in the crude drug. It is usually prescribed as a 2 per cent. aqueous solution to which 25 per cent. of glycerine is added as a preservative. It may be given by the mouth, but in most instances it is more convenient to administer it by hypodermic injection. It is supplied for that purpose in sterile ampoules, each containing 1 c.c. of the 2 per cent. aqueous solution of the drug. It was soon discovered that the good qualities of omnopon were greatly enhanced by combining it with scopolamine, and omnopon-scopolamine is now preferred by many to the better known morphine-scopolamine preparation. The average dose for an adult is ⅔ grain of omnopon and 1/150 grain scopolamine.

An article in THE LANCET of Sept. 2nd, 1911, by Mr. H. M. W. Gray first directed my attention to omnopon. In that paper Mr. Gray advocates its use as an adjuvant to local anæsthesia, and gives an up-to-date bibliography of the use of the drug in medical practice. I began to use omnopon in my operative work in November, 1911, and with increased experience of its value have come to rely upon it more and more when operating upon patients to whom in former years I would have given a general anæsthetic. It is true that since the introduction of cocaine, chloroform and ether are used much less frequently in operations upon the eye. The use of cocaine by itself, however, does little to allay a patient's nervousness and restlessness. Local anæsthesia may be perfect, but the mind of the patient is not at ease. He is alert and apprehensive, and in consequence has difficulty in keeping himself under proper control. The use of omnopon, however, acts as a sedative to the brain, makes the patient feel calm and self-possessed, and thereby helps the surgeon to perform the operation easily and satisfactorily.

On the whole, omnopon acts best in elderly patients, and may be safely given in cases where the administration of a general anæsthetic might be attended by considerable anxiety and danger. I have used it only when operating upon adults, but Mr. Gray states that "in juveniles above 13 the effect has been quite satisfactory." To young subjects he gives half the dose usually prescribed for an adult.

If a patient is to have omnopon he should be prepared as he would be for a general anæsthetic. An hour and a half before the time fixed for the operation the contents of a 1 c.c. sterile ampoule are injected into the muscles of the gluteal region. The patient ought to be in bed during the interval of waiting, and if the room be darkened and care be taken that he is not disturbed by noise he will usually rest quietly or sleep until it is time to carry him to the operating table. He ought never to be allowed to walk or to be roused more than can be avoided. If a single dose is not enough to induce sleep, an additional half dose is injected an hour after the first. This extra dose is rarely necessary; it can, however, be administered without risk, and ought always to be given if the patient be nervous and excitable. It is essential that the patient be thoroughly under the influence of the drug. He wakens up while he is being carried to the operation room, answers questions, and may even engage in conversation, but if the dose of omnopon be sufficient he is quite free from excitement or from any feeling of nervous dread or apprehensiveness. If he be let alone for a few minutes after he is placed on the operating table he usually falls asleep, but he wakens at once when he is spoken to, and he is ready to assist the operator by voluntarily turning his eye in whatever direction may be necessary.

The local anæsthetic employed is a 2 per cent. aqueous solution of cocaine hydrochloride, which is dropped three times into the conjunctival sac at an interval of five minutes between each instillation. If the anæsthetic is to be injected beneath the conjunctiva or under the skin a 2 per cent. solution of novocaine, to each ounce of which 30 minims of adrenalin chloride (1 in 1000) have been added, is employed.

I have used omnopon-scopolamine as an adjuvant to local anæsthesia in the following operations upon the eyeball and its appendages—cataract extraction, iridectomy in iritis and in acute glaucoma, irido-sclerectomy in chronic glaucoma, plastic operations on the eyelids, extirpation of the lacrymal sac, and enucleation of the globe. In these different operations omnopon-scopolamine acted least satisfactorily in extraction of senile cataract, because it made the patient so drowsy that the eyeball constantly tended to roll upwards, and thereby hindered the delivery of the lens. No general sedative is as a rule necessary in operations for cataract, but the patients to whom I gave omnopon-scopolamine were abnormally nervous and restless. Although the use of the drug in no way facilitated the actual operation, the after effects were all that could be desired, for the patients fell asleep almost immediately after being taken to bed, and slept soundly for several hours. Its analgesic and soporific effects are most helpful to restless patients during the first hours following an operation, for the drug possesses few disadvantages; no period of excitement precedes sleep, and neither pulse nor respiration is markedly affected.

The pulse-rate may for a short time be slightly accelerated, but it very soon returns to normal, while the respirations, although slow, are regular and deep and never stertorous. The face sometimes is flushed, but there is no lividity. The patient sleeps soundly and quietly, but is easily roused. He sometimes complains of thirst, and readily takes any liquid offered to him. While awake he talks quite coherently and intelligently, but on the following morning he has no recollection of what he has said, and is often very much surprised when he is told that the operation has been performed. Sickness and vomiting occur very rarely, there is no complaint of headache or of giddiness, and on the morning after the operation the patient is usually free from any effect of the drug.

Before iridectomy or before advancement or tenotomy of the recti muscles local anæsthesia may be rendered perfect if, after cocaine has been instilled into the conjunctival sac, a few drops of novocaine-adrenalin solution be injected beneath the conjunctiva at the site of the operation wound. This method has the additional advantage in irido-sclerectomy that it greatly facilitates the formation of a large flap of conjunctiva.

In plastic operations on the eyelids infiltration anæsthesia is employed. After the skin has been disinfected the novocaine-adrenalin solution must be injected freely and allowed to act for 20 minutes before the operation is begun. At the end of that time the skin over the area affected by the anæsthetising fluid is distinctly blanched owing to constriction of the blood-vessels, and consequently hæmorrhage during the operation is rarely troublesome. If the local anæsthesia be carried out properly, and a sufficient dose of omnopon-scopolamine has been administered, the patient sleeps quietly, and unless he is spoken to gives no indication that he is aware of anything being done to him.

In extirpation of the lacrymal sac, if the local anæsthesia is to be satisfactory, great care must be taken to follow the technique recommended for the injection of the novocaine-adrenalin solution. The skin of the side of the nose and of the eyelids should be disinfected by painting it with a 3 per cent. tincture of iodine. The needle of the hypodermic syringe, which has been carefully sterilised, is then inserted along the line of the primary incision, and as it is being withdrawn the novocaine-adrenalin solution is injected slowly into the cellular tissue around the track of the needle. The lacrymal sac is filled with the anæsthetising fluid by the inferior canaliculus, and after waiting a few minutes deep injections are made, one above the dome of the sac and another below the internal tarsal ligament. The hypodermic needle must be inserted deeply until its point strikes the bone and the fluid is forced into the tissues around and behind the tear sac. Twenty minutes should elapse before the operation is begun, because all that time is necessary for the novocaine-adrenalin to exercise its full effect on the nerves and blood-vessels. The infiltration method of anæsthesia has been objected to on the ground that the œdema of the tissues obscures landmarks and alters the natural relationship of structures, so that the operation is rendered more difficult. Dr. E. Seidl[1] has recently proposed a method of "conduction anæsthesia" in extirpation of the lacrymal sac, and claims for it that both anæsthesia and ischæmia are complete and that no œdema is present in the tissues to be operated on. It consists in applying novocaine-adrenalin solution to the nerves supplying the tear sac and superjacent skin at some distance from the actual field of operation. The technique is simple and easily followed, and in the few cases in which I have employed Seidl's method the results have been quite satisfactory. It has, however, the drawback that in some cases considerable ecchymosis of the upper lid and slight exophthalmos follow the injection.

For enucleation of the eyeball the majority of surgeons would prefer to have the patient under the influence of a general anæsthetic, but the operation can be performed painlessly and with entire absence of shock if omnopon-scopolamine be employed as an adjuvant to local anæsthesia. There need be no hesitation in employing this method in any case where a general anæsthetic is contraindicated or where a patient is unwilling to take ether or chloroform. After the conjunctival sac is anæsthetised by the instillation of cocaine the novocaine-adrenalin solution is injected beneath the conjunctiva over the insertion of the four recti muscles. A Siegrist's needle is then passed deeply into the orbit and the anæsthetising fluid injected into the tissues behind the eyeball. I usually insert the needle at each quadrant of the globe between the recti muscles and inject about 5 minims of the solution at each puncture. After waiting for 20 minutes the eyeball can be enucleated without pain and with the minimum of hæmorrhage.

The success of these operations undoubtedly depends in large measure on the perfection of the local anæsthesia, but the addition of omnopon-scopolamine adds greatly to the comfort both of the patient and of the operator. The former is in great measure oblivious to what is going on, and the latter is not disturbed during the operation by restlessness and nervous apprehensiveness on the part of the patient.

Glasgow.

EXTRAPERITONEAL URETERO-LITHOTOMY THROUGH A MEDIAN SUPRAPUBIC INCISION.

BY GORDON WHITEHEAD, M.B., CH.B. VICT.,
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With Remarks by JOHN MORLEY, F.R.C.S. Eng.,
SURGEON TO THE HOSPITAL.

THE following case, which was under the care of Mr. John Morley in Ancoats Hospital, Manchester, may be of interest to readers of THE LANCET.

The patient, a youth aged 20, was lying in bed convalescent after an operation for radical cure of a right inguinal hernia performed ten days before, when he was seized with a sudden attack of pain in the left loin, shooting down into the groin. The previous history was as follows. At the age of 7 he had acute retention of urine from a stone impacted in the penile urethra. This was removed by external urethrotomy. In his eleventh year, after left renal colic and hæmaturia, a stone was removed from the bladder by a suprapubic incision. Another vesical calculus was removed at the age of 15. When 16 years old a radical cure of left inguinal hernia was performed.

On admission to hospital on Oct. 1st, 1913, for radical cure of his right inguinal hernia, he made no complaint of left lumbar pain, but after the present attack he admitted that he had suffered from two or three similar attacks during the last few weeks before admission. The attack of renal colic that occurred whilst he was under observation was of short duration. The urine, examined shortly afterwards, was as follows: reaction acid;

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[1] Graefe's Archiv für Ophthalmologie, 87 Band, Heft 1.

specific gravity 1022; trace of albumin; no blood; no deposit. An X ray examination showed a calculus of the size of a sparrow's egg impacted in the lower end of the left ureter.

An operation was performed on Oct. 24th under spinal anæsthesia (stovaine-glucose Billon). Cystoscopic examination having revealed no abnormality of the left ureteric orifice, the bladder was opened by a median suprapubic incision. The calculus could be palpated near the ureteric orifice by a finger in the bladder, but this procedure caused it to slip upwards in the ureter, and transvesical removal was plainly impossible. By free retraction of the left rectus and extraperitoneal dissection the left ureter, which was dilated and thickened, was exposed at the point where it crosses the pelvic brim, at the bifurcation of the common iliac artery. A sling of stout pedicle silk was passed round it with an aneurysm needle and held with artery forceps. With one finger in the bladder and one outside, the stone was then pushed up from the depths of the pelvis to the pelvic brim. Here it was held against the silk sling, whilst a second loop of silk was passed round the ureter below it. Thus steadied and exposed, the smooth oval stone was removed through a longitudinal incision. The opening in the ureter was closed with fine catgut. A long thin tube was put down to the incision in the ureter and brought out at the lower end of the suprapubic wound. The bladder was then sutured completely with catgut and the suprapubic wound closed up to the drainage-tube. A soft rubber catheter was tied in for 48 hours, at the end of which both catheter and drainage-tube were removed. Except that a few drops of urine leaked from the ureter on the third day, recovery was uneventful and the wound healed by first intention.

Remarks by MR. MORLEY.—The bladder was opened by a median suprapubic incision in this case because it was suspected that the stone would be found encysted close to the ureteric orifice and would be most easily removed by the transvesical route. This method did not prove feasible. The excellent access to the pelvic ureter obtained by extraperitoneal dissection through the same median incision suggests that in similar cases the median incision might be used and the stone removed from the ureter, after pushing it back to the pelvic brim, without opening the bladder. The recognised methods for removal of stones from the lower end of the male ureter are: (1) Extraperitoneal (or combined intra- and extra-peritoneal, a finger being inserted into the peritoneum to control the stone) through an oblique incision in the loin; (2) transperitoneal; (3) transvesical; and (4) injection of oil by the ureteric catheter followed if necessary by removal with the operating cystoscope. The first method gives good access but involves more damage to the belly wall than the median incision; the second is less satisfactory on account of the danger of leaking of urine into the peritoneum; the third is only possible where the stone is encysted close to the ureteric orifice; and the fourth can only be done with very small stones that are visible on cystoscopic examination of the ureteric meatus. One important proviso must be made in recommending the median incision. Complete muscular relaxation must be obtained, and this can only be done by the use of spinal anæsthesia. In this case the ease with which the flaccid rectus could be retracted to the side was most remarkable.

Manchester.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

The Need of Research in Ante-natal Pathology.

A MEETING of this section was held on April 2nd, Dr. W. S. A. GRIFFITH being in the chair.

A discussion was opened by Dr. AMAND ROUTH on this subject, who said that progress in ante-natal pathology since Sir William Priestley's Lumleian lectures on the Pathology of Intra-uterine Death in 1887[1] had been small, except as regards syphilis, which was now better understood because of recent discoveries. The present ante-natal mortality in England and Wales, according to his estimate of 2·2 stillbirths and 8·8 abortions to 100 live births, was about 100,000 annually. He pointed out the essential difference in the physiological and pathological activity of the embryo and the fœtus. Diseases affecting the former caused anomalies of structure, while the same diseases produced abnormalities in the latter by interference with function. In either case ante-natal death might follow, leading to abortion or premature labour. Dr. Routh next discussed some of the more general causes of ante-natal death together with the problems dependent thereon. He dwelt in particular upon ante-natal syphilis and ante-natal tuberculosis. With regard to syphilis, he described the clinical evidences of this disease in the fœtus and placenta. According to a number of observers the spirochæta pallida was present in from 70 to 80 per cent. of macerated stillborn fœtuses. With regard to tuberculosis, since the tubercle bacillus had not yet been demonstrated in the early embryo, it was considered that the ovum was rarely infected by this agent, and that placental tuberculosis also was rare. Dr. Routh then discussed paternal infection of the ovum and the question whether tuberculosis led to structural anomalies in the early ovum. He emphasised the divergence of existing views upon the whole subject of ante-natal pathology, the absence of exact knowledge, and the need for research in all directions. Compulsory registration of stillbirths and confidential notification of causes of death in particular were necessary for the improvement of statistics.

Dr. J. W. BALLANTYNE (whose paper was read by Dr. T. W. EDEN) said that he had in 1887 published his first paper on general dropsy of the fœtus, and in 1899 had lectured on ante-natal pathology and teratology in the University of Edinburgh. Since then he had been led to investigate morbid states of gestation as they affected the mother. He considered that there were two large regions to be explored. Firstly, the physiology and pathology of pregnancy such as were met with in the pre-maternity wards of any hospital. Secondly, there was that of the physiology and pathology of each of the three periods of ante-natal life so far as the new being was concerned, the periods of germinal, embryonic, and fœtal activity. Lastly, there was the consideration of the placenta (or decidua) both in health and disease. Without a serious study of ante-natal pathology there could be no marked improvement in race health, and race health was the watchword of the present day; eugenics was attempting to solve it, but eugenics without obstetrics and ante-natal pathology and hygiene would have but small success.

Dr. F. W. MOTT said that he had for years made a personal investigation of the family history of a number of cases of juvenile general paralysis with a view to showing that this disease is invariably caused by syphilis. Dr. Mott found that both sexes are affected in equal proportion, unlike that of acquired syphilis in which males exceed females in the proportion of 4 or 5 to 1. In inquiring into family histories a number of interesting facts were obtained which related to ante-natal death, and which were considered under different groups. The usual history obtained was that the mother, after one or more miscarriages followed by abortions and stillbirths, had one or more children who generally died in early infancy from convulsions, hydrocephalus, or meningitis; later a child survived, and at puberty or early adolescence developed general paralysis. The histories of 34 syphilitic mothers gave 175 conceptions. These were made up of 104 premature births or deaths in early infancy, 41 diseased in some serious form or other, 30 were apparently healthy, but many of these may have suffered later, and certainly a considerable percentage of these apparently healthy children would have given a positive Wassermann reaction. In four instances the mothers were affected after marriage and after each had given birth to healthy children. It was of interest to note what followed in respect to conceptions before and after the mothers had been infected. Taken together there were 15 conceptions before infection resulting in the birth and rearing of 15 healthy children. After infection there were 22 conceptions; of these, 13 were abortions, still-births, and children dying in early infancy; of the remaining 9 there were 5 seriously diseased, and there was no absolute proof that the remaining 4 were healthy. Next came the question of spermatic infection and transmission of the disease to the offspring without infection of the mother. Here Dr. Mott agreed with Neisser that the mother of a syphilitic child was herself syphilitic, although she might not show signs in such cases because the disease was latent. It had been pointed out by Plaut regarding the Wassermann reaction in paralytic men and women and their offspring that 37 per cent. of the spouses of such paralytic men and paralytic women gave a positive Wassermann reaction. Finally, Dr. Mott referred to the examination of a series of still-born and premature-born fœtuses received from the Shoreditch Infirmary; out of 22 cases examined spirochætæ were found in 11. The author referred to the method he used of demonstrating the spirochætæ in the brains of persons dying from general paralysis and of syphilitic fœtuses, showing the organism to be the same in the two conditions.

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[1] THE LANCET, vol. i., 1887, pp. 759, 814, and 855.

Dr. **DARWALL-SMITH** gave the results of an investigation he had made on the influence of the nutrition of the mother on the infant and on her labour and puerperium. His chief conclusions were that a state of bad nutrition of the mother at the time of labour increased the percentage of dead births and premature births, also the post-natal infantile mortality. It decreased the average weight of the full-term child at birth. On the other hand, a state of good nutrition of the mother increased the supply of milk and also the average weight of the child at birth.

Dr. **LEITH MURRAY** (Liverpool) confined his remarks mainly to the bearings of pregnancy to immunity production. He contended that the main part of the research to be done on ante-natal pathology, particularly that on the immunology of pregnancy, was work for experts, more especially in serology and biochemistry, and that the National Insurance Research Fund could help here.

Dr. **ERIC PRITCHARD** spoke on the question of tuberculous disease in the newly born infant, and pointed out how difficult this was to demonstrate, and must be still more so in the unborn baby.

Dr. **CAMAC WILKINSON** said that he had definitely taught for the past 15 years that the father could not convey infection to the ovum unless the mother was first infected. He contended that the infection of syphilis was similar to that of tuberculosis, and there appeared to him irresistible evidence that tuberculosis could not be conveyed by the paternal element.

Dr. **EARDLEY HOLLAND** and Dr. **A. W. RUSSELL** also spoke.

Dr. **ROUTH**, in reply, alluded to Dr. Newsholme's welcome statement that the Local Government Board had been so impressed with the value of this research that they had been able to make a grant to Dr. Holland and Dr. P. B. Ridge to enable them to embark upon the necessary laboratory research. Dr. A. W. Russell (Glasgow) had also stated that a layman had given £3000 to equip a laboratory in the Glasgow Maternity Hospital. The section also had heard the suggestion of Dr. Murray that the National Insurance Research Fund, which apparently amounted to about £57,000 a year, and which under Lord Moulton's chairmanship had already done so much for research in tuberculosis, should be used also for research in ante-natal pathology. He hoped this might be practicable, and this discussion would help forward any such scheme. As regarded the scientific results of the discussion, two or three things were evident. First, that very little was certain as regarded ante-natal disease, either with regard to relative incidence, source or method of infection, prophylaxis, or treatment. Taking syphilis, for instance, the very existence of paternal infection of the ovum was denied by such an authority as Dr. Mott. Dr. Routh saw no particular reason why paternal infection and fertilisation of the ovum should not be simultaneous, nor did he see why the fertilised ovum freshly implanted upon the uterine mucosa could not be easily infected by the male parent's infected semen. Tuberculosis, again, could not be as yet proved to infect the embryo or fœtus in utero except in relatively a few cases, but he thought it very likely that tubercle did infect the early embryo, and if so its effect upon the delicate cellular three-layered blastoderm would be considerable, and could easily cause dystrophic abnormalities which would lead to early and perhaps unrecognisable abortions. Research must decide these points, as well as the curious fact that in syphilis spirochætæ were but rarely found in the early embryo, and were yet found in abundance in the fœtus. He hoped the discussion would greatly stimulate extended research.

MANCHESTER MEDICAL SOCIETY.

The Bacteriology of Milk in Relation to Infant Feeding and to the Treatment of Alimentary Disease.

A MEETING of this society was held on April 1st, Dr. **ARCHIBALD DONALD** being in the chair.

Dr. **RALPH VINCENT** opened a discussion on the Bacteriology of Milk in Relation to Infant Feeding and to the Treatment of Alimentary Disease. He grouped the organisms according to the conditions determining their growth in milk. 1. Bacteria producing lactic acid but not producing gas. This group was represented by the streptococcus lacticus and the bacillus lacticus. The streptococcus lacticus was the typical organism growing in pure milk at 38° C. At a later stage, when the acidity had become too great for the streptococcus, the bacillus lacticus appeared, for this organism was exceptionally tolerant of acid. 2. Bacteria producing lactic acid, carbon dioxide, and alcohol. This group embraced the whole of the colon organisms, and included the bacillus acidi lactici (Hueppe), bacterium acidi lactici (Esten), bacillus lactis aerogenes (Escherich), and the bacillus coli communis. When pure milk was incubated the growth of the organisms belonging to this group was inhibited by the growth of the organisms belonging to the first group. When milk, however, was grossly contaminated by colon organisms these might acquire dominance, and in such cases the curdled milk showed evidence of gas production. 3. Bacteria growing in "pasteurised" milk—that is, milk that had been subjected to a temperature between 65° and 100° C. The bacillus putrificus and the bacillus lactis aerogenes were examples of this group, and their products were of a highly irritant and dangerous character. 4. Bacteria growing in milk after it had been raised to 100° C. owing to the fact that their spores had not been destroyed. These organisms were found in milk that had been boiled or "sterilised" and in condensed milk. The group embraced a large number of organisms, the chief representatives being the bacillus subtilis, the bacillus mesentericus, and the bacillus mesentericus vulgatus. When they developed in the intestines extremely powerful poisons of an alkaloidal character were created, and the adsorption of these poisons produced profound coma and death. The contents of the small intestine were normally acid owing to the formation of lactic acid from lactose by the lactic bacteria. Were it not for this acid condition putrefactive processes would occur. In the soil the conditions were reversed, for putrefaction was the essential process by means of which dead organic matter was decomposed and rendered available for the vegetable kingdom. The lecturer discussed the methods of bacteriological examinations of intestinal dejecta employed at the Infants Hospital, and drew especial attention to the pathological conditions induced by improper diet. When the infant was deprived of the lactic organisms naturally present in milk the colon organisms became proteolytic and grave illness resulted. All his observations had gone to show the extreme importance of the milk for infants being given in its raw condition. He believed that improper feeding with cooked food encouraged the development of tuberculosis, and that the boiling of milk played an important part in the production of diseased conditions in infancy and childhood. Dr. Vincent concluded with a lantern demonstration of numerous photomicrographs illustrating the organisms found in various pathological conditions of the alimentary tract.

Dr. NATHAN RAW said that he did not think it was sufficiently well known that pure milk was sterile, and that the lactic organisms were non-pathogenic. Dr. Vincent's remarks applied to the conditions obtaining at the Infants Hospital, which enjoyed rather exceptional benefits, but in such towns as Liverpool and Manchester it was surely safer to pasteurise the milk before giving it to children. His own observations had brought him to the conclusion that there was a very real danger in such towns of infants contracting tuberculous disease from untreated milk; he would like to ask Dr. Vincent if he did not think that bovine tubercle bacilli were capable of infecting children.

Dr. C. P. LAPAGE said that he would like to have heard Dr. Vincent's opinion on dried milk. He had come to the conclusion that in slum districts it was safer for the milk to be pasteurised than to be given to infants untreated.

Dr. VINCENT, in his reply, said that he was astonished to hear Dr. Raw speak of a "sterile" milk. Neither human milk nor cow's milk was sterile. Collected with the greatest care both milks after about eight hours' incubation at blood temperature normally showed a profuse growth of the *streptococcus lacticus*. The bacillus aerogenes capsulatus could always be found in cow's milk provided a sufficient quantity of cow's milk was taken. He did not think that the "pasteurisation" recommended by Dr. Raw could be relied upon to destroy tubercle bacilli. He based his statement in regard to cooked milk and tuberculosis simply upon practical experience, not only of himself but of many others. He could not establish any relationship between the consumption of raw milk and the incidence of tuberculosis. On the contrary, he found that children fed on boiled or condensed milk were much more prone to the disease, especiallly in its more serious forms. He found it difficult to understand the attitude generally adopted by medical men who favoured the boiling of milk, for they were uniformly silent on the subject of boiling the butter, a concentrated milk product always prepared from raw milk. Practically all the infants attending the out-patient department of the Infants Hospital were fed on raw milk which the mothers obtained from the ordinary milk shops. The infants did extraordinarily well, and the work there afforded no justification for the advocacy of boiled milk. He was inclined to agree with Dr. Lapage with regard to dried milk. If a child had to be fed on a cooked food, then dried milk was better than boiled milk.

UNITED SERVICES MEDICAL SOCIETY.—A meeting of this society was held at the Royal Army Medical College on April 9th, Colonel Bruce M. Skinner, M.V.O., A.M.S., the President, being in the chair. Major Josiah Oldfield, R.A.M.C. (T.) read a paper entitled "The Scope of the Field Ambulance as a Training School." He said that the modern tendency in business enterprise was towards single control and single portal training with subsequent specialisation in place of sporadic, varied, and uncorrelated methods. He submitted that the methods which had secured success by promoting harmony, economy, and capacity for expansion in modern great businesses were worthy of consideration if as perfect an organisation as possible was wanted for the medical administration of the Territorial Force. In order to secure harmonious working and complete understanding by every officer and man of his duties and responsibilities, and to provide thorough and standardised training, the field ambulance should be the one training school for the officers and men responsible for the health of the troops. At present the regimental medical officer was inadequately trained and was not required to attend camp at all—in fact, if the battalion to which he was attached was at full strength he was only allowed to go to camp every alternate year, whereas the field ambulance medical officer was required to attend camp once in every three years, and pressure was brought to bear on him to make him attend every second year. The regimental medical officer was too isolated, whereas the field ambulance medical officer was not so. The speaker emphasised this point because he thought that camp was the one absolutely essential method of training officers as well as men for their duties in peace and war. He laid stress on the standardisation of working, and contended that the only way that this could be obtained was by having the field ambulance as the one school for training. After general training then specialisation could be taken up in some particular branch. At present the position of the regimental medical officer was not unmistakably clear with regard to the question of command, and friction might arise. The problem of command would be solved if it were the duty of the officer commanding the field ambulance to post an officer to each battalion in camp. Such officer would be responsible to his officer commanding for the due discharge of his duties; he would mess with his field ambulance, and would be an integral part of the unit. By means of this constant interchange of duties every officer would have a knowledge of working of the whole medical machinery with the Territorial Force.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on April 17th, Dr. W. Langdon Brown, a Vice-President, being in the chair.—Mr. R. M. Vick showed: 1. A plump baby of 5 months with a supposed Palsy of the Right Arm. Periostitis of the right humerus and other bones was detected by X rays. It was the thirteenth child. There had been iritis in previous children, miscarriages, and early deaths. The Wassermann reaction was positive. The child was rapidly improving under the use of mercurial ointment. 2. A married woman of 40, who had had pain in the left breast for a year. There was a large hard mass in the upper and outer breast quadrant; the skin was adherent to it, as also the tissues below. The axillary and *supraclavicular* glands were involved.—Dr. W. Langdon Brown showed: 1. A man of 58 with marked Anæmia and Anorexia; he had vomited in September, 1913. There was some leucopænia; no tumour could be felt. The test meal showed an absence of free hydrochloric acid, the X rays some irregularity of the stomach's outline, and the benzidine-peroxide test of the stools blood. From these facts malignant disease of the stomach was diagnosed. 2. A man of 44, the subject of glycosuria for four years and thirst and wasting for three years. He was on von Noorden's diet, was benefited, but not free from glycosuria. His pupils were unequal and knee-jerks absent. 3. A woman of 47 the subject of glycosuria for seven years. Similar diet removed the sugar from her urine on some days. Dr. Brown also read notes of a case of a young girl admitted for Multiple Arthritis, who developed peri- and endo-carditis, pneumonia, blood in the stools, incontinence of urine and fæces, and oscillating fever. After sensitised vaccines were administered she rapidly improved. Recovery was uneventful. She left hospital with only an apical cardiac bruit.—Dr. Leonard Williams showed a woman of 51, with a healthy family, who complained of dorsal backache. The bismuth feed was seen to reach a dark patch at the level of the aortic arch readily, then to go up and down. Aneurysm was thought less probable than a neoplasm through the breadth of the hindrance and the absence of usual aneurysmal signs.—Mr. Henry Curtis showed a specimen of Primary Squamous Epithelioma of the end of the nose removed with three-quarters of an inch of surrounding skin. A thorough removal of salivary, submaxillary, and lymphatic glands and cervical lymphatic glands was effected and of the skin in the lymph track by cutting down to the jaw. Four and a half months later the man is still well.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held at the Royal Devon and Exeter Hospital on April 3rd, Mr. Ransom Pickard, the President, being in the chair.—Mr. F. W. Langridge read a paper to open a discussion on What is Bright's Disease? He initiated his remarks by quoting from various standard books on medicine, and showing the confusion which existed in the nosology of renal affections. He then dwelt for some length on the pathological changes and the concomitant symptoms relative to the large white, small white, and granular kidney respectively, and said that whatever opinion might be held when the marked differences, pathological and clinical, were considered between the desquamative and the cirrhotic types of nephritis it was hard to disagree with Rose Bradford when he refused to classify them together under the one heading of "Bright's disease." The amyloid kidney, which was also included by some authors, had little clinically or pathologically to warrant its classification under Bright's disease. In these circumstances, where there was so much uncertainty of opinion, how was the unfortunate general practitioner, or the still more unfortunate candidate for examination, to state an opinion? Mr. Langridge considered that a time had arrived when except in conversation with patients and their friends the term "Bright's disease" should be abandoned as being inaccurate and therefore unscientific. He suggested in substitution a nomenclature based on the pathological finding—viz., the acute tubal nephritis, and the two varieties of chronic nephritis, parenchymatous or tubal, the small white kidney being considered with the granular form, as clinically and in treatment they were inseparable. As regards mixed forms where it was impossible to relegate to any of these classes, Mr. Langridge bade those present to follow the advice of one of Mark Twain's celebrities who said, "When in doubt speak the truth."—In the discussion which followed, Dr. Henry Davy said that at one time every form of albuminuria was considered as Bright's disease; with increased knowledge had come more differentiation. In the future he considered that a further classification would be made based upon the bacteriological finding. Scarlet fever played an important part in the etiology. It might yet be found that the small cirrhotic kidney was the outcome of bacterial invasion. He quoted a case of albuminuria where the cause had undoubtedly been a short streptococcus and where urotropine had proved beneficial. Again, amyloid disease was of bacterial origin.—Dr. William Gordon said that the subject of the paper opened up two lines of thought: (1) nomenclature and (2) diagnosis. Mr. Langridge had concerned himself chiefly with the nomenclature, whilst Dr. Davy had followed both lines. Speaking for himself, Dr. Gordon had discarded the name Bright's disease, but in his earliest associations with medicine he had understood it to mean a diffuse non-suppurative disease of the kidney. Dr. Gordon then discussed chronic renal disease and the possibility of an inflammatory origin as suggested by gout, lead and alcohol being undoubted causes. He considered, however, that it was an academic question best left to the pathologists. The speaker then dwelt on those cases of albuminuria occurring at 40 and upwards and remaining without any apparent evil influence on the life of the patient. Should such be labelled Bright's disease? He offered an affection at one pole only of one kidney as a possible solution of the symptoms manifested in these cases. He advised that the term Bright's disease should not be used unless asked for, and pointed to the field of investigation open in the matter of permanent and transient albuminuria.—The President said that Bright had included all cases of albuminuria under his own nomenclature at a discussion. Speaking from his own experience at the Eye Infirmary, he (the President) had noted that the retinal changes often appeared before the albuminuria. In pregnancy the albumin might never appear although retinal changes were present. With regard to the germ theory of nephritis, even if they accepted it they must still "go back further" to complete the pathology. With regard to arterio-sclerotic cases, he had found changes in the retinal veins as complete as in the arteries. He had found small patches in the region of the yellow spot which were distinctive of Bright's disease as opposed to atheroma.—Dr. R. V. Solly excluded cases of recognised bacterial origin from the category of Bright's disease, and he pointed out the fallacy of interpreting a bacilluria as necessarily meaning the presence of renal disease simply because excretion from the kidney had been proved. He then discussed the experiments of Rose Bradford, and considered that the internal secretion theory had little for its support. He considered that Bright's disease was due to a toxin produced under various conditions, and that they must go further back than the bacteria themselves.—Dr. Raglan Thomas alluded to cases where hæmaturia and finally albumin were directly related to the passage of crystals of uric acid.—Mr. A. C. Roper said that formerly the presence of albuminuric retinitis was a death warrant to the patient, but now it was found that 50 per cent. of a certain class recover. In illustration he read notes on a case demanding a severe surgical operation for fibromyoma where the patient had previously been observed at the Eye Infirmary to be suffering from albuminuria and retinitis. She had stood operation well and was making an excellent recovery.—Dr. F. A. Roper discussed the question of transient albuminuria and its control by calcium lactate.—Mr. Langridge replied.

MANCHESTER PATHOLOGICAL SOCIETY.—A meeting of this society was held on April 8th, Dr. A. Brown presiding.—Dr. C. P. Lapage read a paper on the Clinical Pathology of the Cerebro-spinal Fluid in Meningitis in Children. He described the chemical, physical, and microscopical findings in the different forms of meningitis, laying great emphasis on the value of performing lumbar puncture early and of using specific serum as soon as possible. More than 70 per cent. of his cases were tuberculous. He described the technique of mounting the film which usually formed in this variety of meningitis. If the cerebro-spinal fluid from a case that was obviously one of meningitis remained clear and retained its power of reducing Fehling's solution the disease was probably tuberculous.—Dr. D. E. Core read a paper on Subarachnoid Hæmorrhage. He shortly discussed the anatomy of the arachnoid mater, pointing out the structural differences that existed in this membrane: (1) at the base; and (2) on the lateral aspects of the cerebral hemispheres. The morbid anatomy of diffuse subarachnoid hæmorrhage was dealt with, the appearances varying according as to whether the bleeding began at the base of the brain or upon the lateral convexity. The importance of syphilis as a causal agency in the production of the condition was mentioned, and the absence of any traumatic history in the cases he had personally observed. The symptomatology—profound coma, epileptiform tremors, and final flaccid paralysis in the limbs first convulsed—was described. The rapidly fatal nature of the condition was referred to.—Dr. D. H. Paul read a paper on Disseminated Softenings in the Spinal Cord in a case of Pancreatic Cancer. These small foci of softening were not commonly found in cords taken from cancer cases—they had been found in other diseases of a toxic nature and in caisson disease. If sufficient time elapsed before death they caused secondary degeneration and were characterised by marked swelling of the axis-cylinders, absence of inflammatory reaction, and neuroglial proliferation, but the vessels showed a high degree of hyaline degeneration. Dr. Paul did not regard these foci as myelitic, but rather of the nature of ischæmic softenings.—Mr. R. Ollerenshaw read a short paper on Sacro-coccygeal Cysts.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this society was held on April 16th, Dr. E. W. Hope, the President, being in the chair.—Dr. W. Permewan read notes of a case of Thrombosis of the Lateral Sinus following acute suppurative otitis, with remarks on ligature of the internal jugular vein. He described the clinical history of the case and the surgical and therapeutic treatment adopted. The important points were ligature of the vein and clearing out the clot. A phylacogen had been used with, he thought, beneficial effect.—Mr. Colin G. Campbell related a somewhat similar case.—Mr. Hugh E. Jones agreed to removal of the clot, but he was inclined in acute conditions to do a small rather than a large operation, and suggested that infective processes frequently limited themselves.—Dr. W. Sanderson spoke of his result after ligature of the vein.—Dr. C. A. Adair Dighton quoted some statistics and said he had not lost a case since he began to ligature the vein.—Mr. G. C. E. Simpson read a note upon Some Operations for Femoral Hernia and related nine cases upon which he had operated by the inguinal route. The advantages were several: high access to the neck of the sac, free exposure of the fasciæ round the ring, and the excellent closure of the ring obtainable. Four of the cases were strangulated; in other two of the series there was a hernia of the bladder.—Mr. R. W. Murray, as an advocate of the saccular theory of hernia, did not attach much importance to suture of fasciæ, but considered the access to the neck of the sac by this route an advantage.—Mr. T. C. Litler Jones said that the sac did not always disappear if left, as he had found a lipomatous mass some years after operation.—Mr. T. R. W. Armour always used this route for two main reasons: that the whole sac could be removed and the top instead of the bottom end of the crural canal could be closed.—Dr. R. W. MacKenna read a medico-literary causerie upon Some Reflections on the Act of Death.—The President, Dr J. R. Logan, and Dr. E. T. Davies also spoke, the last named giving a personal experience.

Reviews and Notices of Books.

Ulcer of the Stomach.

By CHARLES BOLTON, M.D., D.Sc. Lond., F.R.C.P. Lond., Director of Pathological Studies and Research, and Lecturer in General Pathology in University College Hospital Medical School; Physician (with Charge of Out-patients) to University College Hospital. London: Edward Arnold. 1913. Pp. 396. Price 15*s.* net.

ULCER of the stomach is a common affection, and although its symptomatology and treatment are well recognised and understood the etiology and pathology have given rise to much discussion, and there is still a want of unanimity in regard to those points. In the work now before us an instructive account is given of the general pathology of the disease, special attention is drawn to experimental research, and a considerable amount of valuable original investigation is recorded. We are entirely in accord with Dr. Bolton's views as to the importance of blending a study of morbid anatomy and clinical medicine with experimental pathology. It is true, as he remarks, that certain pathological problems can be studied exclusively in the laboratory, but these are merely parts of the whole, and eventually must be correlated with the facts obtained through a study of the patient.

In discussing the pathology of gastric ulcer three conditions are described—the acute ulcer, the transitional forms, and the chronic ulcer—and the characteristic features of each are pointed out. A number of excellent reproductions of photographs of morbid specimens adds to the value of the letter-press. The remarks on the formation of acute gastric ulcer demand careful attention. Amongst the causes which may give rise to the initial lesion that precedes the formation of the acute ulcer, bacterial infection of the body is said to be a frequent factor. The infection may be general, and either acute or chronic, or it may be a purely local one. The organism causing the lesion may be a specific organism of the disease, or it may be secondarily introduced. Dr. Bolton proceeds to remark that although it has not yet been demonstrated in the human subject that a poison of metabolic origin is capable of bringing about necrosis of the gastric mucous membrane, his experiments with gastrotoxin have demonstrated the possibility of such an occurrence. Gastrotoxin belongs to a group of immune substances known as cytotoxins, and he showed in 1904 that such a substance could be produced by immunising an animal with the gastric cells of another animal. He further says that the initial change in the formation of the acute ulcer is neither thrombosis, embolism, nor hæmorrhage, and that the actual necrosis is caused by the gastric juice acting upon a cell in some way changed by the poison, which has been brought to it by the blood, so that it is rendered susceptible to the action of the gastric juice; the process is, consequently, one of self-digestion. He therefore considers the principle established that a poison of metabolic origin which circulates in the blood may be capable of initiating self-digestion, and the actual death of the cell is not a necessary antecedent to such digestion.

The observations on hæmorrhage into the mucous membrane are also interesting. The most important and the commonest cause Dr. Bolton believes to be bacterial invasion, which may bring about the event in one of two ways—either by a direct action of the bacterial poisons upon the capillary wall, or by giving rise to vascular occlusion and hæmorrhagic infarction. In the latter case necrosis of the tissue is always present; in the former case necrosis may or may not be present.

Evidence is then quoted to support the view that the chronic gastric ulcer is derived from the acute variety, and the objections which have been advanced against this opinion are criticised, but Dr. Bolton is strongly of opinion that the chronic ulcer does arise as an acute lesion. The symptomatology of acute and chronic ulcers is well and lucidly given, and the diagnosis and prognosis of these affections are discussed at length. The value of hæmatemesis as a diagnostic symptom of gastric ulcer is carefully considered, for during recent years much discussion has centred round this symptom in the differential diagnosis of gastric ulcer. As is well known, profuse hæmorrhage may occur from the mucous membrane of the stomach apart from gastric ulceration, and the situations in which this may occur and the condition known as "gastrostaxis" are duly commented on. The remarks on the clinical investigation of hæmatemesis are also worthy of note.

In the section of the work dealing with treatment the methods which should be adopted in cases of acute gastric ulcer are first described. Rectal feeding is, of course, fully discussed, but Dr. Bolton is strongly of opinion that hæmorrhage from the stomach is practically the only complication of gastric ulcer which necessitates this method of feeding, and also that mouth feeding should be started at the earliest possible moment. In describing the treatment of chronic gastric ulcer he first expresses his own views, and remarks that in this form of the disease rectal feeding is very rarely needed apart from the occurrence of hæmorrhage. We doubt, however, whether the majority of physicians would concur in this opinion. He attaches great value to the administration of alkalies.

We have perused this volume with much interest, and can recommend it as a valuable and instructive treatise.

A Handbook of Practical Treatment by Many Writers.

Edited by JOHN H. MUSSER, M.D., LL.D., Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia, and A. O. J. KELLY, A.M., M.D., late Assistant Professor of Medicine in the University of Pennsylvania, Philadelphia. Vol. III. London and Philadelphia: W. B. Saunders Company. Pp. 1095. Price 75*s.* per set of 3 vols.

THE third and concluding volume of this important work is concerned with the treatment of constitutional diseases such as diabetes, obesity, scurvy, gout, arthritis deformans, and diseases of the respiratory, digestive, urinary, and nervous systems. There are also short articles on diseases of the muscles and on mental disorders.

The treatment of diabetes mellitus is discussed in a scientific and practical article by Dr. Theodore C. Janeway, of New York, who puts as the chief aims of treatment the improvement of the carbohydrate tolerance and the prevention of hyperglycæmia. At the same time he recognises the dangers of acidosis, and points out that in severe cases the need for combating acidosis may be paramount and the prevention of hyperglycæmia subordinate. He also emphasises the importance of maintaining nutrition. Dr. Janeway describes a practical method of determining carbohydrate tolerance. For purposes of treatment the cases are divided into mild, severe, and intermediate, and the measures discussed comprise diet, hygiene and exercise, treatment at health resorts, and drugs. Considerations of diet are dealt with on scientific principles, and some valuable diet tables are given. Owing to the facts that patients with severe diabetes manufacture sugar from protein and that they are usually more intolerant of the carbohydrate so derived than of that taken preformed in the diet, Dr. Janeway lays great stress upon the regulation of the protein intake in these cases. Dr. Thomas B. Futcher, in discussing diabetes insipidus, divides the cases into three groups—viz., those in which there is an organic basis in the central nervous system, very often syphilitic; those in which a functional neurosis coexists; and those which he describes as the renal type. Dr. Albion Walter Hewlett contributes a series of short articles on obesity, inanition, scurvy and infantile scurvy, rickets and osteomalacia. That devoted to obesity gives an interesting account of the principles of treatment of that condition, together with some useful diet lists.

Dr. Futcher contributes articles on gout, lithæmia, and chronic articular rheumatism. Diseases of the respiratory system are considered at length, Dr. Charles W. Richardson contributing a practical article on the treatment of diseases of the nose and throat, while Dr. John H. Musser has dealt with diseases of the bronchial tubes, asthma, hay fever, and pulmonary emphysema. Dr. James E. Talley discusses the treatment of hæmoptysis, pulmonary œdema, and other disorders of the circulation in the lungs, such as embolism and congestion. In every instance the treatment is discussed critically, and valuable practical suggestions are often given. We may mention the article on the treatment of hæmoptysis as an especially interesting and useful contribution to the subject. The treatment of tracheal and bronchial obstructions is described by Dr. Chevalier Jackson; that of broncho-pneumonia, pneumonoconiosis, abscess and gangrene of the lung by Dr. Henry Jackson. Other articles deal with speech defects, diseases of the pleura, and the surgery of infectious diseases of the lung and pleura. In the last of these, which was written by Dr. Samuel Robinson, an interesting account of the use of artificial pneumothorax as a means of treatment is given. A noteworthy article is that by Dr. Isaac A. Abt on diseases of the respiratory system in children.

Diseases of the digestive system are dealt with in an equally practical and instructive manner in a series of important articles, among which we may mention that on diseases of the stomach by Dr. Bertram W. Sippy. A useful summary of the indications for surgical treatment in cases of gastric ulcer is given, as well as detailed instructions in regard to the dietetic and medicinal treatment of that condition. The surgery of the œsophagus is described by Dr. Charles H. Mayo, that of the stomach and duodenum by Dr. William J. Mayo, while the surgery of the liver and gall bladder is discussed by Dr. Maynard Ladd. Diseases of the pancreas are considered by Dr. James M. Anders, and Sir Berkeley G. A. Moynihan contributes a note on the special circumstances in operations upon the pancreas.

The treatment of diseases of the urinary system is dealt with from the medical point of view by the late Dr. Egbert Le Fevre, and from the surgical standpoint by Dr. Guy L. Hunner.

The treatment of diseases of the nervous system is considered by Dr. William G. Spiller, Dr. Charles H. Frazier, Dr. E. W. Taylor, Dr. John Homans, Dr. F. X. Dercum, and Dr. C. H. Moffitt. Dr. Dercum contributes a useful article upon the treatment of the co-called functional nervous disorders. Dr. Moffitt discusses vaso-motor and trophic disorders, and also diseases of the muscles.

The concluding article deals with the treatment of diseases of the mind, and is written by Dr. James Hendrie Lloyd.

This volume worthily maintains the standard set by its predecessors, and the system of treatment as a whole is one we can commend to our readers as a sound practical work of reference.

A Synopsis of Surgery.

By ERNEST W. HEY GROVES, M.S. Lond., F.R.C.S. Eng., Surgeon to the Bristol General Hospital, Lecturer on Surgery at Bristol University. Fourth edition, revised and illustrated. Bristol: *John Wright and Sons*; London: Simpkin, Marshall, Hamilton, Kent, and Co. 1914. Pp. 599. Price 9*s.* 6*d.*

THIS synopsis of surgery has had a wide sale, which has necessitated the issue of frequent editions, and it deserves thoroughly all the success it has attained. In this edition the pathological and bacteriological sections have been revised and in great part rewritten by Mr. George Scott Williamson, and they may be taken to represent the latest pathology. There have been many small but important changes required by the progress of surgery, but the plan of the book remains unaltered, and we may repeat what we have said of it before, that if it is used wisely as an adjunct to the larger works it should afford invaluable assistance to the student in the preparation for examination.

Handbuch der Gesamten Therapie.

Herausgegeben von F. PENZOLDT und R. STINTZING. To be completed in seven volumes with about 900 illustrations. Lieferungen 1 to 10. Vol. I. With 35 illustrations and 1 curve in the text. Jena: G. Fischer. 1913-1914. Pp. 986. Price complete, paper, 120 marks; bound, 141 marks.

THE fifth edition of Penzoldt and Stintzing's great Handbook of Therapy is now in process of appearance, and bids fair to be larger and more complete than any of its predecessors or rivals. At the present time only the first of its seven volumes has been published in full, but parts of other volumes have been issued, and the whole work is to be out by the end of the current year. The first edition was printed only 19 years ago; the fifth is to be the work of 85 contributors, all specialists in the subjects about which they write; most are Germans, a few are Austrians or Scandinavians. This handbook, as is well known, aims at thoroughness and completeness, and covers all departments of internal medicine. The first volume deals with the treatment of the infectious diseases, poisonings, disorders of metabolism, and diseases of the blood and of the ductless glands. The second volume will contain the treatment of the diseases of the digestive organs; the third volume that of diseases of the lungs, the circulatory organs, and the genito-urinary tract (excluding venereal diseases). In the fourth volume the treatment of nervous disorders and insanity will be discussed;

in the fifth, diseases of the locomotory apparatus, venereal disease, diseases of the skin and eyes, and treatment with various rays and emanations. The sixth volume will be given to surgical treatment and ear disease; the seventh to obstetrics and gynæcology. It is enough to say that the first volume, admirably got up and furnished with a good index, fully maintains the high standard of excellence set by the previous editions of this well-known handbook. Most of it is well written and to the point, and but rarely does it show the degeneration of thoroughness into longwindedness that not infrequently disfigures, or seems in British eyes to disfigure, the larger German text-books. The new edition of "Penzoldt and Stintzing" should be on the shelves of every medical library, and may be cordially recommended to the attention of all medical practitioners.

The Operating-room and the Patient: a Manual of Pre- and Post-operative Treatment.

By RUSSELL S. FOWLER, M.D., Chief Surgeon, First Division, German Hospital, New York, &c. Third edition, rewritten and enlarged. London and Philadelphia: W. B. Saunders Company. 1913. Pp. 611. Price 15s. net.

ON two previous occasions we have spoken favourably of the earlier issues of this work, and this edition has the good qualities of its predecessors with some additional merits of its own. It is a work of great value for all those who have to organise the operative service of an institution or to carry on the work when it has once started. It abounds in valuable details as to the management of a patient both before and after an operation. In addition to the general chapters relating to operations generally, there are special sections detailing the treatment connected with operations on particular parts of the body. We quote the sentence in which the author sums up his teaching: "Roughly, the underlying principles of successful surgical treatment may be summarised as follows: careful anæsthesia, exact hæmostasis, asepsis, rest of the injured part, use of the rest of the body, feeding advanced to the normal as the anæsthetic-weakened stomach can care for it, and the following of the general rules of hygiene." This edition is much larger than the second, and contains many more illustrations.

LIBRARY TABLE.

Materia Medica Notes. By JAMES A. WHITLA, L.R.C.P. & S. Edin., L.P.S.I. Edinburgh: E. and S. Livingstone. 1913. Pp. 155. Price 2s. 6d.—The author is careful to point out in his introduction that this little volume is not intended to rank as a text-book but rather as a concise companion to any of the text-books on the subject. Taken in this light the book will be found useful both by students and practitioners. The work is divided into three parts. In the first an account is given of the official drugs and their actions. The reason for adopting the plan of considering the drugs before the galenical preparations has been to enable the student to have some knowledge of the drugs themselves before commencing to study their preparations. We certainly think this will be found the more interesting way. The descriptions are well given, and a brief but clear account follows of the action of the drugs. In the second part the galenical preparations are enumerated and their ingredients, strength, and dose are duly stated. In the third part a few remarks are made on prescription writing, and the various classes into which drugs are divided are adequately described. A number of prescriptions are then set out which may be found useful in the early days of practice. The formulæ are given according to the total quantity of the remedies prescribed. We believe that the student will learn prescribing more accurately if the single dose of each constituent is stated; for then he must realise the exact amount of each drug that is used, and "build up" the prescription accordingly. Otherwise prescription writing is apt to become mechanical and simply the result of memory.

A Code System for the Hospital Pathological Laboratory. Part I. *Autopsy Work, being a Students' Guide to the Description of Autopsy Organs.* Pp. 34. Price 35 cents. Part II. *Histological Work: a Guide to the Description of Microscopic Sections of Pathological Tissues.* Pp. 20. Price 35 cents. By O. C. GRUNER, M.D. Lond., Pathologist to the Royal Victoria Hospital, Montreal, &c. 1913. Toronto: Murray Printing Co., Limited; London: H. K. Lewis.—These two brochures are intended to supply a convenient system for preserving in an abbreviated form the notes of pathological findings, a series of numbers being used for sentences descriptive of conditions present. Thus the figures "I. 11." would together mean "Circulatory System: the pericardial cavity is obliterated by tough adhesions," and so forth. In the second part the points to be observed in studying the different organs histologically are indicated, but the code of numbers for recording them is held over for a further part. It is difficult to judge how far such a system might prove useful. It would certainly facilitate the preservation of very brief notes with a key to elucidate them, but it would seem to involve a considerable waste of time both on the part of the pathologist who had to work the code in the first place, and still more of those who had subsequently to decipher it.

Herbal Simples Approved for Modern Uses of Cure. By W. T. FERNIE, M.D. Third edition. Bristol: John Wright and Sons, Limited; London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited; Toronto: The Macmillan Company of Canada, Limited. 1914. Pp. 596. Price 6s. 6d. net.—In THE LANCET for Sept. 21st, 1895, we reviewed the first edition of Dr. Fernie's book on herbal simples, the third edition of which now lies before us. We can only repeat our commendation of the large amount of knowledge and research shown by the author, and at the same time express our satisfaction that some of the extreme statements in reference to certain simples have been toned down. The work is much altered since its first appearance. It is 17 years since the second edition was published and we must congratulate the author on his mental vigour at an advanced age, as evidenced by a complete revision of his work, which is now enlarged by additions from another of his works entitled "Meals Medicinal." The book now contains 183 articles on individual herbal substances or groups thereof arranged in alphabetical order with the addition of many crossheads. These articles make reference to upwards of 580 "simples." They contain a vast mass of information, including the folk-lore concerning and references to the various drugs in the literature of ancient and modern times and many lands. The author's style is quaint, and the book is an excellent one to browse on in leisure moments. Here is how he silhouettes the horse chestnut: "Taken altogether, the horse chestnut, for its splendour of blossom and wealth of umbrageous leaf, its polished mahogany fruit, and its special medicinal virtues is *facile princeps*, the belle of our English trees. But, like many a ballroom beauty, when the time comes for putting aside the gay leafy attire it is sadly untidy and makes a great litter of its cast-off clothing." The book ends with a 16 page index of diseases and their appropriate simples.

The Elements of Bandaging and the Treatment of Fractures and Dislocations. By William Rankin, M.A., M.B., Ch.B. Glasg., Dispensary Surgeon, Western Infirmary, Glasgow. London: Henry Frowde and Hodder and Stoughton. 1913. Pp. 116. Price 5s. net.—This little book is a valuable guide to the application of bandages, to the use of splints for fractures, and to the reduction of dislocations. In the section dealing with bandaging the author does not describe all the forms of bandages, but he confines himself to those forms which he has found most useful. In the same way in the account of the methods of treatment of fractures only those methods which the author prefers are described. We do not in the least degree find fault with this arrangement; it is probably that which is best for the learner and also for the practitioner who wishes to deal with a condition with which he is not familiar. The author is very emphatic in advising the routine use of anæsthetics in the diagnosis and reduction of fractures. We agree on the whole with this advice, but we cannot help thinking that he lays down rather too absolute a rule, for it must not be forgotten that an anæsthetic is not such a slight matter as many appear to think. On one other point we offer a criticism. In the account of Bryant's triangle, why does the author trouble to mention the third side formed by the line drawn from the anterior superior iliac spine to the tuber ischii? It is absolutely useless and serves to confuse the student. This author is not alone in this; nearly all the text-books err in this matter. It is, indeed, far better to speak of "Bryant's line," for it is only the base of the triangle which is important. The book is well illustrated.

MISCELLANEOUS VOLUMES.

In *How to Become Efficient* (London: T. Werner Laurie, Limited. Pp. 144. Price 1*s.* 6*d.* net) Mr. T. Sharper Knowlson states that "the underlying idea of efficiency is to do whatever we have to do in the right way." Lack of efficiency, he says, is shown by waste substances and waste movements. This idea, he proceeds to demonstrate by many illustrations drawn from various phases of industrialism, can be attained by the application of "the scientific method" to materials, methods, and men in business life. After an extension of the argument in greater detail he proceeds to the consideration of efficiency in politics, municipalities, and the home, and finally arrives at personal efficiency, which is really the substance of all other efficiency, since no kind of organised, coöperative, or corporate efficiency can ever rise higher than the quality of its constituent members. Here the question of efficiency in education naturally comes in, and what he has to say is for the most part sensible and sound, if not above criticism in a few particulars.——As in the case of her "Care of Infants," Dr. Mildred Burgess in *Health* (London: H. K. Lewis. 1914. Pp. 175. Price 1*s.* 6*d.* net) has followed the syllabus of the London County Council's course of lectures on this subject, and this work includes much matter therefore that has hitherto had to be culled from different books. The subjects dealt with are the Phenomena of Life, Air and Ventilation, Water, the Dwelling House, Food and Feeding, Diseases connected with Food, Clothing, Personal Hygiene, Exercise, and Infectious and Communicable Diseases. The original diagrammatic illustrations by Miss Cartwright are very useful and there are coloured plates representing food values and the commoner disease germs respectively. In this way there is conveyed a great amount of very practical information, so far as we have had an opportunity to observe scientifically accurate, yet expressed in language easily comprehensible by any intelligent person. The chapter on the dwelling house contains much information that it would be hard to find elsewhere.——*Demonstrations on Infant Care* (London: G. Bell and Sons, Limited. 1914. Pp. 53. Price 8*d.*), by Mrs. Kate Truelove, with an introduction by Lady St. Helier is interesting. That all girls should have their natural mother instinct as displayed in their universal fondness for dolls turned to advantage by cultivation in mothercraft during childhood seems sensible enough, and in this little book a syllabus is given of the method of teaching infant care which the writer has found effective and interesting, by allowing the girls to demonstrate with a washable doll. The demonstrations include the whole ritual of bathing, weighing, dressing, feeding, and resting baby, with elementary instruction what to do in convulsions, concussion, choking, burns, scalds, wounds, and cuts. The information given appears to be entirely sane, practical, and adequate. There are many useful illustrations, and the book is nicely bound and well got up.

In *A Description of the Imperial Bacteriological Laboratory, Muktesar: its Work and Products*, by Major J. D. Holmes, D.Sc., M.R.C.V.S., Imperial Bacteriologist (Calcutta: Government Printing Press. 1913. Pp. 125), a short history is given of the work carried on in the Himalayan hills in India, to which reference was made in our issue of Jan. 17th (p. 193). There are numerous illustrations, and a good idea is given of the equipment and practical management of such an institution, and of the benefits, sanitary and financial, that accrue to the community from its existence.——The second volume of the *Transactions of the Ninth Session, Australasian Medical Congress, 1911* (Sydney: W. A. Gullick. 1913. Pp. 733 to 1346), contains the papers read in the Sections of Ophthalmology; Psychological Medicine; Diseases of Children; Naval and Military Medicine and Surgery; Dermatology; Radiology and Electricity; and Laryngology, Rhinology, and Otology. Many of these are of great interest and show the rapid advance that is taking place in all branches of medical knowledge in the great Commonwealth of Australia.——*The Transactions of the Medico-Legal Society, 1912-1913*, Vol. X. (London: Chas. Griffin and Co., Limited. 1913. Pp. 209), edited by William A. Brend, contains the presidential address of Earl Russell on the Relationship between Medicine and Law; and papers on Shock, by F. G. Crookshank, M.D.; Legal Problems Relating to Medical Services under the National Insurance Act, by Roland Burrows, LL.D., barrister-at-law; Responsibility in Regard to Certain Forms of Unsoundness of Mind, by Robert Armstrong-Jones, M.D.; First Steps Towards a State Medical Service, by Professor B. T. Moore (commented on in our columns of May 24th, 1913, p. 1469); the Examination of Minute Traces of Blood for Medico-Legal Purposes, by Professor Harvey Littlejohn, M.B.; and the Necessity for Amendment of the Law Relating to Coroners and Inquests, by W. A. Brend, M.B., barrister-at-law.[1] The Transactions are now under the editorship of Mr. R. Henslowe Wellington.

Mr. T. Gibson Bowles has published, with an introduction by himself, the proceedings in court and official court documents in the case of *Bowles* v. *The Bank of England* (London: Butterworth and Co. 1914. Pp. 152). This case, it will be remembered, was brought on public grounds to restrain the Bank of England, as the agents of the Treasury, from deducting income tax before it had been rendered legally due by the passing of the Finance Act. The judgment affirmed the principle the maintenance of which cost John Hampden his life, with the practical result of ensuring the passing of the Finance Act imposing the year's income tax by August each year.

The papers set at examinations are eagerly sought by students both for the purpose of showing the trend of questions likely to be asked of them and as material for study and revision. In *Fellowship Examination Papers for the Diplomas of the Royal College of Surgeons, Edinburgh* (Edinburgh: E. and S. Livingstone. Pp. 80. Price 1s. net), we have the papers set at these examinations from 1906 to 1913; and in *Dental Examination Papers for the Diplomas of the Royal College of Surgeons, Edinburgh, and the Royal Faculty of Physicians and Surgeons, Glasgow* (same publishers and price. Pp. 90), the questions cover the same period of time.

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[1] The Lancet, May 17th (p. 1404) and 24th (p. 1465), 1913.

JOURNALS AND MAGAZINES.

The Military Surgeon. Chicago, U.S.A. Edited by Brigadier-General SAMUEL C. STANTON, Illinois National Guard (retired).—Major Robert Brooke reports in the number for March that Cebu, in the Philippine Islands, is exempt from malarial fever. He investigated the mosquitoes present, and succeeded in capturing only Culex fatigans, and of the anophelinæ only Myzomyia rossii and M. ludlowi, in which the malarial parasites are not found or do not go on to complete development. Major Brooke has not so far been able to determine the condition which prevents the settlement of ordinary anopheles in this district. As he says, the solution of this problem is worthy of much consideration, and may lead to measures valuable in the prevention of malarial fever. We hope he will tell us more by and by.—Major W. N. Bispham has a good paper on Malingering. One of his patients was very deaf. He was told to blow his nose. As he pulled out his handkerchief an orderly dropped a halfcrown on the floor and the deaf patient stooped down quickly to get it and was sent to duty.—Captain Louis C. Duncan presents an account of the medical services in the Russo-Japanese War, apparently translated from the Swiss. All the praise is given the Japanese. The Russian doctors seem to have been paralysed through not having an autonomous organisation. The senior officers of the larger medical units were laymen, generals and the like, and of course not the best generals. The same difficulty was noted amongst the Russians in China in 1900; they require many more officers than other soldiers, being so accustomed to have all initiative forbidden them, and sanitary detachments were sometimes on the spot where they were wanted but would do nothing for want of orders. As there was no routine for searching out and removing the wounded, a severely wounded man and his kit were quite often removed to the rear by six comrades from the firing line. The number of wounded, also, was overwhelming, and at the front there were only unwarmed horse-trucks for them, so many were frost-bitten on the way back; also, for lack of staff to feed them, they were starving. But Russia is capable of great things, and the service of the Red Cross and the Empress's hospital trains did an enormous amount of first-class work.—The annual report of the general in charge of the United States militia notes how sketchy is its sanitary organisation. Each State provides its own militia, and the results are uneven. While Massachusetts has 44 medical officers and 146 men, Louisiana thinks it worth while to raise only 2 medical officers and 22 men. An appeal is made that each man enlisted shall be vaccinated against typhoid. Enough vaccine was issued last year for 15.000 men, but the number on whom it was used is not stated. There would seem to be some red tape used in the War Office of even so free and enlightened a republic as the United States of America, for the question of a telephone for a surgeon at a Philadelphia hospital had to go to the Judge Advocate General to decide if it could be borne by public funds.

The American Journal of Tropical Diseases and Preventive Medicine. New Orleans. Edited by CHARLES CHASSAIGNAC, M.D., and ISADORE DYER, M.D. $2.50 a year; single copies, 25 cents.—The March issue contains an article on an Epidemic of Paratyphoid Fever, by A. N. Sinclair, bacteriologist to the Territorial Board of Health, Hawaii, the gist of which is that the outbreak appears to have been traced to a carrier whose fæces contamined the excremental manure, so that the disease was disseminated by vegetables.—Foster M. Johns and Percy L. Querens give a further Note on the Growth of Filarial Embryos in Vitro, in which the embryos of filaria immitis and setaria labiato-papillosum in dextrose defibrinated blood respectively from dog and cattle exhibited growth and motility for 15 and 52 days, after which degeneration of both media and organisms occurred.—Echeverria cites experience in Costa Rica to demonstrate the innocuousness of bites by the malaria and yellow fever mosquitoes during the daytime.—William H. Deaderick gives the outline of an elaborate scheme of search for municipal sanitary defects.

Bulletin Mensuel de l'Office Internationale d'Hygiène Publique. Paris: Office International d'Hygiène Publique, Boulevard Saint-Germain.—We have before us the last issues of this valuable periodical, which was started by international arrangement some eight years ago. The number of nations actually participating in the work of the International Sanitary Office is 31, but to attain this total we reckon Great Britain, British India, Australia, and Canada separately. Many small nations participate and most of the large ones, but Germany is absent. This does not prevent the publication of a considerable amount of news from, or documents dealing with, Germany. Thus the February number gives the latest German enactments relating to measures against leprosy, and the new regulations for the inspection of ships passing through the Kiel canal. Somewhat disheartening information is recorded from Spain. In spite of the terrible lesson taught by devastating epidemics, and the generally speaking high death-rate, the fundamental question of the water-supply of Spanish communities has made but little progress towards solution. A Royal Order has been issued by the Government which commences with the announcement that there are on an average 50,000 cases of typhoid fever annually in Spain, resulting in at least 7500 deaths, and adds that a pure water-supply is the best preventive. In Spain there are immense obstacles yet to be surmounted. There is neither the knowledge nor the money necessary to improve the water-supply of the country generally. Therefore, and as being easier to manage, and above all much cheaper, this Royal Order recommends all the local authorities to encourage the employment of antityphoid vaccine. Yet without going further than the *Bulletin* before us, page after page contains elaborate descriptions of what has been done in almost every part of the world to increase, to purify, to filter, and to sterilise the water-supply of towns and the country. The same may be said concerning the prevention of the contamination of rivers and water generally by the treatment and purification of sewage. Indeed, the *Bulletin* through its monthly issues is a compilation of the laws enacted, the public works undertaken, and the sanitary experiments made in all the civilised parts of the world, and deserves wider publicity.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the twenty-ninth meeting of the Royal Commission on Venereal Diseases evidence was given by Sir Victor Horsley. He said that the experience of the last 25 or 30 years led to the conclusion that these diseases were decreasing in virulence; it was his impression, however, that they were extremely prevalent. It was not possible to speak statistically of the amount of prevalence, and the position in this respect would not be remedied until confidential registration of deaths had been adopted. This reform had been advocated by the British Medical Association for many years. The Association also put forward some 10 years ago the proposal that in every coroner's district there should be an officer appointed whose duty it would be to make such post-mortem examinations as might be necessary to determine the exact causes of death. That proposition had relation not merely to ordinary deaths, but above all to the examination of stillborn children; if it had been accepted the Commission would have been in possession of material relating to ante-natal conditions revealing the exact prevalence of syphilis. It was very desirable that this arrangement should be carried out with a view to the discovery of ante-natal conditions, not merely syphilis, but other pathological states. The Notification of Births Act under which stillbirths are notifiable should be compulsorily extended to the whole country. Sir Victor Horsley was of opinion that the education of the public in regard to venereal diseases was enormously important, and that children should be instructed in sex matters. If the nature study part of elementary education were extended and every child taught the groundwork of hygiene; the health of the body, the instruction in sex matters could without injury gradually be brought into the mind of the child. So far as education related to reproduction in man it should be given individually and not as class instruction. In secondary schools children should receive full instruction. At the present time instruction was also necessary for adults. The teaching should be given by laymen; if it were in the hands of medical men it would be regarded as part of a medical mystery.

Sir Victor Horsley dealt at some length with the difficulty with which medical practitioners are frequently faced in public health matters by reason of the law of libel. It was perfectly obvious, he said, that from the public health point of view a medical practitioner ought to be able to warn somebody who to his knowledge was likely to be infected with venereal disease, but under the law as it stood he would render himself liable to a libel action and would undoubtedly be ruined. A medical man ought to be able to state what he thought was the cause of a particular disease, but the information should only be given to people who had a right to demand it. Sir Victor Horsley said that he was in favour of the notification of venereal diseases to the medical officer of health. He thought that a system of notification would not improbably be resented both by medical practitioners and by the public, but the history of notification showed that objections had been very strongly brought forward even in regard to the simplest diseases. The notification of scarlet fever was violently resisted at first, but there is no difficulty about it at the present day. Every argument that he had heard used against the notification of venereal diseases had also been used against the notification of so-called simpler diseases. The notification should be confidential and he had no fear of its confidential character being invaded; for this reason he did not think that a distinction could be drawn between venereal and other diseases on the ground that a moral stigma might be alleged in the case of the one and not in the case of the other. With regard to the diagnosis and treatment of venereal diseases Sir Victor Horsley said that he was in favour of treatment in special wards of general hospitals, and he thought that every health authority should have its own bacteriological laboratory for the diagnosis of disease. He did not think that adequate facilities for diagnosis or treatment would be provided unless there was a subsidy from the State.

At the thirtieth meeting Dr. Florence Willey, assistant physician for diseases of women at the Royal Free Hospital, gave evidence.

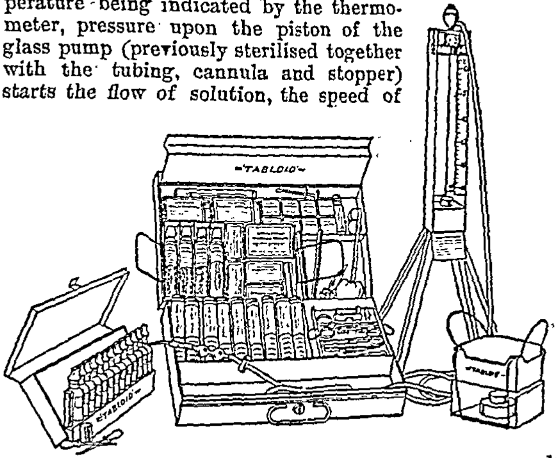
Dr. Willey urged strongly the need for early and effective treatment of both gonorrhœa and syphilis, and said that in order to secure such treatment it was necessary to provide, firstly, for the early and scientific diagnosis of all suspicious cases, and, secondly, for some means of efficient treatment of such a nature that infected persons would willingly avail themselves of it. It would be necessary, she thought, to provide free of cost facilities for carrying out Wassermann tests and bacteriological examinations and for the post-mortem examination of stillborn children and miscarriages. The results of such post-mortem examinations should be notified to the medical man attending the case in order that he might be enabled to secure efficient treatment for the mother in cases which were shown to be syphilitic.

Dr. Willey thought that clinics for the treatment of venereal diseases should form part of the work of an institution not wholly devoted to those diseases; they should preferably be part of the work of a general hospital and should be arranged at hours convenient for the working classes. Evening clinics, she said, were very desirable. On the question of notification Dr. Willey said that she was strongly of opinion that any scheme of notification by name would defeat the end in view, and she therefore advocated that all material sent for diagnosis should be identified by number only. She further suggested that all patients under treatment should be given definite instructions which would enable them to avoid infecting other people and that all nurses should be fully instructed in the nursing details of these cases and in the special precautions necessary in each disease to avoid infecting themselves and other patients. As a preventive measure she thought the instruction of young people in matters of sex hygiene was very desirable.

New Inventions.

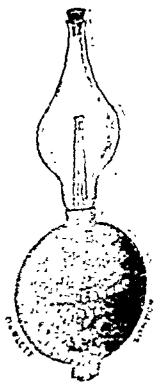
"TABLOID" BRAND MEDICAL EQUIPMENT FOR THE TREATMENT OF CHOLERA.

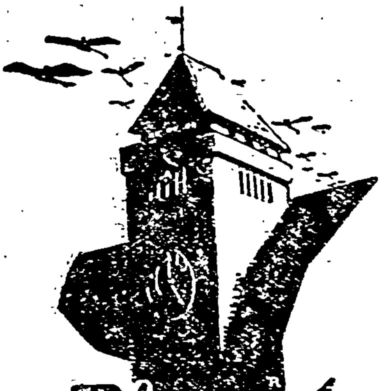
AN obvious advantage in the treatment of cholera by the intravenous injection of saline solutions is the suitable provision of all the apparatus needed. The "Tabloid" medical equipment No. 363 (Messrs. Burroughs, Wellcome, and Co., Snow Hill Buildings, E.C.) is compact and complete, and contains several improvements which facilitate the somewhat complicated technique of this treatment. The saline solution, made from the "Soloid" products in the case, is sterilised in the 25 oz. flask by heating over the spirit lamp, and on the desired injection temperature being indicated by the thermometer, pressure upon the piston of the glass pump (previously sterilised together with the tubing, cannula and stopper) starts the flow of solution, the speed of which can be read in a few seconds by the simple scale and controlled by the special pattern regulator. The sphygmometer and the set of glycerine dilutions enable the patient's blood pressure and the specific gravity of the blood to be readily ascertained. Every other detail necessary for the treatment of cholera by saline transfusion, as advocated by Lieutenant-Colonel Leonard Rogers, I.M.S., is included in this equipment. The items include: Metal and glass cannulas, an all-glass hypodermic syringe, forceps, bandages, clinical thermometer, "Vaporole" iodine tincture for sterilising the site of injection, "Vaporole Infundin" pituitary (infundibular) extract, and a steriliser for instruments, rubber tubing, &c. In addition to these, supplies of "Tabloid" potassium permanganate (keratin-coated) and "Tabloid" calcium permanganate (keratin-coated) are included.



THE "HANDIESQUE" SPRAY.

THE simplicity of construction of this spray apparatus will be apparent from the accompanying illustration. It consists of a pear-shaped glass bulb in the centre of which is a narrow glass tube through which air is forced by means of hand compression bellows. We find that it gives a fine spray, whether oily, aqueous, or spirituous solutions are used. Its application is indicated chiefly in the local treatment of morbid nasal and pharyngeal conditions. It is very compact and light and is easily cleansed or sterilised. The bulb is made of toughened glass, and its contents can be preserved by fitting a cork into the neck. It reduces the ordinary inconveniences of a spraying apparatus to a minimum. The "handiesque" throat and nose spray has been introduced by Messrs. C. J. Hewlett and Son, Limited, of 35–42, Charlotte-street, London, E.C.





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See "BRITISH MEDICAL JOURNAL," February 4th, 1911, page 243.

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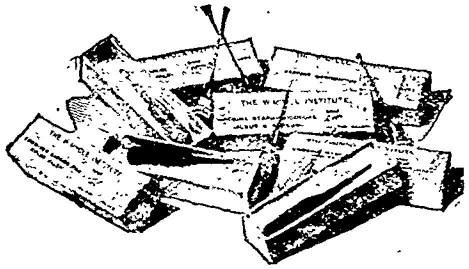
VACCINES

OF THE WIMPOLE INSTITUTE.



Acne Bacillus.—5 millions, **1/6** ; 10, **2/-** ; 20, **2/6** ; 50, **3/-**.

Acne with Staphylococcus.—Acne, 5 millions with Staphylo., 100 millions, **2/-** ; Acne, 5 with Staphylo., 250, **2/3** ; Acne, 10 with Staphylo., 250, **2/6** ; Acne, 10 with Staphylo., 500, **2/9** ; Acne, 10 with Staphylo., 1000, **3/-** ; Acne, 10 with Staphylo., 2000, **3/6** ; Acne, 20 with Staphylo., 2000, **4/-**.

Staphylococcal (Albus or Aureus, or both mixed in equal proportions).—Albus or Aureus, or mixed: 100 millions up to 4000 millions, **1/-** to **5/-**.

Combined Vaccine for Colds.—Arranged to suit prevailing epidemic, 25 millions of each, **2/6** ; 50 millions of each, **3/-** ; 100 millions of each, **4/6**.

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Dysentery.—4 strengths. Prices **2/6**, **3/-**, **4/-**, **5/-** respectively.

Gonococcal.—10 millions, **1/6** ; 25, **1/9** ; 50, **2/-** ; 75, **2/6** ; 125, **3/-** 250, **4/-** ; 500, **6/8** ; 1000, **10/6**.

Hay Fever.—5 strengths, **2/-** each. For curative purposes first dose should be No. 1, followed at intervals of a few days by Nos. 2, 3, 4, 5.

Meningococcus.—5 millions, **1/6** ; 10 millions, **1/9** ; 25 millions, **2/-** ; 50 millions, **2/6** ; 100 millions, **3/6** ; 250 millions, **5/-**.

Micrococcus Catarrhalis.—50 millions, **2/-** ; 100, **2/6** ; 250, **3/-**.

Ozæna.—50 millions, **2/-** ; 100 millions, **2/6** ; 250 millions, **3/6** ; 500 millions, **5/-** ; 1000 millions, **7/6**.

Pneumococcus.—10 millions, **1/9** ; 25, **2/-** ; 50, **2/6** ; 100, **3/6** ; 250, **4/-** ; 500, **5/-**.

Streptococcus.—10 millions to 500 millions, **1/-** to **5/-**.

Streptococcus Rheumaticus.—For the complications of rheumatic fever, **2/6** a dose of 10 millions ; 25, **3/-** ; 50, **3/6** ; 100, **5/-**.

Diphtheria (as an Adjuvant to Antitoxin).—10 millions, **1/9** ; 25, **2/-** ; 50, **2/6** ; 100, **3/6** ; 250, **5/-**.

Influenza.—10 millions, **1/9** ; 25, **2/-** ; 50, **2/6** ; 100, **3/-** ; 250, **4/-** ; 500, **5/-** : 1000, **7/6**.

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Typhoid Vaccine (No. 1).—Broth Cultures of B. Typhosus. 500 millions, **2/-** ; 1000, **3/-** ; 2000, **4/-**. (No. 2).—B. Typhosus with Paratyphoid. 500 millions, **2/6** ; 1000, **3/6** ; 2000, **5/-**. Immunising agents. (No. 3.) For Treatment.—Initial dose 50 millions, repeated or increased at about 3 days, or each subsequent rise of temperature. 50 millions, **2/3** ; 100, **2/6** ; 250, **3/-** ; 500, **4/-**.

Whooping Cough (Bordet's Bacillus).—Of decided service in lessening the violence of the paroxysms and shortening the duration of the attack. 25 millions, **2/-** ; 50, **3/6** ; 100, **4/-** ; 250, **5/-**.

Pyorrhœa Alveolaris.—50 millions, **2/-** ; 100, **2/6** ; 500, **4/-**.

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THE LANCET.

LONDON: SATURDAY, APRIL 25, 1914.

The State, the Mother, and the Child.

STUDENTS of current social movements cannot fail to observe the strength of the efforts which are now being made to extend State action in all that relates to maternity and infant welfare. To this there are many contributory causes, the most prominent perhaps being the attention which has been evoked by the operation of national insurance to the disabilities entailed on working women by pregnancy. Simultaneously, as a result of the work of public health authorities in connexion with notification of births, it has become realised that excessive infant mortality to a very large extent occurs during the first few weeks of life, in circumstances often to be attributed to malnutrition or definite illness of the mother, to inefficient midwifery, or to other remediable conditions. Then, again, education authorities, which now undertake systematic medical examination and treatment of children who have reached school age, have found that the ailments or defects of the children should in many cases have been detected and dealt with before the age of compulsory school attendance was reached, or might have been prevented altogether by suitable advice to the mother or hygienic management of the child at an earlier stage. An extreme instance, for example, is the child coming to school showing the results of congenital syphilis, which need not have developed if syphilis of the mother had been detected in the ante-natal period. Towards meeting the demand thus arising, much is already attempted or done by various official bodies, so far as their functions permit, and as much, or perhaps more, by the large number of semi-official and voluntary associations which in one form or another undertake what is termed "infant-welfare" work, and by charitable institutions and maternity hospitals. But the multiplicity of uncoördinated work by existing authorities and organisations in advising, visiting, inspecting, and treating mothers and infants causes much inconvenience and waste of effort, besides being incomplete in many essential respects.

A movement to obtain a new and better order of things, lately organised by the Women's Coöperative Guild, deserves special attention, as it is typical of much which is being proposed in other quarters. Briefly, it is a proposal for local municipal action, largely at the cost of national funds, to establish maternity centres to supply medical and nursing supervision for pregnant women of the working class, to provide and pay municipal midwives, to support maternity hospitals, and to supervise the health of the child until school attendance begins by a large extension of home visiting, infant consultations, and clinics. It is suggested that as an "endowment of motherhood" the sum of £7 10*s.* (absorbing the present maternity benefit) should be granted by the State for every child born, the major part of which would be given to the mother in connexion with the municipal supervisory system. Social reformers who are individualists, if any such remain, may question the expediency of State action in such directions as these, on the ground that parental responsibility will be further weakened, and may object to opening the door widely to further innovations, such as the municipal nursery and crêche, which would probably follow on a considerable scale. The eugenist also may ask, without much expectation of being satisfied, what steps the State proposes to take to see that the children thus encouraged and adopted are the right material for the next generation, arguing that the more desirable class will be less disposed to supply children for municipal officers to bring up, so that the stock will be recruited from the less efficient. Such arguments, however, usually appear to be pleas for inaction, while the supporters of the movement to which we refer have behind them substantial and practical reasons for requiring something to be done, in which they are unquestionably in accord with the general spirit of the time. In its medical aspects there need be no hesitation in supporting the contention that if national money and organisation are made available much invalidism of mothers, and death and disabilities of children, can be prevented. The recent trend of medical work, including developments in the education of medical students as to the care and hygiene of infancy, tends to increase the efficiency of the service which medical science is already able to render in this direction.

The movement towards more definition for the work which the State can undertake in behalf of the mother and the child appears to have received an encouraging reception from the Government, and evidence of its practical progress is afforded by an active controversy which is proceeding as to the national authorities by which official maternity and infant welfare work should be carried out. On the one hand it is contended that the local education authorities, under the direction of the Board of Education, are already, with the aid of national funds, so organised that development comes naturally through the enlargement of the school medical inspection service, the further training of midwives by education authorities, the education given in the schools in matters of hygiene to the mothers of the future, and generally through the adaptation of much organisation which is well developed under the education authorities and ready to hand. To this it is replied that by similar arguments almost any administrative work in the country could be brought within the category of education, and that it is only an accident of our administrative system which makes it possible to think of imposing these duties on education authorities and not on the sanitary authorities, to which they would naturally fall. It would certainly seem shortsighted to ignore in this connexion the extent to which many sanitary authorities, under the direction of the Local Government Board, have already developed home visiting and other work in connexion with the Notification of Births Act, while it seems useless to hope for the success of educational methods of hygiene in overcrowded and insanitary environment. It is on every ground desirable that these administrative problems should be freely brought to notice and publicly discussed at the present time. Recent experience has shown that the bringing of schemes of social improvement which are dependent on medical considerations into the arena of politics and legislation is not without its dangers. It is flattering to medical science that the politician should take it for granted that medicine can work wonders, if only a new measure is passed or a new form of administration is set up which is convenient to the political or departmental conditions of the day. But care must be taken that medical science is given a fair chance, and too much thought can hardly be given to the essential objects which [illegible] in view in any new administration [illegible]d to set up.

with no dormant focus of disease and no irr damage. Disease is too often considered as a condition, an incubus which can be sha whereas it should be regarded as a dynamic a progressive and active interference with whether produced by chemical, mecha bacterial agencies, and whether inherit genous, or exogenous in origin. The writes in disease as well as in life, and ther disease processes which do not leave the upon the organism in some chemical, ana functional alteration. "Nothing ever pletely well" was the burden of an enunciated years ago by a great medical who was no pessimist in regard to treatme

An interesting example of the scientific applied to the study of the effects of a treatment of an abnormal condition, determine whether it can be regarded relief from that condition, is afforded by by Dr. JOHN FREEMAN on Vaccination a Fever, which is published in our pres at p. 1178. This disease lends itself conditions of experiment. The causal known as regards a certain definite symptoms, while treatment, other than from the influence of the pollen, is do no more than palliate the symptom stances which render the factor of the all-important one from the point of rational therapeutics applied with the effecting a removal of the condition. ment, in regard to which some details appeared in our columns,[1] consists in to produce active immunisation against ...mine the ...and to ...means of inoculations with a poll ...vestigations in this direction were in 1910 and 1911 by the late ...e been continued since by Dr. ...gives reports of his results ...ree years. His instructive ...sults will be read with great ...uld appear to justify his ...ment has succeeded. It is ...of this vaccine as a ...that the immunity ...may remain ...hes markedly in the ...lations are given ...range the ...method

What is a Cure?

...ways a useful exercise to ex... ...meaning of a well-worn expression ...to divest it of error. Science has for its ...exact study of natural phenomena, and it ...a matter of great regret that words are ...an inexact manner by men engaged in ...of scientific methods. Few words in ...loosely used, indeed so often mis... ...word "cure." Even by those who ...ter it is employed to indicate both ...mination of a disease process a... ...secure that end. It is, theref... ...the lay public so generally fail... ...ence between cure of a diseas... ...ss, and amelioration of its ...eak more or less vaguely of ...cure, a "grape" cure ...and

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Pneumococcus.—10 ...

Streptococcus.—10 millions to 500 millio...

Streptococcus Rheumaticus.—For the comp... 50, **3/6** ; 100, **5/-**.

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Influenza.—10 millions, **1/9** ; 25, **2/-** ; 50, **2/6** ; 100, **3/-** ; 250, **4/-** ; 500, **5/-**

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Human or Bovine Types, large range of doses from 0·00001 c.c. T.R **1/-**, ...
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of the organism the recovery from many ific diseases appears to be complete and , and cure is thus the rule; but this is by the case in all, as the immunity conferred mporary only, and may in some cases be y increased susceptibility. When a poison eutralised by its antidote or got rid of by ry channels of the body we may speak of the other hand, where a disease process uited or shut off and its further spread while the causal agent remains we ak of arrest, but not of cure. Where nic damage has occurred and function stored by vicarious activities we should e result as one of repair or compensa- a duty which the medical profession e public to explain the distinction overy and cure.

Annotations.

"Ne quid nimis."

KUBISAGARI.

ation paper set by students for their s no doubt unlikely to become an fact, though to many a student the ibility must have occurred. If such set in medicine it might well open estion "State what you know of The candidate could not take shelter cuse that the matter is one that has attention in the text-books, for it is ed in Sir William Osler's well-known medicine. Kubisagari is a disease two small districts only, so far as is ne in North Japan, the other on the frontier. Doubtful sporadic cases ported elsewhere, but in these two ed areas the disease appears to be both there is a seasonal incidence, May and June, reaching its height in , and ending in October or November. oud, who contributes an interesting subject to the *Presse Médicale* for story which shows the origin of the of the disease. A young Japanese d just settled in a rural district in hen one day he found a *peasant* at is head bent forward on his breast. ed as to what he wanted he was at speak, but he was soon able to e was "kubisagari" (drop-head), the by the villagers to a complaint to ad long been subject in the summer he symptoms are paresis of various coming on suddenly during use of the d parts, disappearing with rest, and returning ttempts to put them into action once more, of vision developing in the same rapid manner, vertigo. For example, during milking the im finds his hands become numb and useless, ead falls forward against the cow, and he rolls on the ground. Gerlier, who was the first to ve the French cases, found that there was a l paralysis of the extensors of the fingers. attack lasts about ten minutes, but one bout may run on into another. Various muscles may be affected, but fatigue is an essential provocative. As soon as the autumn comes recovery ensues in all cases. The attack usually begins in the afternoon, when the patient is tired; the duration of the illness is variable up to five months. In spite of deliberate and exhaustive study in both the districts affected nothing of importance was discovered as to the etiology, apart from these data—that cats and poultry might be affected, and that there was an indubitable connexion between the incidence of the disease and work in certain particular stables. It appears also that suckling infants are liable to acquire the malady if the mother is suffering from it. It is not to be wondered at that an infective origin should have been suspected, and it is mainly with the purpose of describing his bacteriological researches that Dr. Couchoud has written his paper. His positive findings are briefly as follow. From the cerebro-spinal fluid and from the milk of persons suffering from the disease he was able to cultivate a micrococcus grouping like a staphylococcus, growing on agar, not liquefying gelatine, and Gram-negative. Injection of cultures into cats reproduced the characteristic symptoms in two or three hours in a large majority of the experiments. Dr. Couchoud acknowledges that his observations must be confirmed by other observers before they can be generally accepted, and he points to the scientific interest of this singular disease as an inducement to research in a somewhat restricted field.

DR. WILLIAM HAWES AND THE ROYAL HUMANE SOCIETY.

Now that London is at last to be given an adequate ambulance service, it is interesting to call to mind the early philanthropic labours of Dr. William Hawes, an old Pauline and one of Oliver Goldsmith's medical attendants. The poet, as is well known, hastened his end by an excessive use of Dr. James's fever powders, of which course his doctors disapproved. Dr. Hawes was led to publish a work on the illness and death of Goldsmith in order that he might warn the public, in a self-drugging age, against using powerful medicines without due medical advice. The profits of the publication were employed to help in founding what was afterwards known as the Royal Humane Society. Dedicating the book to Sir Joshua Reynolds and Edmund Burke, who had deputed Hawes to manage the doctor-poet's bankrupt estate, Hawes says (p. 21): "As my late respected and ingenious friend Dr. Goldsmith was pleased to honour Dr. Cogan and myself with his patronage and assistance in the plan for the recovery of persons apparently dead, now on the point of being established in this kingdom, I think I cannot show a greater proof of my esteem for the deceased than by applying the profits of this publication to an institution the design of which was favoured by his warm approbation." This was written in 1774, and in 1781 Hawes published an address to Parliament on the importance of the Humane Society, on the score of humanity, philanthropy, and sound policy, and stated therein a variety of consequences which might be reasonably expected to follow the establishment of receiving houses. These were to be scattered over London, and thither the victims of casualties were to be carried. Nothing is said of an ambulance service, but a curious picture is painted of sudden death and street accidents in an age when these were even more frequent than at present. "When sudden death happens (see Hawes—'Address to the King and Parliament of Great Britain,' edit. 3) by accident in the public street, or other places on land, too often the consideration of inconvenience overcomes the dictates of humanity, and no friendly door is open to receive the body; or, if there is, the attendants are ignorant of their duty." Hurriedly called in, the medical man finds a scene of real confusion. If poor, the victim of the accident lies in the open street among "a croud." If the apparent corpse shows signs of prosperity, "it may perhaps be raised from the ground and placed on a shop floor." The medical man always has to regret the absence of "necessary as well as proper assistance." First aid was not then taught, and Hawes at this time became its pioneer. He delivered lectures and distributed pamphlets gratis on the modes of recovering persons from syncope, inebriety, trance, drowning, suffocation by the cord, or noxious vapours, intense cold or lightning, and on stillborn children and the effects of poisons, and on the certain signs of death. These lectures closed in 1782 with an adjudication of prize medals, offered by Dr. Hawes. The first gold medal was presented to Dr. Pearson, of Birmingham, on behalf of the Humane Society by Dr. Lettsom, Dr. Fothergill, and others, his being considered the best dissertation on the question, "Are there any positive signs of extinction of human life, independent of putrefaction? If so, what are they? Or, if there be not, is putrefaction a certain criterion of death?" The medal bore the name of Dr. Hawes, the donor, and the now famous motto, "Lateat scintillula forsan." The Humane Society was actually founded in 1774 through the joint efforts of Fothergill, Hawes, and Cogan. In 1784 the classical-looking receiving house was built near what was then known as the Serpentine River. It was chiefly designed for the purpose of restoring animation in those who had been "plunged into the contiguous stream." At the time of its erection it was considered without rival in Europe, and it remains to-day to remind a careless generation of the zealous philanthropy of the latter part of the eighteenth century—a philanthropy inspired by lofty motives, however fantastic or inadequate in its realisation. Dr. Hawes was typical of his age, a good talker, with a strong sense of humour which must have endeared him to Goldsmith. But it is for his characteristic public spiritedness that he will be remembered in the history of his time.

TROPICAL DISEASES RESEARCH FUND.

THE report of the advisory committee for the Tropical Diseases Research Fund for the year 1913 has just been presented to Parliament and is now issued as a Blue-book (Cd. 7261)[1] by the Colonial Office. The committee, which was constituted by the Secretary of State for the Colonies in July, 1904, is now composed as follows: The Right Hon. Sir J. West Ridgway, chairman; Sir Thomas Barlow, Sir John Rose Bradford, Sir David Bruce, Sir R. Havelock Charles, Mr. F. H. Drake, Sir Patrick Manson, Mr. H. J. Read, Sir Ronald Ross, and Mr. J. A. C. Tilley, with Mr. A. B. Keith as secretary. The late Sir A. M. Branfoot, who had been a representative of the India Office from the first, resigned from the committee before this report was prepared, and his colleagues place on record their high appreciation of his constant interest and the services which he rendered. The report itself occupies barely two pages, the rest of the volume of 240 foolscap pages being devoted to detailed appendices. The first of the six appendices consists of reports on anti-malarial measures in the Crown colonies, protectorates, &c.; the second is the report of the professor of protozoology in the University of London, Professor E. A. Minchin, for the year ended June, 1913; the third is the report for 1913 on the work of the Quick Laboratory, Cambridge, by the director, Professor G. H. F. Nuttall; the fourth comprises reports from the London School of Tropical Medicine; the fifth contains corresponding reports of the year's investigations at the Liverpool School of Tropical Medicine; while the sixth appendix contains reports on work done in various colonial laboratories. These appendices include a large amount of valuable information from a large number of sources, and further reference will be made in these columns to the results of some of the more important investigations which are detailed therein.

THE RELATION OF APPENDICITIS TO UMBILICAL COLIC IN CHILDREN.

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GASTRIC TETANY.

THE pathogeny of this condition appears to remain as obscure as it was when Kussmaul first directed attention to it in 1869. It was to be expected, perhaps, that, under the later and still dominant school of thought which seeks explanation for most pathological conditions in infection, the infective origin of gastric tetany should be suggested. Others, who have studied the condition very fully, believe that it may be due to absorption of stagnant contents of a dilated stomach which poisons the nerve centres and thereby increases reflex irritation. Such theories, however, still leave the pathogeny a *terra incognita*. The symptoms of gastric tetany are striking. There is usually a prolonged history of dyspepsia; the signs may strongly point to gastric or duodenal ulceration; still more often is there evidence of dilatation of the stomach, for which perhaps lavage has been industriously carried out. The tetany itself is abrupt in onset. There occurs pain of crampy character starting in the stomach. This is soon associated with spasms of the muscles of the extremities, especially the hands and feet. The fingers are usually flexed at the metacarpo-phalangeal joint and extended at the distal joints —the "accoucheur's hand." The spasms may extend to the larger limb muscles, and even involve the face. The general irritability of the musculature is often so enhanced that small local stimuli may induce a spasmodic condition of groups of muscles; in this relation, Chvostek's sign is familiar. In severe cases the onset of the symptoms may resemble a convulsion; there is, however, no loss of consciousness, and the peculiar distribution of the spasms is diagnostic. The treatment may be medical or surgical; its objective is the stomach. A dilated stomach is the rule, and its cause is usually to be found in pyloric or duodenal ulceration. There are, however, exceptions. Frequent washing out of the stomach is of much assistance, but operative measures offer a more hopeful prognosis. Following a gastro-enterostomy recovery may be complete, though not in every case. In an instance of gastric tetany described by Rodman (W. L.) in the *Journal of the American Medical Association* (1914, Vol. LXII., p. 590) the spasms followed operative treatment for duodenal ulcer associated with gastric dilatation. Previous to operation no such symptoms had been present. Recovery eventually followed. This writer emphasises the failure of medical treatment for gastric tetany, but at the same time he deprecates too optimistic a view being taken of the success of surgical intervention. This view applies especially to those comparatively rare cases in which the spasms involve the muscles of respiration and the larynx. Asphyxia may ensue, and there is little hope of cure. General treatment should be directed to lessening the quantity of those substances in the dietary which favour fermentation.

A MONUMENT TO VESALIUS.

IN August next there will be erected among the wave-swept rocks of the island of Zante a monument to the memory of Vesalius, one of the great pioneers of modern surgery. The occasion will be the quatercentenary of the birth of Vesalius, who perished miserably on Zante on Oct. 15th, 1564, after being shipwrecked as he was returning from the Holy Land, whither he had made a pilgrimage in penance. The reason is somewhat obscure, but it is said to have been in consequence of his having, probably unwittingly, made a necropsy on a Spaniard who proved still to have been alive when the necropsy was begun. Dr. Tricot, who has taken the lead in securing this belated tribute on behalf of Belgium to one of her greatest sons, gave to his French colleagues at the Sorbonne the other day an interesting, if gruesome, account of the youthful enthusiasm of Vesalius, which led him when still a boy to feast his eyes, not upon the delicacies of the tuck-shop, but upon the display of meat and tripe on the butchers' stalls. His delight at an early age was to procure a bullock's heart or a sheep's kidney and to carry it home in triumph for dissection, and we are told that while his father, apothecary to Charles V., encouraged his pursuit of anatomical knowledge, his mother, not best pleased with the turn things were taking in the home, grumbled, but provided him with a bib and tucked up his sleeves to prevent disaster to his clothes. Then the time came when the young student must needs work upon the human subject, and nightly excursions to the place where the bodies of criminals were left to be devoured by scavenging dogs provided at great personal risk material whose examination made him, at an age when he was still learning his Latin accidence at school, the best informed anatomist in Europe. He entered the University of Louvain at an early age, proceeding to Paris in 1533, where he continued his grim search for truth among the human débris by the Montfaucon gibbet. In 1536 he returned to Louvain, as a teacher of his subject. He then went to Padua, where he became Doctor of Medicine, and was appointed in 1537 Professor of Surgery with the right to teach anatomy. He also conducted courses in anatomy at Bologna and Pisa. Vesalius was offered the chair of anatomy in Pisa, where he had conducted public dissections, but preferring the office of Archiatros to the Emperor Charles V. of Spain he went to Madrid, where he served that monarch and his son for 20 years—viz., until 1564—when he went on his ill-fated pilgrimage. Having thus reached certainty by long and accurate study at first hand, Vesalius waged wordy warfare with the Galenists, whom he effectually answered in his epoch-making "De Corporis Humani Fabrica Libri Septem" (1543) in which the old theories were confuted by practical experiment conducted under conditions of almost insuperable difficulty.

THE PREVENTION OF LIFE-WASTE.

ON Dec. 29th last there was incorporated in the City of New York a "Life Extension Institute," having for its aim the lengthening of human life and the safeguarding and increase of individual human efficiency. This end it proposes to achieve by the appointment throughout the land of expert medical examiners, with fully equipped clinical laboratories in all the larger towns, who will periodically examine the physical condition of its own policy-holders, of all the policy-holders of such life insurance companies as contract with it to do so, and for a small fee of any person not embraced in either of these classes, who may desire it. Schools, industrial establishments, and other associations will also be contracted with, and its aid will be further afforded in coöperation with the anti-tuberculosis, social hygiene, eugenics, and similar movements, and with the health authorities. It is thought that by this means "impairments" in the human machinery will be systematically detected while they are still remediable, and the damaged individual directed before it is too late to seek the aid of his medical attendant, who will be furnished with the collaborated findings of the institute's experts. The "Hygiene Reference Board" of the institute, which is to consist of 100 leading experts on various subjects pertaining to health, contains many names well known to the medical profession at large, among whom may be mentioned Surgeon-General Gorgas, the sanitarian of Havana and the Panama Canal Zone, Dr. William J. Mayo, Professor William H. Welch of Johns Hopkins University, Dr. Harvey Wiley, whose name is associated with the pure food laws in the United States, Professor Chittenden, of Yale, and others. The individual will benefit by having his attention called to beginning defects while there is yet time to repair the damage. The medical practitioner will find many of his patients directed to seek his care long before they would otherwise have done so, with the advantage of receiving a carefully collaborated physical report by various experts in their respective lines to work on. The insurance companies will have their losses from life-waste reduced as the fire insurance companies have long reduced their losses from fire-waste. It is further hoped that the vast material accumulated by the Hygiene Reference Board may in course of time enable it to furnish data whereby many disputed points in personal hygiene may ultimately be cleared up. The experiment will be watched in this country with interest: the prophecies of its future work, which we have set out, show its scope to be indeed comprehensive.

TRAUMATIC RUPTURE OF THE HEART.

IN the *Journal of the American Medical Association* of Feb. 28th Dr. B. J. O'Neill has reported a case of a very rare accident—traumatic rupture of the heart. A schoolboy, aged 9 years, while playing was set on by some older boys, who knocked him down and jumped on him. He walked home complaining of pain in the left groin, remained in bed two days, and then got up and about for four days, still complaining of pain in the left groin and hip. On the seventh day he was taken a distance of 30 miles by train to Dr. O'Neill, still complaining of the same symptoms. At no time did he complain of pain in any other part. He walked from the station to the office. Examination showed a well-developed boy walking with a decided limp and evidently in considerable pain. Slight redness and swelling over the left saphenous opening was discovered. There was considerable limitation of the movements of abduction and rotation of the left thigh. No examination of the chest was made. The boy was sent to hospital, where a skiagram of the hip and pelvis was taken and showed nothing abnormal. Hot fomentations were applied to the hæmatoma in the groin. The temperature was 98·6° F., the pulse was 102 and regular, and the respirations were 25. He rested comfortably until about 12 hours after admission. Then he suddenly collapsed, the pulse and respiration became very rapid, and he died in an hour. At the necropsy the pericardium was found bulging forwards, very tense and full. It contained about 500 c.c. of fresh blood and about 200 grammes of dark clotted blood. At the auriculo-ventricular junction on the left side was a perforating slit about 3 millimetres long above the middle of the anterior leaf of the mitral valve. The myocardium and valves were normal. Evidently the heart was ruptured at the time the boy was jumped on, and some hæmorrhage took place into the pericardium, which was followed by sealing of the perforation with clot. Some movement probably dislodged this clot, and death resulted from hæmorrhage into the pericardium. It is remarkable that the boy was up and about for four days with only the clot sealing the opening. The case illustrates the lesson which will never cease to require enforcing—the necessity for complete examination of a patient. Dr. O'Neill thinks that had this been done at least an approximate diagnosis might have been made.

THE ORGANISM OF EPIDEMIC POLIOMYELITIS.

THE discovery that the human disease epidemic poliomyelitis could be transmitted to monkeys opened the way to accurate experimental research on this infection, and many valuable papers have since been written on this subject. The work done at the Rockefeller Institute in New York by Professor Flexner, with the assistance of Dr. Noguchi, Dr. Paul Clark, Dr. Harold Amoss, and Dr. F. R. Fraser, has been largely recorded in the *Journal of Experimental Medicine*, and it may be useful to summarise the results which they have obtained. The micro-organism which is the infective agent has now been cultivated on artificial media, the method used being that devised by Noguchi for the cultivation of spirochætæ, human ascitic fluid being the basis of the medium, with the addition of small pieces of solid sterile tissue, the culture being kept anaerobic by covering it with a layer of paraffin oil. Thus grown the organisms appear as minute globular bodies arranged in pairs, chains, and clusters, and they can also be demonstrated in the infected tissues by means of appropriate dyes. Reinoculation of susceptible animals with the cultures has been effected in one or two instances, thus fulfilling Koch's second canon, but failures often occur owing to rapid loss of virulence in the organisms when introduced to artificial conditions. Their exact biological position has not yet been determined—whether they should be classed with the bacteria or with the mysterious group of chlamydozoa. Their minute size enables them to pass through the pores of a Berkefeld filter. Within the body the organisms are visible not only in the spinal cord, but also in the brain, vertebral and Gasserian ganglia, and abdominal sympathetic. Poliomyelitis is thus not a special disease of the anterior cornual cells as was previously supposed, but a general infection of the central nervous system. The lesions produced are both interstitial and parenchymatous. Post-mortem multiplication of the parasites can be obtained by incubating pieces of infected brain tissue. The virus derived from a human source can be rendered more pathogenic for monkeys by passage through a series of these animals, but after a time this virulence tends to fall again. The channel of infection is not thoroughly ascertained. Flexner favours ingress by the lymphatics of the nasopharynx. Direct injection into the spinal theca may induce infection, but the virus then passes rapidly out into the blood stream, where it is apparently neutralised or destroyed. The blood is not often found to be infective, and direct injection into the circulation is an uncertain mode of inducing the disease. From the blood the virus seems incapable, as a rule, of entering the cerebro-spinal fluid; indeed, the interchange of constituents between this fluid and the blood seems to be usually minimal, as in the case of patients treated with salvarsan in whom injection of their own serum into the spinal canal has been practised as a means of introducing the remedy locally and thus combating syphilitic lesions of the central nervous system. Attempts to transmit poliomyelitis by the bite of the fly, stomoxys, were unsuccessful, and in view of the general features of the infection insect transmission does not appear a probable hypothesis.

WE regret to record the death of Dr. Thomas Frederick Pearse, late Medical Officer of Health of Calcutta, who died at Torquay on April 14th. Dr. Pearse was for many years one of the special correspondents of THE LANCET.

Mr. Herbert Jones, D.P.H. Cantab, medical officer of health for the Herefordshire Sanitary Districts, has been elected President of the Society of Medical Officers of Health immediately upon the conclusion of his term of office as secretary, a proof of the recognition by the society of his intimate knowledge of their views and his untiring industry in forwarding them. During the 60 years of the existence of the society the secretary has on six previous occasions attained to the chair, the instances being the late Sir George Buchanan, the late Sir Thomas Stevenson, the late Professor Corfield, Sir Shirley Murphy, Dr. Edward Seaton, and the late Dr. J. F. J. Sykes.

INAUGURATION OF THE NEW UNIVERSITY BUILDINGS AT ZÜRICH.—On April 18th the new university buildings of Zürich, erected at a cost of £240,000, were inaugurated. They are situated in an elevated position near the various hospitals and the Federal polytechnic school, and command a magnificent view from the terraces and the tower. They are to serve as lecture house and also contain the biological institute, while the new building for pharmacology and hygiene is situated at a short distance. The Federal Government, the Cantonal Government, and several scores of delegates from all parts of Europe attended the opening ceremony, which commenced with a musical cantata, the music being composed by Dr. Hegar. All the Swiss universities, 21 German universities, and the universities of Paris, Oxford, and Cambridge sent delegates. Dr. Keller and Dr. Locher spoke as representatives of the Cantonal Government, and Professor Egger as rector of the university. The speech of Dr. R. W. Macan, Master of University College, Oxford, was especially applauded. In the evening a banquet for 800 guests took place. On the 19th the guests made a trip down the lake in glorious weather. On the 20th the guilds of Zürich took part in a historical pageant representing the development of science from ancient to modern times.

SOCIETY AND SEX PROBLEMS.

THE intricate problem of the regulation of sex relationship in modern society is showing signs of a rapid progress through the normal evolution of all social problems out of the sphere of ethics into the sphere of sociology. The primitive state in which men at first approach all such problems is the ethical and emotional. They are filled with a repugnance, say, to prostitution, and they loudly demand measures for its regulation or suppression without realising the underlying conditions. The failure of these measures, where obtained, after a while leads up to the second stage. The condition of emotional animosity gives way to the spirit of scientific inquiry; the primitive axiom, "Something must be done," is succeeded by a desire for a knowledge of the actual facts and the collection of information from all sources that are open: the problem, in short, passes from the sphere of ethics to the sphere of sociology; from the sphere of emotional but ignorant action to the sphere of intellectual inquiry. It is only later that the social problem finally passes back once more to the sphere of ethics; but the action taken is no longer blind and emotional, it is guided by the results obtained from the impassive sociological investigations. Whereas the problem of marriage is still restricted within the first or ethical stage, the problem of prostitution has now fairly emerged into the colder air of sociology.

The Problem of Prostitution.

The pioneer work of Parent-Duchâtelet has paved the way to a number of modern investigations of great interest and value. Of these the most recent are the remarkable publications of the New York Bureau of Social Hygiene, formed under the auspices of Mr. John D. Rockefeller, jun. In the two volumes now published,[1] Mr. George Kneeland describes the present condition of prostitution in New York, while Mr. Abraham Flexner deals with prostitution in Europe.[2] Mr. Flexner devotes his attention mainly to the existing methods of administration and police supervision; while Mr. Kneeland, on the other hand, deals chiefly with the various forms, the resorts and the *personnel* of prostitutes and of the trade growing up around them.

We note with interest the tendency of both these, as of most other modern writers, to regard prostitution more as a result of environment than of congenital wickedness or stupidity. Since Lombroso formulated his theory of the *delinquente nato* there has been a steady progress of opinion in the opposite direction. Mr. Kneeland and Mr. Flexner do indeed affirm some connexion between prostitution and congenital weakness, though a connexion far slighter and more elusive than that postulated too crudely by the Italian criminologist. But it may be doubted whether the trend of opinion away from Lombroso has yet reached its goal. The prostitutes studied in the investigations under notice are very largely those under the supervision of the police, and those who live in bordels and hand more than half their profits to the "Madame" or bordel-keeper. Now it may be safely affirmed that these are the weakest and stupidest of their class, and we can no more infer from them a general feeble-mindedness among prostitutes than we can obtain statistics of tuberculosis from an exclusive study of the population of hospitals. Deeply as congenital differences are rooted among our people, they are altogether obscured by the adventitious circumstances of birth and money. The master is not necessarily or even probably better than his servant, except in so far as he is better educated. And so, too, the young man in search of pleasure wreaks his sensuality upon the body of a woman who, according to an almost even probability, is of higher natural endowments than himself, and who owes her position purely to those economic forces which inundate and overwhelm the minor distinctions of nature. Whatever theory we form of the causes of prostitution, it must often happen that the woman, who under more favourable conditions might have been a valuable ornament to society, is butchered alive by successions of men who, but for the accident of birth, would have been gaol-birds.

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[1] Commercialised Prostitution in New York City. By George J Kneeland. With a supplementary chapter by Katharine Bement Davis. Introduction by John D. Rockefeller, jun. London: Grant Richards. 1913. Pp. 334. 7s. 6d. net.

[2] Prostitution in Europe. By Abraham Flexner. Introduction by John D. Rockefeller, jun. London: Grant Richards. 1914. Pp. 455. 7s. 6d. net.

Present Conditions.

The disclosure made by the American writers of the conditions under which the inferior prostitute lives is indeed startling. Instances are recorded where a woman receives over 50 men in one day; the city physician of Rome vouched for a case of 60 visitors; the mayor of Bordeaux reported to the French commission one woman who had received 82 clients in a single day. In Chicago, at a certain vice-resort, women were found to average 15 men a day for nearly two years. In New York one woman served more than 2000 men in a period of six months. In one house, where the fee charged is 50 cents,—

> A large wooden bench was placed against the wall of the receiving parlour. Business was very brisk at the time the investigator entered. The bench was full of customers crowded close together, while others, who could not be accommodated with seats, stood about the room. At the foot of the stairs which led to the bedrooms above a man was stationed. Every time a visitor came groping his way down the stairs the businesslike and aggressive announcer would cry out "Next!" At the word the man sitting on the end of the bench nearest the stairs arose and passed up. As he did so the men on the bench moved along and one of the men who were standing took the vacant seat.

In Europe the tendency for years past has been to suppress bordels (i.e., licensed and registered brothels). In Paris no new bordels are licensed; and the decline in number of the old ones is remarkable. In 1841 there were 235 bordels; in 1888 there were only 69; while in 1903 there were 47. This decline appears to be due to several causes, one of which is the intimate connexion of bordels with the white slave traffic. But the bordel is essentially a mediæval institution, unsuited in many ways to modern conditions. The women, however low their discrimination, cannot but dislike a contract under which they resign more than half their earnings to the manager, and are obliged, not only to accept every client that presents himself, but to submit themselves to any kind of outrage that his perverted whims may require of them. On the other hand, the men dislike an institution in which every mode of extracting their money is resorted to; and, moreover, they are beginning to learn that bordels do not afford a guarantee against the acquisition of disease.

The Case against Regulation.

Students of prostitution at the present day are divided into the two opposing camps of *regulationists* and *abolitionists*. The former school regard prostitution as a necessary evil, and demand that it should be controlled by Government; that its regular followers should be medically examined at frequent intervals, and receive licences to practise their calling so long as they are not found to be diseased. This is the system in operation in most continental countries. The abolitionists, on the contrary, demand the cessation, not of prostitution indeed, for that is obviously impossible, but of all regulation or recognition by the State of prostitution as a trade. This is the British view, and it is the view to which educated opinion is strongly leaning at the present time. The arguments by which abolition of regulation is defended are wholly different from those which led to the repeal of the Contagious Diseases Acts in the "eighties." They rest chiefly upon the fact that regulation after a long and careful trial has turned out to be a failure. Mr. Flexner, who is an ardent abolitionist, goes so far even as to affirm that regulation has probably increased rather than diminished the amount of venereal disease, on the ground that the protection supposed to be afforded is illusory, whereas the fancied security increases the volume of the prostitute's business. The comparatively small number of prostitutes who are isolated in continental countries on account of disease is itself sufficiently striking to show that such methods cannot seriously affect the problem of venereal disease; nor does anyone suggest that there is less disease in such countries than there is in abolitionist countries. Yet Mr. Flexner does perhaps put his case too high; it would seem, even on the basis of his own statistics, that regulation does have some slight effect in the reduction of disease, though an effect far from commensurable with the numerous drawbacks of the method. Mr. Flexner gives an account of the methods of medical examination in Paris.

> All day long a dismal procession of groups of abandoned women file into the rudely equipped rooms in which two physicians ply their repellent task perfunctorily. A line is formed; with open jaws and protruding tongue they march rapidly past. The doctor uses one spatula for all, wiping it hastily on a soiled towel from time to time. This finished, the same group in quick succession ascends two surgical chairs to permit a cursory vaginal inspection. ...... Of the two physicians employed on the occasion of one of my visits, one used a rubber glove, the other a rubber finger —in both cases the same for all; though wiped on a towel from time to time, neither was changed or cleansed. On one occasion I observed one of the physicians examine 25 or 30 girls without changing, washing, or wiping the rubber fingers he wore; and a number of those examined were adjudged "diseased." ...... The inspections consumed from 15 to 30 seconds each.

At Paris, moreover, the registered woman has no legal rights and is entirely in the hands of the police. On a complaint being made by a "morals patrolman" against her, the police inspector himself pronounces sentence, nor is she allowed an attorney to defend her or witnesses to attest her innocence of the alleged offence; and she has no appeal to any regularly constituted court of justice. Regulation inevitably tends to keep women in the business who might otherwise escape from it. For prostitution is not, as commonly supposed, a permanent trade. Its *personnel* changes quickly from year to year. Girls go in at a certain age, and after a time drift into other employments—become servants, factory girls, waitresses, or sometimes marry. It is a "blind alley" occupation, in the sense that profits rapidly fall off after a certain age, and in London there seem to be few who persist to the last stage. Still, alas, we have all seen them worn and decrepit at the corners of shabby streets, eking out a miserable and precarious livelihood by selling themselves for pence.

Social, Economic and Medical Aspects.

The day of regulation is over, as anything like a general policy, despite the salutary effects that might follow upon it, if very carefully worked in special communities. Now the social problem in the matter of prostitution is to decide what particular type of so-called abolition shall be preferred, and how far the police shall interfere with the prostitute. Indiscriminate and absolute repression is impossible both in practice and in theory. The police cannot afford to make a mistake: public opinion will not for a moment tolerate the arrest of a woman as a prostitute who turns out after all not to be a prostitute. Since the police cannot take action, even on strong suspicion, it is obvious that a very large proportion of the women must be beyond their reach. Public opinion, moreover, will not permit any class to be harried to more than a certain extent. The existence of a huge and vehement demand among men is a fact which no one questions; and so long as this demand exists, there will remain an element in public sentiment which will safeguard the continued existence of prostitution, though its threefold evils—the social, the economic, and the medical—are manifest.

The social evil has been more or less outlined above; it centres about the ruined lives of numberless young women who are condemned to an existence of servitude and degradation. But here we must rigorously resist sentimentalism, while not withholding pity. We must estimate what many of them have lost in losing their virtue. It must be remembered that these women, mostly drawn from the lowest classes, would in the majority of cases lead lives of little attraction in any circumstances. The hard and unremitting toil of their normal lives does not offer any great advantage over the degradation of their adopted lives; they are in any case the unfortunates of society, condemned to the dirty work which others more fortunate can avoid. Nor is the moral degradation so complete as is commonly supposed. The charity of prostitutes towards one another is famous; they are capable of falling recklessly in love, though often with the most infamous of men; and no one susceptible of the highest passion of love can be held to be altogether corrupt or abandoned.

On the economic side the evil of prostitution consists in the removal from productive employment of a large number of active-bodied females. The economic argument assumes that the services rendered by prostitutes to society, and so heavily paid for by society, yield back nothing. That this is the case appears patent to all who are in the ignorantly ethical state of mind to which allusion has been made. The physiologist and sociologist are likely to hesitate long before expressing a decided opinion. A nation of "virgin" men may or may not be superior to a more ordinary nation; we have no evidence to found an induction upon. We know, however, that all the greatest and most successful and virile nations of the world support large armies of prostitutes; and we know from the law of natural selection that the organic structures, whether of an individual or of a society, are evolved to fulfil some vital need, however little we may perceive the nature of that need. If prostitution were a sheer drain on society, if the vast economic burden entailed by it upon society were balanced by no compensating circumstance, then every biological analogy suggests that all societies trafficking in prostitution must long ago have been wiped out by the ruthless operation of natural selection. We should expect to find that the successful nations were those free from the economic waste and the moral degradation involved by prostitution. But we find the opposite; and we shall perhaps see in this circumstance a reason to hesitate before we add to our condemnation of this unhappy class the charge of being utterly and uselessly parasitic upon the community.

The third evil of prostitution—the propagation of disease—is the one that strikes the public with the greatest force. We need not expatiate upon it in these columns. All medical men know its terrible realities, and rejoice to think that, although pathology is revealing to us an increasing range of the mischief, therapeutics, including, of course, prophylaxis, have made such strides that syphilis may succumb to medical attack long before any unwieldy instruments of social reorganisation can be brought into effective use.

There seems to be in the great centres of civilisation a slight decline in prostitution, while in our own country it is commonly accepted that in all the better classes of society morals are somewhat looser than they were in the Victorian age. The wider general knowledge of preventives of conception would probably tend to this result, and may account for the alleged decline of prostitution; the demands of men, being met to a larger extent by society at large, become less dependent on a specialised class. And Government suppression of that class might accelerate the progress of the modern tendencies. If these observations are speculative they indicate at all events the fact that long study and thought have still to be spent on the subject by the scientific sociologist before it is ripe to be handed back to the active propagandism of reformers and politicians.

Works on Sex Problems.

The "Questions of Sex" series, issued by the National Council of Public Morals, is admirably adapted to the purpose which the council has in view. Dr. Mary Scharlieb[3] deals with the subject on conventional lines, and her book may confidently be recommended to all young people who require information, supplied in good taste and not too much of it, on the subject of sex. Mr. Walter Heape's book[4] is admirably written and should be widely read; it is the production of an experienced man of the world. Mr. Heape holds up the banner of morality with dignity, ardour, and conviction; his book is precisely adapted to the requirements of those to whom it is addressed. Yet we seem to read occasionally between the lines that the author knows much more and would like to have said much more than could fittingly be introduced into such a book as the present. He appears at times to be somewhat cramped by his platform: a writer who might well make important contributions to the sociological and ethical aspects of the sex problem is necessarily writing below his full strength when he produces text-books of information for young people. The National Council of Public Morals are fortunate in having secured his services; few modern writers appear so well equipped to raise the subject of sex-relationship from the sphere of blind ethics to that of an inductive science. Setting aside theories, the problem centres round the following fact: that on the continent all men, and in this country a very large number of men, indulge in promiscuous intercourse at some period of their lives. Unmarried women, on the other hand, are divided into two profoundly distinct classes, one of which is brutalised by venal excess and the other condemned to total abstinence—a condition which Mr. Heape regards as pathological and even dangerous to society. When once this problem has been removed from the sphere of ignorant bigotry, and can be discussed (as in the books now under review) in a spirit of true knowledge and philosophic calm, it may still be possible to escape from the disharmony which has for so many ages divided and weakened civilised societies.

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[3] What it Means to Marry; or Young Women and Marriage. By Dr. Mary Scharlieb. London: Cassell and Co. 1914. Pp. [illegible] 2s. 6d. net.

[4] Preparation for Marriage. By Walter Heape, M.A., F.R.S. London: Cassell and Co. 1914. Pp. 163. 2s. 6d. net.

A recent addition to the Contemporary Science Series, written by Professor Robert Michels,[5] professor of political economy and statistics at Basle, and an honorary professor of law in the University of Turin, deals freely and rather romantically with many of the problems of sex as they present themselves conjugally and preconjugally. The book is readable, and the illustrative cases are frequently drawn from the works of well-known poets and novelists. The aim of the author, in his own words, is to provide "a meeting-place of a small group of selected and important problems which press themselves upon our attention and urgently demand solution." He groups the problems under the following headings—(1) General Borderland Problems of the Erotic Life; (2) Borderland Problems of the Extraconjugal Erotic Life; (3) Preconjugal Borderland Problems; and (4) Borderland Problems of the Conjugal Sexual Life, and states them, without furnishing dogmatic replies. The scientific attitude of the work is not insisted upon, but it is unsuitable for anything like general circulation.

The work of Dr. Magnus Hirschfeld[6] on homosexuality provides scope for reflection to those who call, with little knowledge, for the suppression of prostitution. Dr. Hirschfeld seems to us greatly to exaggerate the extent to which sexual perversion prevails in modern society, but he has himself seen so much that his knowledge must be received with respect. Still, where statistics are entirely and inevitably wanting, there must ever be a tendency to generalise too hastily from the cases brought before the specialist. The prevailing opinion seems to be that this particular sort of crime among men is rare in this country. Among women, where the offence is not illegal, it is currently reported to be somewhat common among the luxurious and idle classes, and the scandal of London bandies freely the names of those in high strata of society said to be thus addicted. The distribution of such nauseous talk has been, and is, in the highest degree mischievous.

PUBLIC HEALTH OF LONDON IN 1912.

(Concluded from p. 1159.)

PART II.—EDUCATION.

THE decree of the London County Council combining under one head the central public health administration, the school medical service, and the arrangements for the medical treatment of defectives has, as already seen, involved the complete reconstruction of the public health department. From the report before us it will be realised, not only that much has been already accomplished in this direction, but that more remains to be done, the changes therein detailed merely indicating the progress made up to the end of 1912.

Medical Inspection.

Section 13 of the Education Act of 1907, having imposed upon local authorities the responsibility of providing for the medical inspection of all children on admission to school, the need for coördination of the inspection and treatment of school children at once became manifest. This section gave power to make provision for preserving the health and physical welfare of the children. As regards inspection a beginning had already been made in 1889, when the late School Board appointed a part-time medical officer to advise them on medical matters generally and particularly as to the examination of candidates for permanent school appointments. When, in 1904, the County Council assumed control of the work previously carried out by the board, the school medical staff consisted of a medical officer and four assistants. There were also six oculists and six ringworm nurses. As illustrating the growth of this work in recent years, it may be mentioned that whilst in the year 1907 the number of children examined was 20,000 (of whom 6200 urgently needed treatment), in the year 1912 nearly 260,000 were examined, and treatment was actually administered to 28,000. In the early part of the latter year the work of inspection in London was performed by 64 quarter-time, 8 half-time, and 6 full-time doctors; and, later in that year, by 30 full-time and 4 quarter-time doctors, acting under the direction of 4 divisional medical officers—the doctors being assisted in their work by a staff of 90 nurses. The regulations of the Board of Education require the examination of all children on entering school life, and of children reaching school-leaving age. In addition to this the London County Council have arranged for the examination of children of 8 or 9 years old, and in urgent or special cases at other ages also. At the time of examination the children are weighed and measured, and careful note is taken of their clothing, cleanliness, nutrition, and condition of teeth. Reference to a table in the appendix shows that 36 per cent. of the children examined in the year under review were regarded as requiring medical treatment, whilst in the special class of children the percentage was 64. Of the children examined, 10 per cent. were found with enlarged tonsils, 6 per cent. with adenoids, and 5·4 per cent. with enlarged glands. Early phthisis was detected in 0·31 per cent. of the children, and other forms of tuberculosis in varying proportions. Diseases of the heart were present in 2·3 per cent., and diseases of the lungs (other than phthisis) in 3·2 per cent. of the total. 1·69 per cent. of the children were noted as the subjects of rickets, and 1·59 per cent. as being deformed—bow-legs, talipes, and chest malformations being common among younger children, and spinal curvatures among their elders, many of these defects being due to rickets.

Promotion of Cleanliness.

A scheme was devised in 1905 for dealing with the general condition of school children, the promotion of cleanliness, and the control of infectious disease amongst them. To carry out this work a permanent half-time assistant and 20 quarter-time temporary assistants were appointed in place of the six oculists. For dealing with ringworm and securing personal cleanliness a superintendent and 26 nurses were added to the staff.

Medical Treatment.

When the detailed inspection of school children was undertaken early in 1909 a further increase of the medical staff was found necessary, and at the end of that year 56 men and 12 women were employed by the Council. About this time the inadequacy of existing arrangements for medical treatment was brought into prominence. As the result of inspection the number of school children attending hospital became so great that many of the larger institutions were compelled to limit the number of their attendances on any one day. In these circumstances the Council found it necessary to devise a scheme for the more efficient coördination of inspection and treatment, and especially for increasing facilities for the latter. In the present report the story of the growth of this scheme is briefly related, but it deserves mention here that, beginning in 1910 by agreement with six hospitals, the Council had by the end of 1912 completed arrangements with 11 hospitals and 17 "treatment centres" for dealing with 54,208 children suffering from diseases of the eye, nose, and throat, or else from ringworm or from minor ailments. The proposal to include hospitals in the Council's scheme met with much criticism. It appears, however, to have been the intention of those responsible for the Act of 1907 that all voluntary agencies for treatment of the sick should be propitiated, and this view is held by the Board of Education, who advise that before the direct treatment of ailments is undertaken by the education authority out of the rates advantage should be taken of existing institutions. As the result of full inquiry and consultation with the Board the Council were convinced that the London hospitals fill, and must continue to fill, an important place in any arrangement for the treatment of school children.

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[5] Sexual Ethics: A Study of Borderland Questions. By Robert Michels. London: Walter Scott Publishing Company, Limited. 1914. Pp. 296. 6s. net.

[6] Die Homosexualität des Mannes und des Weibes. Von Dr. med. Magnus Hirschfeld. Berlin: Louis Marcus Verlagsbuchhandlung. 1914. Pp. 1068. 12 marks.

Medical Treatment Centres.

The Council have supplemented their hospital arrangements by entering into agreements with committees of local practitioners for the treatment of certain ailments at "medical treatment centres." The first of these was established tentatively at Hampstead in 1910, but was soon discontinued; a second was opened at Norwood and a third at Wandsworth. Subsequently the Council proposed to extend the system generally, but the Board of Education objected unless important modifications were agreed to. After several conferences the Board ultimately sanctioned the Council's scheme. Consequently the hope is now entertained that in the near future every district remote from hospitals will in this way be provided for. Recently effected agreements with nursing associations have been the means of providing for the treatment of discharging ears and other ailments requiring the services of a skilled nurse.

"Following Up" by Children's Care Committees.

In connexion with the feeding of necessitous children care committees were established in 1907, their functions having since been extended to include provision for "following up" by medical treatment, home visiting, and after-care. The following-up arrangements have been further improved by the assignment to each child of a special card which is kept at the school, and upon which the doctors enter particulars of defects or ailments and of the treatment prescribed. By this method each case is kept under observation until discharge. A large number of examinations of older children ("leavers") are carried out, and a leaflet has been distributed to their parents showing the disability, from a medical point of view, attaching to certain industrial employments. The "healthy hints" pamphlet has been revised, and sections have been added dealing with the care of teeth, discharging ears, and ringworm.

Cleansing Verminous Children.

At the end of the year under notice 22 nurses were engaged in securing the cleanliness of children and the treatment of ringworm. Out of 630,000 children examined, the heads or bodies were verminous in 24,000 instances; 10,000 children were cleansed by the Council's servants, and a similar number by the parents. From the foregoing it will be seen that effort is being steadily directed towards coördination of inspection and treatment, and that considerable progress has been made in developing a uniform scheme.

Fleas and Infectious Disease.

In the report for 1911 the question is discussed of the seasonal prevalence of three particular kinds of vermin—fleas, lice, and bugs. The high autumnal level of the flea and bug curves suggests comparison with the curves of diseases that have an autumnal prevalence. The mode of spread of infectious diseases is by no means completely understood, and the possibility of biting insects acting as carriers of infection cannot be ignored. In the present report this subject is further discussed, particulars having been obtained of the seasonal prevalence of fleas among the frequenters of common lodging-houses and also amongst elementary school children. These data have been represented in a diagram in which the proportions of flea-marked children in the last quarter of 1912 have been plotted out.

Control of Infectious Disease in Schools.

The rules for the guidance of teachers in dealing with infectious diseases in schools or in the children's homes have recently been revised.

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THE REORGANISATION OF THE SCHOOL MEDICAL STAFF IN LONDON.

IN order to meet the view of the Board of Education that the efficiency of the school medical service may suffer unless more variety is introduced into the work of school medical officers, and to comply with a suggestion that in certain respects the arrangements for medical inspection were capable of improvement,[1] the London County Council has decided to divide the county into five districts instead of four, the staff of each division to be under the control of a divisional officer and to consist of a nucleus of permanent medical assistants, the remainder of the staff consisting partly of full-time temporary medical assistants appointed for three years only and partly of temporary part-time medical inspectors. The Board of Education suggested that the duties of the permanent officers might be extended to include further examination of visual defects, public health work, including investigations of infectious diseases in schools, medical inspection of children in secondary schools, scholarship candidates, &c., work in connexion with special schools, research and laboratory work, and some share in the working of the administrative arrangements. Furthermore, in order to earn the full 50 per cent. grant towards the cost of medical inspection and treatment, the Board requires that provision should be made for completing the scheme of re-inspection of children found defective, including the continuous observation of tuberculous children, for special examinations in connexion with visual and aural defects and cases requiring nursing treatment, and for more complete control of outbreaks of infectious disease.

The Education Committee proposed that, as from April 1st, 1914, there should be five divisional medical officers at a commencing salary of £500 a year, rising by annual increments of £25 to £600; 15 full-time permanent medical assistants (three in each district) at salaries commencing at £400 a year and rising by annual increments of £25 to £500 a year; 20 full-time temporary medical assistants at salaries of £400 a year; and 18 quarter-time school doctors at salaries of £132 a year. The last two classes were only to be appointed for a period of three years. The cost of the increases of staff would be £6083 in 1914–15 and £7271 a year ultimately. The Council on March 24th approved appointments and re-arrangements of the school medical staff in order to fill the positions indicated above, and resolved :—

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Permission has been given for the school organisation to be used in connexion with investigations which Mrs. Frances Wood desires to carry out in certain schools with the object of ascertaining whether there was any correlation between the home environment of a child and its mental ability and physical characteristics. The work is to be carried out in the statistical laboratory of the Lister Institute of Preventive Medicine under the direction of Mr. Major Greenwood, jun.

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[1] THE LANCET, August 2nd, 1913, p. 339.

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

County of Durham.—Dr. T. Eustace Hill's last annual report contains as usual a variety of interesting information. The shire of Durham, which includes a large mining population, continues to increase the number of its inhabitants, which is now estimated at about 952,000. In 1912 the number of births was 29,671 and the deaths 13,111, giving a "natural increase" of births over deaths of 16,560. It is true that the birth-rate shows a tendency to fall—for 1912 it was 31·2, as compared with 36·9 in 1891–5—and that, notwithstanding a steady simultaneous fall in the general death-rate, the proportionate "natural increase" is now somewhat less than formerly; but even on present figures the Durham rate, if it obtained throughout the country, would occasion serious problems of over-population. The county has an excess of males: 100 to every 95·5 females, as against 106·8 females in the case of England and Wales; the preponderance is notable at all ages after 15, and no doubt signifies a large amount of female emigration as well as of male immigration. A relatively high infant mortality rate accompanies the high birth-rate, but this also has fallen conspicuously in recent years, and for 1912 was no higher than 106 per 1000 births, as compared with 95 per 1000 for England and Wales. The rural districts of Durham have a higher infant death-rate than the urban; but it has to be remembered that many of the so-called rural districts contain large aggregations of population living under urban conditions. Last year the adoption of the Notification of Births Act was made obligatory all over the county at the instance of the county council, but in the period reviewed in this report this Act was operative in six districts only. For these districts the county council appointed and maintained health visitors and nurses, and the complete scheme now contemplated will entail the appointment of 40 such visitors, on the basis of 1 to every 25,000 persons. It is proposed that the health visitors should also undertake the duties of visiting persons suffering from tuberculosis and of following up school children ascertained to be suffering from physical defects requiring attention or treatment. A notable decline has taken place in the mortality from, and prevalence of, enteric fever, in regard to which the county of Durham formerly had an unenviable pre-eminence. This must in large measure be attributed to progress in the matter of sewage and improved water-supplies, and the efforts which have been made to abolish the insalubrious middens which are so characteristic of many of the towns and villages in the county. Progress, though slow, is being made in replacing by properly constructed covered drains the objectionable open channels which are so frequently used in the colliery villages for the conveyance of slop-water and waste-water, while in Stockton and other places the local authorities have at length decided on an active policy of systematic conversion of midden privies to water closets. Much, however, has still to be done to mitigate the nuisances caused by the insanitary practice of depositing house refuse and midden contents on the footpaths and roadways to await the uncertain arrival of the scavengers' carts, to get the roads in new neighbourhoods properly made up, and generally to prevent the numerous causes of soil pollution which obtain in the mining villages and elsewhere. It is to the credit of the county council and its medical officer of health that in Durham a very active policy has been pursued for many years in regard to the improvement of housing conditions. Dr. Hill gives some specimens of useful forms for recording the results of inspection of working-class property, and shows that as a whole the various districts in the county have substantial housing improvements to their credit. The report gives a detailed account of a long-standing dispute between the county authorities and the district council of Benfieldside on the question whether the old type of miner's cottage can be made reasonably fit for human habitation by any method short of rebuilding the upper storey and raising the roof. The Local Government Board, as a result of a test case, endorsed the county view that the raising of the roofs so that the upper rooms have an average height of 8 feet would be desirable, but was unable to rule out alternative improvements, such as the provision of dormer windows and this time the inadequacy of existing arrangements for medical treatment was brought into prominence. As the result of inspection the number of school children attending hospital became so great that many of the larger institutions were compelled to limit the number of their attendances on any one day. In these circumstances the Council found it necessary to devise a scheme for the more efficient coördination of inspection and treatment, and especially for increasing facilities for the latter. In the present report the story of the growth of this scheme is briefly related, but it deserves mention here that, beginning in 1910 by agreement with six hospitals, the Council had by the end of 1912 completed arrangements with 11 hospitals and 17 "treatment centres" for dealing with 54,208 children suffering from diseases of the eye, nose, and throat, or else from ringworm or from minor ailments. The proposal to include hospitals in the Council's scheme met with much criticism. It appears, however, to have been the intention of those responsible for the Act of 1907 that all voluntary agencies for treatment of the sick should be propitiated, and this view is held by the Board of Education, who advise that before the direct treatment of ailments is undertaken by the education authority out of the rates advantage should be taken of existing institutions. As the result of full inquiry and consultation with the Board the Council were convinced that the London hospitals fill, and must continue to fill, an important place in any arrangement for the treatment of school children.

Medical Treatment Centres.

The Council have supplemented their hospital arrangements by entering into agreements with committees of local practitioners for the treatment of certain ailments at "medical treatment centres." The first of these was established tentatively at Hampstead in 1910, but was soon discontinued; a second was opened at Norwood and a third at Wandsworth. Subsequently the Council proposed to extend the system generally, but the Board of Education objected unless important modifications were agreed to. After several conferences the Board ultimately sanctioned the Council's scheme. Consequently the hope is now entertained that in the near future every district remote from hospitals will in this way be provided for. Recently effected agreements with nursing associations have been the means of providing for the treatment of discharging ears and other ailments requiring the services of a skilled nurse.

"Following Up" by Children's Care Committees.

In connexion with the feeding of necessitous children care committees were established in 1907, their functions having since been extended to include provision for "following up" by medical treatment, home visiting, and after-care. The following-up arrangements have been further improved by the assignment to each child of a special card which is kept at the school, and upon which the doctors enter particulars of defects or ailments and of the treatment prescribed. By this method each case is kept under observation until discharge. A large number of examinations of older children ("leavers") are carried out, and a leaflet has been distributed to their parents showing the disability, from a medical point of view, attaching to certain industrial employments. The "healthy hints" pamphlet has been revised, and sections have been added dealing with the care of teeth, discharging ears, and ringworm.

Cleansing Verminous Children.

At the end of the year under notice 22 nurses were engaged in securing the cleanliness of children and the treatment of ringworm. Out of 630,000 children examined, the heads or bodies were verminous in 24,000 instances; 10,000 children were cleansed by the Council's servants, and a similar number by the parents. From the foregoing it will be seen that effort is being steadily directed towards coördination of inspection and treatment, and that considerable progress has been made in developing a uniform scheme.

Fleas and Infectious Disease.

In the report for 1911 the question is discussed of the seasonal prevalence of three particular kinds of vermin—fleas, lice, and bugs. The high autumnal level of the flea and bug curves suggests comparison with the curves of diseases that have an autumnal prevalence. The mode of spread of infectious diseases is by no means completely understood, and the possibility of biting insects acting as carriers of infection cannot be ignored. In the present report this subject is further discussed, particulars having been obtained of the seasonal prevalence of fleas among the frequenters of common lodging-houses and also amongst elementary school children. These data have been represented in a diagram in which the proportions of flea-marked children in the last quarter of 1912 have been plotted out.

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Progress, though slow, is being made in replacing by properly constructed covered drains the objectionable open channels which are so frequently used in the colliery villages for the conveyance of slop-water and waste-water, while in Stockton and other places the local authorities have at length decided on an active policy of systematic conversion of midden privies to water closets. Much, however, has still to be done to mitigate the nuisances caused by the insanitary practice of depositing house refuse and midden contents on the footpaths and roadways to await the uncertain arrival of the scavengers' carts, to get the roads in new neighbourhoods properly made up, and generally to prevent the numerous causes of soil pollution which obtain in the mining villages and elsewhere. It is to the credit of the county council and its medical officer of health that in Durham a very active policy has been pursued for many years in regard to the improvement of housing conditions. 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The county appointed a tuberculosis officer in November, 1912; dispensaries have been organised for tuberculosis, and various arrangements made to obtain beds in existing sanatoriums. The county arrangements with the Durham University College of Medicine for the examination of specimens for evidence of diphtheria, enteric fever, and tuberculosis have been augmented. The privilege of sending such specimens and receiving reports free of charge extends to all medical practitioners practising in the county.

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[1] THE LANCET, August 2nd, 1913, p. 323.

County of Radnor.—Dr. L. W. Pole refers to the steps taken by the Welsh National Memorial to provide treatment for cases of tuberculosis in Wales and to the want of sufficient interrelation between the work of the Memorial and that required of public health authorities. Up to the present, Dr. Pole states, the amount of coöperation between county council officials and those of the Memorial Association has been insignificant. The time has come, he considers, for the county officer to be fully informed as to all work done in the county by the Memorial physicians. On the other hand, sanitary authorities ought to coöperate with the Memorial authorities and bring to light conditions which promote the spread of tuberculosis, especially in the matter of inspection of premises and action to deal with dampness of dwellings, want of ventilation, insufficient cubic space, and overcrowding. The housing difficulty in many parts of this county appears to be acute, and houses quite unfit for habitation cannot be closed on account of the difficulty of finding any accommodation for the families displaced. Dr. Pole represents to the county council the importance of their county medical officer of health having more time and greater facilities for investigation of housing conditions.

Urban and Port Sanitary District of Barry.—If confidence may be placed in the examinations of cows made by the dairy cows inspector in Barry this town is exceptionally free from tuberculous milk due to mammary tuberculosis. During the whole of 1913 only one case of tuberculosis of the udder was found in the course of 168 visits to cowsheds in which 1700 cows were examined. Catarrhal mammitis and various forms of udder disease, on the other hand, were frequently found, and in the case of 61 cows total or partial prohibition of the use of the milk was ordered on this account. In the slaughter-houses cows were found affected by tuberculosis to the extent of 12 per cent., steers and heifers 1·5 per cent., and pigs 1 per cent. From 200 lb. to 1000 lb. weight of tuberculous meat was condemned and destroyed each month during 1913. In view of the possibility of plague being imported by rats on grain ships and other ships arriving from suspected ports, special measures have been continued to deal with these rodents, and it is considered that the number of rats on dock premises is being diminished year by year. The medical officer of health of this district and port, Mr. G. Neale, gives special attention to the inspection of shipping, and the practice is followed of inspecting vessels immediately on their arrival, so that notices and orders as to cleansing and sanitary repairs can be executed as far as possible before the ship departs for another port. The difficulty of maintaining cleanly conditions in the living quarters of ships is specially great where, as is usually the case at Barry, the ships are employed in the coal trade. These ships frequently bring large cargoes of pit wood, which is often piled on the decks so as to obstruct the approach, ventilation, and lighting of the forecastle, in which the firemen and sailors are usually housed. When regard is had to the deficient air space, light, and ventilation of the forecastle sleeping quarters in ordinary circumstances, it seems highly undesirable that these deficiencies should be increased by the apparently unnecessary practice to which Mr. Neale here directs attention.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 7853 births and 5212 deaths were registered during the week ended Saturday, April 11th. The annual rate of mortality in these towns, which had been 15·2, 16·5, and 16·2 per 1000 in the three preceding weeks, further declined to 15·0 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these towns averaged 16·4, against 16·1 per 1000 in London during the same period. Among the several towns the death-rate in the week under review ranged from 6·3 in Ilford, 8·9 in Croydon, 9·1 in Devonport, 9·2 in Coventry, and 9·3 in East Ham and in Reading, to 20·6 in Middlesbrough, 21·0 in Gateshead, 21·3 in Barnsley, 22·7 in Rochdale, and 24·2 in Burnley.

The 5212 deaths from all causes were 418 fewer than the number in the previous week, and included 433 which were referred to the principal epidemic diseases, against 488 and 484 in the two preceding weeks. Of these 433 deaths, 150 resulted from whooping-cough, 134 from measles, 54 from infantile diarrhœal diseases, 44 from diphtheria, 39 from scarlet fever, and 12 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·2, against 1·4 per 1000 in each of the two preceding weeks. The deaths attributed to whooping-cough, which had steadily increased from 110 to 172 in the seven preceding weeks, fell to 150, and caused the highest annual death-rates of 1·6 in Middlesbrough, 1·7 in Exeter, 1·8 in Darlington, 2·2 in Rochdale, and 2·6 in Swansea. The deaths referred to measles, which had been 107, 140, and 137 in the three preceding weeks, further decreased to 134; the highest death-rates from this disease were 1·3 in Bradford, 1·6 in Leicester, 1·8 in Stockton-on-Tees, 1·9 in Barnsley, 2·1 in Middlesbrough and in Swansea, and 2·9 in Nottingham. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 73, 65, and 77 in the three preceding weeks, declined to 54, of which 13 were registered in London, 5 in Birmingham, 4 in Swansea, and 3 in West Ham. The deaths attributed to diphtheria, which had been 51, 73, and 51 in the three preceding weeks, further fell to 44, and included 9 in London, 3 in Birmingham, and 2 each in Wimbledon, Devonport, Liverpool, Bolton, Newport, (Mon.), and Cardiff. The deaths referred to scarlet fever, which had been 37, 33, and 35 in the three preceding weeks, further rose to 39; 5 deaths occurred in Birmingham, 4 in Manchester, 4 in Sheffield, and 3 in Salford. The fatal cases of enteric fever, which had been 21, 15, and 12 in the three preceding weeks, were again 12 in the week under notice, but showed no excess in any of the towns.

The number of scarlet fever patients under treatment in the London Fever and the Metropolitan Asylums Hospitals, which had been 3173, 3143, and 3182 at the end of the three preceding weeks, had declined to 3068 on Saturday, April 11th: 306 new cases were admitted during the week, against 319, 347, and 399 in the three preceding weeks. These hospitals also contained on Saturday, April 11th, 1245 cases of diphtheria, 360 of whooping-cough, 123 of measles, and 63 of enteric fever, but not one of small-pox. The 1170 deaths from all causes in London were 174 fewer than the number registered in the previous week, and were equal to an annual death-rate of 13·5 per 1000. The deaths referred to diseases of the respiratory system, which had been 250, 291, and 280 in the three preceding weeks, further declined to 219 in the week under notice, and were 128 below the number recorded in the corresponding week of last year.

Of the 5212 deaths from all causes in the 97 towns, 173 resulted from various forms of violence, and 371 were the subject of coroners' inquests, while 1406 occurred in public institutions. The causes of 32, or 0·6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Sheffield, Leeds, Bristol, West Ham, Bradford, Hull, and in 75 other smaller towns. Of the 32 uncertified causes, 8 were recorded in Birmingham, 4 in Liverpool, 3 in St. Helens, and 2 each in Bury, Preston, Huddersfield, South Shields, and Merthyr Tydfil.

In the 97 English and Welsh towns 8946 births and 5192 deaths were registered during the week ended Saturday, April 18th. The annual rate of mortality in these towns, which had been 16·5, 16·2, and 15·0 per 1000 in the three preceding weeks, further fell to 14·9 per 1000 in the week under notice. Among the several towns the death-rate ranged from 6·0 in Enfield, 6·4 in Hornsey, 6·9 in Wakefield, 7·3 in Edmonton, and 7·4 in Ilford, to 21·6 in Gloucester, 22·2 in Barnsley, 24·3 in Rochdale, 25·5 in Stockton-on-Tees, and 29·1 in Dudley.

The 5192 deaths from all causes were 20 fewer than the number in the previous week, and included 438 which were referred to the principal epidemic diseases, against numbers declining from 488 to 433 in the three preceding weeks. Of these 438 deaths, 153 resulted from measles, 117 from whooping-cough, 61 from infantile diarrhœal diseases, 50 from diphtheria, 40 from scarlet fever, and 17 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·3, against 1·4 and 1·2 per 1000 in the two preceding weeks. The deaths attributed to measles, which had been 140, 137, and

134 in the three preceding weeks, rose to 153 last week, and caused the highest highest annual death-rates of 2·3 in Nottingham and in Sheffield, 2·6 in Swansea, 2·8 in Bootle, 3·0 in Dudley, and 3·5 in Stockton-on-Tees. The deaths referred to whooping-cough, which had been 162, 172, and 150 in the three preceding weeks, further fell to 117 last week; of this number 26 occurred in London, 10 in Manchester, 7 in Birmingham, 6 in Sheffield, 6 in Swansea, 5 in Liverpool, and 4 each in West Ham, Leicester, and Bradford. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 65, 77, and 54 in the three preceding weeks, rose to 61 last week, and included 15 in London, 5 in Liverpool, 5 in Manchester, 4 in Birmingham, and 3 in Sheffield. The deaths attributed to diphtheria, which had been 73, 51, and 44 in the three preceding weeks, rose to 50 last week, of which 11 were registered in London, 3 in Bolton, 3 in Sheffield, 2 in Birmingham, and 2 in Liverpool. The deaths referred to scarlet fever, which had been 33, 35, and 39 in the three preceding weeks, were 40 last week; 7 deaths were recorded in London, 5 in Liverpool, 4 in Birmingham, 4 in Manchester, and 3 in Leeds. The fatal cases of enteric fever, which had been 12 in each of the two preceding weeks, rose to 17 last week, and included 3 in London and 2 each in Liverpool, Salford, and Sheffield.

The number of scarlet fever patients under treatment in the London Fever and the Metropolitan Asylums Hospitals, which had been 3143, 3182, and 3058 at the end of the three preceding weeks, had further declined to 2992 on Saturday last; 289 new cases were admitted during the week, against 347, 399, and 306 in the three preceding weeks. These hospitals also contained on Saturday last 1186 cases of diphtheria, 355 of whooping-cough, 115 of measles, and 68 of enteric fever, but not one of small-pox. The 1265 deaths from all causes in London were 85 in excess of the number in the previous week, and corresponded to an annual death-rate of 14·5 per 1000. The deaths referred to diseases of the respiratory system, which had been 291, 280, and 219 in the three preceding weeks, rose to 263 in the week under notice, but were 22 below the number registered in the corresponding week of last year.

Of the 5192 deaths from all causes in the 97 towns, 220 resulted from various forms of violence, and 439 were the subject of coroners' inquests, while 1478 occurred in public institutions. The causes of 44, or 0·8 per cent., of the total deaths were not certified either by a registered practitioner or by a coroner after inquest. All the causes of death were duly certified in London and in its 14 suburban districts, in Sheffield, Leeds, Bristol, Bradford, Hull, Newcastle-on-Tyne, and in 52 other smaller towns. Of the 44 uncertified causes of death, 7 were recorded in Birmingham, 7 in Liverpool, 4 in Stoke-on-Trent, and 2 each in Dudley, St. Helens, Southport, Preston, and Rotherham.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1140 births and 727 deaths were registered during the week ended Saturday, April 11th. The annual rate of mortality in these towns, which had been 16·6, 16·5, and 18·6 per 1000 in the three preceding weeks, declined to 16·5 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these Scotch towns averaged 18·2, against 16·4 per 1000 in the 97 large English towns. Among the several towns the death-rate in the week under review ranged from 11·0 in Falkirk, 11·8 in Leith, and 14·5 in Coatbridge, to 18·4 in Perth, 18·9 in Hamilton, and 24·1 in Kirkcaldy.

The 727 deaths from all causes were 92 fewer than the number in the previous week, and included 65 which were referred to the principal epidemic diseases, against numbers rising from 66 to 81 in the three preceding weeks. Of these 65 deaths, 31 resulted from measles, 12 from whooping-cough, 7 from diphtheria, 6 from scarlet fever, 5 from infantile diarrhœal diseases, and 4 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·5, against 1·2 per 1000 in the 97 large English towns. The deaths attributed to measles, which had been 38, 34, and 37 in the three preceding weeks, fell to 31. Of this number 22 were registered in Glasgow, 6 in Edinburgh, and 2 in Hamilton. The deaths referred to whooping-cough, which had increased from 8 to 15 in the four preceding weeks, fell to 12, and included 4 in Glasgow, 2 in Aberdeen, 2 in Coatbridge. and 2 in Kirkcaldy. The fatal cases of diphtheria, which had been 6, 9, and 9 in the three preceding weeks, fell to 7, and comprised 3 in Glasgow, 3 in Aberdeen, and 1 in Motherwell. The 6 deaths attributed to scarlet fever, of which 3 occurred in Glasgow, were 2 below the weekly average in the preceding quarter. The deaths of infants (under 2 years) referred to diarrhœa and enteritis, which had been 14 in each of the two preceding weeks, fell to 5, of which 2 were registered in Dundee. Of the 4 fatal cases of enteric fever, 3 were recorded in Glasgow and 1 in Coatbridge.

The deaths referred to diseases of the respiratory system, which had been 117, 111, and 166 in the three preceding weeks, declined to 137 in the week under review; and 28 deaths resulted from various forms of violence, against numbers rising from 22 to 33 in the three preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 500 births and 470 deaths were registered during the week ended Saturday, April 11th. The annual rate of mortality in these towns, which had been 20·3, 22·8, and 21·7 per 1000 in the three preceding weeks, further fell to 20·3 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these towns averaged 21·5 per 1000; in the 97 large English towns the corresponding rate did not exceed 16·4, while in the 16 Scotch towns it was equal to 18·2 per 1000. The annual death-rate in the week under review was equal to 24·1 in Dublin (against 13·5 in London and 16·6 in Glasgow), 18·6 in Belfast, 19·7 in Cork, 22·8 in Londonderry, 16·2 in Limerick, and 11·4 in Waterford, while in the 21 smaller towns the mean death-rate was 18·1 per 1000.

The 470 deaths from all causes were 32 fewer than the number in the previous week, and included 63 which were referred to the principal epidemic diseases, against 67 and 48 in the two preceding weeks. Of these 63 deaths, 37 resulted from measles, 9 from whooping-cough, 8 from infantile diarrhœal diseases, 6 from scarlet fever, 2 from diphtheria, and 1 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 2·7, against corresponding rates of 1·2 and 1·5 per 1000 in the English and Scotch towns respectively. The deaths attributed to measles, which had been 16, 34, and 26 in the three preceding weeks, rose to 37, of which 34 occurred in Dublin, 2 in Belfast, and 1 in Limerick. The deaths referred to whooping-cough, which had been 11, 12, and 10 in the three preceding weeks, were 9, and comprised 6 in Belfast, 2 in Dublin, and 1 in Cork. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had declined from 14 to 6 in the four preceding weeks, rose to 8, and included 4 in Belfast and 2 in Dublin. The 6 deaths attributed to scarlet fever, of which 3 occurred in Dublin and 3 in Belfast, were equal to the weekly average in the preceding quarter. Of the 2 deaths referred to diphtheria, 1 occurred in Dublin and 1 in Belfast; the fatal case of enteric fever was recorded in Dublin.

The deaths referred to diseases of the respiratory system, which had increased from 97 to 118 in the five preceding weeks, fell to 102 in the week under notice. Of the 470 deaths from all causes, 128, or 27 per cent., occurred in public institutions and 7 resulted from various forms of violence. The causes of 16, or 3·4 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes did not exceed 0·6 per cent.

In the 27 town districts of Ireland 623 births and 519 deaths were registered during the week ended Saturday, April 18th. The annual rate of mortality in these towns, which had been 22·8, 21·7, and 20·3 per 1000 in the three preceding weeks, rose to 22·5 per 1000 in the week under notice, against corresponding rates of 14·9 and 16·0 per 1000 in the English and Scotch towns respectively. The annual death-rate last week was equal to 26·1 in Dublin (against 14·5 in London and 16·5 in Glasgow), 21·2 in Belfast, 27·9 in Cork, 17·8 in Londonderry, 27·1 in Limerick, and 32·3 in Waterford; while in the 21 smaller towns the mean death-rate did not exceed 14·9 per 1000.

The 519 deaths from all causes were 49 in excess of the number in the previous week, and included 75 which were referred to the principal epidemic diseases, against 48 and 63 in the two preceding weeks. Of these 75 deaths, 42 resulted from measles, 14 from whooping-cough, 10 from infantile diarrhœal diseases, 5 from scarlet fever, 3 from enteric fever, and 1 from diphtheria, but not one from small-pox. The mean annual death-rate from these diseases was equal to 3·2 per 1000, against a corresponding rate of 1·3 per 1000 in the English towns. The deaths attributed to measles, which had been 34, 26, and 37 in the three preceding weeks, further rose to 42 last week, of which 39 occurred in Dublin, 2 in Belfast, and 1 in Lurgan. The deaths referred to whooping-cough, which had been 12, 10, and 9 in the three preceding weeks, rose to 14, and comprised 9 in Belfast, 4 in Dublin, and 1 in Cork. The fatal cases of diarrhœa and enteritis (among infants under two years), which had been 8, 6, and 8 in the three preceding weeks, rose to 10 last week, and included 7 in Dublin, 2 in Belfast, and 1 in Waterford. The 5 deaths attributed to scarlet fever, all of which occurred in Belfast, were equal to the average in the three preceding weeks. The fatal cases of enteric fever were recorded in Dublin, Cork, and Dundalk respectively, and that of diphtheria in Belfast.

The deaths referred to diseases of the respiratory system, which had been 113, 118, and 102 in the three preceding weeks, rose to 115 in the week under notice. Of the 519 deaths from all causes, 154, or 30 per cent., occurred in public institutions, and 8 resulted from various forms of violence. The causes of 17, or 3·3 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes last week did not exceed 0·8 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE undermentioned Acting Surgeons have been confirmed in the rank of Surgeon in His Majesty's Fleet:—Percy Boyd Wallis (dated April 11th, 1913), and Arthur Richard Sharrod, John Stephen Elliot, Albert Joseph Tonkinson, Thomas John Kilbride, John Reid Haldane, Gerald Sylvester Harvey, John Phillips Blockley, William Hoare Murray, George Herbert Hayes, Henry Charles Aylmer Tandy Cannon, and Hugh James Hopps (dated Oct. 3rd, 1913).

The following appointments have been notified:—Staff-Surgeons: N. J. Roche and T. W. Jeffrey to the *Victory*, additional, for trials of the *Isis* and *Victor* respectively. Surgeon: C. F. O. Sankey to the *Dwarf*, on recommissioning. Acting Surgeons: A. E. Panter to the *Victory*, for course of instruction at Royal Medical School, R.N. College, Greenwich, and at Haslar Hospital; and F. C. Hunot, H. B. Parker, R. F. Quinton, M. J. Aitken, J. L. Priston, J. A. Maxwell, W. G. Thwaytes, M. S. Moore, W. F. Beattie, F. E. Fitzmaurice, C. E. Greeson, T. J. O'Riordan, J. C. Kelly, H. W. Fitzroy-Williams, T. Hill, J. M. Horan, and G. M. Graham to the *Victory*, for course of instruction.

ROYAL ARMY MEDICAL CORPS.

The undermentioned Lieutenant-Colonels are placed on retired pay: Francis H. M. Burton (dated April 20th, 1914); and Michael L. Hearn (dated April 21st, 1914).

Major Edward M. Morphew to be Lieutenant-Colonel, vice F. H. M. Burton, retired (dated April 20th, 1914). Major Nicholas Tyacke to be Lieutenant-Colonel, vice M. L. Hearn, retired (dated April 21st, 1914).

Colonel C. Birt has been appointed Assistant Director of Medical Services to the Bombay Brigade. Brevet Colonel S. Hickson has been appointed Inspector of Medical Services at the War Office.

Lieutenant-Colonel R. H. Hall has been selected to hold charge of Queen Alexandra's Military Hospital at Cosham. Lieutenant-Colonel G. G. Adams has been appointed to hold charge of the Military Hospital at Secunderabad Cantonment. Lieutenant-Colonel T. Daly has been appointed to command No. 19 Company of the Royal Army Medical Corps at Chester and Senior Medical Officer North-Western Coast Defences. Lieutenant-Colonel S. Guise Moores has been appointed to hold charge of the Military Hospital at Warley. Lieutenant-Colonel H. M. Adamson has been appointed to hold charge of the Military Hospital at Belgaum Cantonment. Lieutenant-Colonel A. L. F. Bate has been appointed Senior Recruiting Medical Officer at Woolwich. Lieutenant-Colonel T. G. Lavie has joined at Malta.

Major M. H. G. Fell has been selected to succeed Lieutenant-Colonel S. Guise Moores as Deputy Assistant Director of Medical Services to the Aldershot Command. Major J. G. Gill has been appointed to the Southern Command. Major W. R. Blackwell has taken up duty at the War Office as Deputy Director-General, Medical Division. Major F. E. Gunter has been appointed to the Military Hospital at Tidworth. Major E. W. Bliss, Major J. Matthews, Major G. J. A. Orms, and Major E. F. Q. L'Estrange have arrived home from India. Major L. Cotterill has joined at Nowshera Cantonment. Major A. G. Thompson has been appointed to the Southern Command for duty. Major E. Brodribb has been transferred from Malta to Scutari. Major L. Addams-Williams has been appointed to Karachi Cantonment. Major A. H. Safford has been trans- ferred from Dublin to the Eastern Command. Major H. G. Pinches has been transferred from the Irish Command to the Chatham District. Major H. B. Fawcus has taken up duty as Instructor in Army Sanitation at the Depôt, Aldershot. Major G. H. Goddard has been placed in charge of the Military Hospital at Brighton. Major D. J. Collins has been appointed to hold charge of the Military Hospital at Kirkee Cantonment. Major C. E. Pollock has taken up duty in the Sierra Leone Protectorate. Major F. S. Penny has arrived home from Hong-Kong. Major D. E. Curme has been appointed to hold charge of the Military Hospital at Pontefract. Major R. W. Clements has arrived home for duty from Wellington. Major W. L. Baker has been appointed to the Recruiting Staff of the London District. Major H. C. R. Hime has been appointed Specialist in Ophthalmology to the Ninth (Secunderabad) Division of the Southern Army.

Captain S. Field has been appointed for duty in the Cork District. Captain M. J. Cromie has embarked for the Sierra Leone Protectorate. Captain A. H. T. Davis has been appointed Specialist in Radiography and Electrical Science to the Fourth (Poona) Division. Captain M. O. Wilson has been appointed to the Eastern Command. Captain T. B. Nicholls has been appointed to hold charge of the Military Hospital at Cyprus. Captain S. E. Lewis has taken over charge of the Military Families Hospital at Devonport. Captain E. G. R. Lithgow has been appointed Medical Officer to the Central Flying School at Upavon. Captain G. J. Keane has been appointed for special duty in Uganda under the Colonial Office. Captain A. H. Hayes has taken up duty as Staff Surgeon and in civil medical charge at Ambala Cantonment. Captain R. G. H. Tate has arrived home from India. Captain R. B. Hole has been appointed Adjutant at the Royal Army Medical Corps School of Instruction, Glasgow. Captain R. G. S. Gregg has taken up duty at Aden. Captain W. F. M. Loughnan has been appointed to the Eastern Command. Captain J. T. McEntire has been appointed to the Cork District for duty. Captain L. G. Gibson has been appointed to hold charge of the Military and Cantonment General Hospital at Amritsar. Captain C. E. L. Harding has joined at Aden. Captain H. O. M. Beadnell has been placed under orders for duty in Jamaica. Captain L. A. A. Andrews has been appointed Specialist in Dermatology and Venereal Diseases at the Military Hospital, York. Captain K. Comyn has been appointed to hold charge of the Pathological Laboratory at Gibraltar. Captain J. E. Hoar has joined at Sheerness. Captain A. M. Fraser has been appointed Specialist Sanitary Officer to the Garrison at Singapore. Captain J. R. Foster has been appointed to the Irish Command. Captain E. J. Elliott has been appointed to hold charge of the Military Hospital at Ashton. Captain S. M. W. Meadows has been appointed Specialist in Midwifery and Gynæcology at Tidworth. Captain H. C. Winkworth has embarked for India. Captain D. de C. O'Grady has been appointed to the Military Hospital at Chatham.

Lieutenant T. A. Watson has been appointed Specialist in Advanced Operative Surgery to the Eighth (Lucknow) Division. Lieutenant L. Buckley has been transferred from the Military Hospital at Rawal Pindi Cantonment to Ferozepore. Lieutenant W. W. O. Ball has been appointed for duty at Bordon Camp. Lieutenant H. Beddingfield has been transferred from Woolwich to Hounslow Barracks. Lieutenant H. S. Blackmore has been appointed to hold charge of the Bacteriological Research Laboratory at Brigade Headquarters, Bangalore Cantonment. Lieutenant S. P. Sykes has been transferred from Rawal Pindi to the Military Hospital at Jutogh. Lieutenant W. W. Pratt has embarked for India. Lieutenant T. E. Osmond has been appointed Specialist in Dermatology and Venereal Diseases to the Eighth (Lucknow) Division. Lieutenant H. J. G. Wells has been transferred from Nowshera to the Military Hospital at Rawal Pindi Cantonment.

INDIAN MEDICAL SERVICE.

The promotion of Major James Good to his present rank is antedated from June 28th, 1912, to Dec. 28th, 1911.

The King has approved the retirement of Colonel Robert Neil Campbell, C.B., C.I.E. (dated April 2nd, 1914).

Colonel C. C. Manifold has been granted six months' combined leave of absence home from India. Lieu- tenant-Colonel C. Milne has been transferred from Basti and appointed Civil Surgeon at Cawnpore. Lieutenant- Colonel P. Carr-White has been transferred from Kotah and appointed Residency Surgeon in Nepal State by the Foreign Department.

Major J. M. Wolley has been appointed to officiate as Superintendent of the Central Prison at Dacca. Major S. H. Lee-Abbott, Civil Surgeon at Ferozepore, has been granted two years' combined leave of absence home from India. Major J. W. D. Megaw, Civil Surgeon of Monghyr, has been appointed to officiate as Civil Surgeon at Cuttack. Major H. de Vere Condon has been appointed Agency Surgeon to the Native States of Kotah and Jhalawar. Major S. P. James, Assistant Director-General, has arrived home on leave of absence from India. Major W. S. Willmore has been appointed Civil Surgeon at Sitapur. Major E. A. C. Matthew has been appointed Honorary Surgeon to the Viceroy and Governor-General of the East Indies.

Captain P. S. Mills has been appointed Plague Medical Officer at Ambala. Captain H. J. Crossley has been appointed Specialist in Advanced Operative Surgery. The services of Captain H. A. H. Robson have been placed at the disposal of the Government of Bengal Presidency. Captain S. H. Middleton has been appointed to hold substantive medical charge of the 22nd Punjabis. Captain J. F. Boyd has been appointed on plague prevention duty at Benares. The ser- vices of Captain H. R. Dutton have been placed at the disposal of the Government of Bengal Presidency. Captain D. Fitz- gerald has been appointed to officiate as Superintendent of the Central Prison at Hyderabad. Captain H. Hallilay has been appointed Civil Surgeon at Lyallpur. Captain A. W. M. Harvey has been appointed Specialist in the Prevention of Disease to the Dera Dun Brigade. Captain J. F. Boyd has taken up duty at Ballia. Captain W. A. Mearns has been appointed to officiate as Superintendent of the Central Prison at Ahmedabad. The services of Captain D. D. Kamat have been placed at the disposal of the Government of Bombay.

Lieutenant D. M. Taylor has been selected for appointment as Specialist in Ophthalmology.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Cadet Thomas Warrington, from the London University Contingent, Officers Training Corps, to be Lieutenant (on probation) (dated March 25th, 1914).

TERRITORIAL FORCE.

Royal Army Medical Corps.

1st South Midland Field Ambulance, Royal Army Medical Corps: Henry Ernest McCready to be Lieutenant (dated Jan. 31st, 1914.

Welsh Clearing Hospital, Royal Army Medical Corps: Captain Ashley Bird to be Major (dated March 28th, 1912).

Attached to Units other than Medical Units.—Lieutenant Arthur H. Burnett resigns his commission (dated April 22nd, 1914).

JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

The April issue of the *Journal of the Royal Army Medical Corps* opens with a communication contributed by Colonel Sir William Leishman, F.R.S., to the discussion on anti-typhoid inoculation[1] at the International Medical Congress held in London last year, in which he claims that anti-typhoid vaccine "has made its proofs" and is "worthy of general acceptance as the strongest weapon with which we can fight this deadly scourge of armies in the field." A joint paper by Major S. L. Cummins and Major C. C. Cumming deals with Experimental Typhoid Infections in the Rabbit, and a communication by Major P. H. Falkner supplies some interesting notes on recruiting duties, being a Few Details for Junior Officers of the Corps. Major H. A. L. Howell continues the Story of the Army Surgeon and the Care of the Sick and Wounded in the British Army from 1715 to 1748. In Leaves from a Notebook Colonel R. H. Firth gives us some more of his charming cogitations, discoursing pleasantly and instructively in the present instalment on such things as the chemical action of bacteria, the chemistry of the flower colours, the colouring matter of the yolk of an egg, the living cell and its nucleus, the nutrition of man, animals, and plants, organic compounds of arsenic and antimony, diseases caused by protozoa, crystallography and the physics of solids, the future supply of motor fuel and the origin of petroleum and asbestos.

The King has given to Captain Colin Cassidy, R.A.M.C., and to Captain William Edward Marshall, R.A.M.C., permission to wear the decoration of the Fourth Class of the Imperial Ottoman Order of the Medjidieh, which has been conferred upon them by His Highness the Khedive of Egypt, in recognition of valuable services rendered by them.

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[1] THE LANCET, Sept. 6th, 1913, p. 735.

VICTORIA LEAGUE IMPERIAL HEALTH CONFERENCE AND EXHIBITION.—This conference will be opened in the Imperial Institute, London, at 3 o'clock, on Monday, May 18th, by the Right Hon. Lewis Harcourt, M.P., Secretary of State for the Colonies. The function will extend until Thursday, May 21st. The Dominion Government of Canada has appointed Dr. Helen MacMurchy as a delegate. The Hon. Sir John McCall, M.D., will represent Tasmania. The Union Government of South Africa has appointed as delegates Dr. A. W. Sanders and Dr. Gordon B. W. Messum. The British Medical Association of South Africa will be represented by Dr. J. A. Mitchell. The Leeward Islands have appointed Dr. H. A. Alford Nicholls, and Trinidad Dr. H. M. Alston as their representatives, and Dr. Atkinson is a delegate from Hong-Kong. On Tuesday, May 19th, the subjects of discussion will be Town Planning and Garden Cities and Suburbs, and Workmen's Houses and Model Dwellings. On Wednesday, May 20th, the subject will be the Care of Child Life, when papers will be contributed on Infancy and Health by Dr. David Forsyth; Sir Charles Mackellar, Australia; Dr. John McCulloch and Dr. Helen MacMurchy, Canada; and Dr. Truby King, New Zealand. There will be general discussion at every session of the conference, and popular addresses will be given daily in the Exhibition Hall. All particulars can be obtained from the office of the Victoria League, 2, Millbank House, Westminster.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(Continued from p. 1143.)

XLIV.—LONDON: PANEL PRACTICE IN STEPNEY AND ENFIELD.

I NEXT proceeded to the East-end of London and called on a panel doctor with a large following at Stepney, an area which has always been in favour of the Act. In December, 1912, 26 practitioners from Stepney attended the pro-panel meeting held in Spring-gardens; in the course of January, 1913, 40 Stepney practitioners went on the panel; and now the profession is practically unanimous. This area is between Bethnal Green and Poplar. The district has a population of 278,000 inhabitants, and there are only 67 doctors in active practice. With three or four exceptions, they are all on the panel, and two of the practitioners who are not on the panel are over 60 years of age. There are some 93,000 insured persons in Stepney. The district is a distinctly Jewish one, and of the local practitioners a large proportion are of the Jewish faith and hold club appointments for the benefit of their co-religionists. Some of these were well worth having before the National Insurance Act came into operation, for the best among them paid their medical officer a capitation fee of as much as half a guinea per annum per member. A peculiarity among the Jewish population is that they like to consult several doctors; and those who could afford it belonged to several clubs and exercised the right of choice gained by the multiple payments. While some of the old clubs paid in Stepney very well in many instances, the practitioners have now lost not only the clubs but a number of private patients who have become insured persons. Nevertheless, there is no animosity against the Act. The security and the increase of income under the Act are held to compensate. Formerly, also, the East-end practitioner was badly hit by the hospitals and various institutions. After a private patient had called once or twice, if he found his case was serious he would seek admission to a hospital. To-day, whether such a patient succeeds or not in entering a hospital, his panel doctor does not suffer any financial loss. I was assured by my informant that the people at Stepney are appreciating the benefit of the Act, and that any feeling against the panel doctors which may have existed is dying out. The patients, it is true, when they found they had to take prescriptions to the chemists, complained of loss of time and the slowness of dispensing. But these services are now better organised.

Panel Practice in the Working at Stepney.

Here, as in other parts of London, a gratified surprise was expressed that there should be so few night calls. An informant told me that out of the 1850 insured persons on his list during the whole year only two had called him out at night. The visiting also had been comparatively light among the panel patients, and it seemed to him that the paying patients sent more frequently. His good fortune must be considered exceptional, as he had not lost as many private patients as he had expected, but his case is not that of every practitioner in Stepney.

As there are many dock labourers and carmen in the district, there are numerous cases of minor surgery. The injured generally obtain a first dressing at the nearest hospital, but for subsequent care are referred to their panel doctors, and some of these patients entail visiting and dressing of wounds over long periods. But a great deal of help is obtained in such cases from the district nurses. The East London Nursing Society notably renders great service. The patients, unless they are very poor, make a donation to the nursing institution.

I had already come to the conclusion that when a panel doctor has his list made up in the main of his old patients he is not likely to be troubled very often, and what I learned in Stepney confirmed the view. The new doctor, unknown to the patients, and perhaps unfamiliar with the routine of club practice, dealing with newly insured persons, ignorant of the rules, has far and away a worse time than his experienced colleague. In short, experience teaches.

The Panel and the Women Workers.

I found that a large number of women in Stepney are now receiving medical advice who had never seen a doctor before the Act came into force. This also applied to some of the men, but was more general among women, who do not seem to make easy patients. There are many women working in tobacco and other factories in Stepney, and if such conditions as leucorrhœa or varicose veins are not unduly common among them, dyspepsia and constipation seem almost universal. The Jews, who are much more careful over their food, do not suffer so much. Anæmia is also very common, and a great deal of good is now being done by taking these complaints in hand early. In other quarters of London which are less poor, and where there is a mixture of residential and working-class population, the accounts given me of the insured women patients have differed somewhat from what I heard at Stepney. When a larger proportion of women is employed in shops varicose veins are more frequent, and also temperamental troubles to which I may make only this allusion—many women in this class bear responsibility badly; as hard worked and perhaps lowly paid assistants they enjoy good health, while as manageresses they break down.

Popularity of the Panel in Enfield.

I have selected Stepney for treatment as a type of a district occupied by a purely industrial population, but I found that the popularity of the Act was a feature also of Enfield, on the outskirts of the metropolis. There are many places just beyond the metropolitan area where the inhabitants are to a certain extent Londoners. They frequent the London shops, the London theatres, and occasionally consult the London physicians. Nevertheless, they have their local life, which is better developed than the local life of the London boroughs. Of such places Enfield is a type. A few county families still reside in the neighbourhood, and there are opportunities for good general practice among the middle classes. Several Enfield practitioners have as many private patients as insured persons to attend, and as usual the balance has to be struck between the loss from private patients becoming panel patients and the gain of regular returns.

The Enfield area is under the Middlesex Insurance Committee, and there are here 24 practitioners who at first were very determined to fight the Insurance Act. But the unanimity of action did not last long. Possibly political aggressiveness on either side led to disunion. Anyhow, those who wanted to treat the question on its own merits and not as a matter of party politics refused to follow the lead of those whom they regarded as party politicians, while those who had given pledges to resist the Government began to suspect themselves pawns in a political game. On Dec. 16th, 1912, a circular was sent round by two Enfield practitioners stating that, in their opinion, the time had come to accept service under the Act and inviting all the local members of the profession to a discussion, bearing in mind that the profession was not sufficiently unanimous to prevent the formation of a Government Medical Service. It was the old situation which I have so often described.

In response to this circular meetings, prolonged till midnight, were held and personal attacks were made. In the end, however, all decided to go on the panel, since when there has been no hostility between the members of the profession at Enfield, who in particular rejoice at their present freedom from the control of Friendly Societies.

The Question of Malingering.

This question has given rise to considerable trouble at Enfield; it is, indeed, the outstanding difficulty in the working of the Act here. At Enfield I found that the Workmen's Compensation Act was largely held responsible for the apparent excess of sickness. The victim of an accident has to suffer for a fortnight to claim compensation, so he does not want to be cured just two or three days too soon. Also, though injured, a workman may go back to light work. If he refuses to do this the employer may resent his attitude; if he does go back he is likely to lose his claim for compensation. Some workmen escape from this dilemma by exaggerating the symptoms and pretending to be too ill to undertake even very light work. So far as the law is concerned it is much better not to go back to work at all till the case is settled.

If in such cases the panel doctor regards the real condition of the patient he is likely to find himself in conflict with the insurance agent. It may be thought that the latter is particularly anxious to prevent malingering, as it costs the company he represents the sick allowance paid. This is so to a large extent when the agent represents a Friendly Society. In that case both agent and patient are partners in the society, and are therefore interested in not overtaxing their own reserve funds. But where the insurance companies act as Approved Societies neither agent nor patient is concerned in saving any money. The agent is not a partner, he has no share in the profits of the concern, but he is paid by results. The more insured persons he gets on his book and the greater the regularity of the payments they effect the larger the commission he earns. Therefore it is to the interest of the agent to be as popular as possible, and consequently he only ventures to denounce very flagrant cases of malingering. Much of the malingering is only for a short time, just to obtain a week's holiday or a few days in which to substantiate a claim under the Compensation Act. An agent who would prevent a wounded workman from getting compensation would very soon lose his popularity and livelihood.

The Bribing of Insurance Agents.

In this connexion I heard an ugly rumour which I think it my duty to repeat. I heard it—I cannot prove it. Some of the agents desire to add to their incomes by obtaining payment from the panel doctors in return for persuading insured persons to place their names on the doctors' lists. This shameful state of affairs, I was assured, prevails on a larger scale than it is pleasant to contemplate elsewhere, though my attention was drawn to it at Enfield. In these circumstances, not only are newly insured persons canvassed for, but some who were already on other doctors' lists are persuaded to transfer. The dodge employed has been, as described to me, as follows. The agent acquires some knowledge of the symptoms of various diseases, and having ascertained what is the complaint of an insured person, he professes to have had the same disease himself; and while describing the symptoms tells a wonderful story of his rapid cure by "Dr. X Y Z." The sufferer is then likely to express his regret at not being on Dr. X Y Z's list, when out of the agent's pocket come transfer forms, and out of his mouth an offer to undertake all the formalities necessary to effect the change: and thus he earns a commission from the panel doctor, and also, of course, from the insurance company if the patient is not already on their books. That medical men should stoop so low as to offer agents commissions to get them patients is very humiliating. The possibility has been hinted at in my presence on more than one occasion; but at Enfield I received more than a hint.

The Panel Approximating to Private Practice.

To turn from this unpleasant aspect of the subject, I was assured that none of the practitioners at Enfield had been hurt by the Act. Those who had been most opposed to the Act were now willing to remain on the panel. The patients, on their side, had largely benefited. Many diseases, notably pneumonia, had been taken in time, lives saved, and much mischief prevented. A very considerable number also of women were insured, and for the first time in their lives were receiving medical advice. I did not meet with any expression of opinion that favoured a State Medical Service. The Act had proved, in the opinion of the men of Enfield, more advantageous than was thought possible, and no desire for any sort of radical change was expressed, though improvements on minor points were required. The general practitioners at Enfield are now quite united. They are all on the panel, so there is no contest between the panel and non-panel doctor.

(*To be continued.*)

MEDICAL SICKNESS, ANNUITY, AND LIFE ASSURANCE FRIENDLY SOCIETY.—The thirty-first annual general meeting of this society was held in the rooms of the Medical Society of London on April 2nd, under the presidency of Dr. F. J. Allan, chairman of the executive committee. The chairman drew attention to the satisfactory state of the society's affairs, which was indicated by the fact that the membership had increased by 78. The total amount paid out in sickness benefit during the year was £19,354, while the premiums received amounted to £20,726. The total funds of the society amounted to £255,350, and during the past year the working expenses had amounted to 6 per cent. of the premium income, which he thought showed great economy in administration. The quinquennial valuation showed, in his opinion, a satisfactory state of affairs. The society was flourishing and in a perfectly sound state and would be able to continue the bonuses which it paid at death or on attainment of 65 years. A subcommittee had been appointed to recast the rules, which in their new form were submitted to the meeting. The report of the committee and the audited accounts for 1913 were adopted. The motion that the quinquennial valuation report be received was carried with one dissentient. The proposed new rules were taken seriatim and adopted with certain amendments. The meeting concluded with the election of officers and a vote of thanks to the chairman.

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

MANCHESTER.

The Summer Term at the University: Earlier Graduation.

THE summer term at the University began on April 20th. For the first time in the history of the medical faculty in 1913 the graduation day at the end of the summer term coincided with that of the other faculties at the beginning of July. In former years the medical graduation took place after that of the other faculties—towards the end of July. This year this precedent will be followed, and graduation in all faculties will take place on July 4th. In order to obtain sufficient time for the work during the summer term, the term itself begins now just after the middle of April. The winter session of 1914 will commence on Oct. 8th, some days later than usual.

Donations and Gifts to Salford and Jewish Hospitals.

The board of management of the Royal Salford Hospital in their annual report announce that the gift of £5000 promised by Sir William Mather has led to £5500 as additional subscriptions being secured, whereby the board was able to complete the whole of the large extensions commenced in 1906 without any encroachment on the invested funds of the charity. The legacies during the year comprised one of £3100 made by the late Professor Dixon Mann and another of £560 from the late Miss Ann Meredith. The contributions from workpeople amounted to £250, being a decrease on the preceding year. The Victoria Memorial Jewish Hospital a short time ago made an appeal for £10,000. Already £6500 have been obtained or promised. A memorial tablet to the late King has been placed in the hospital, and a ward is specially named the King Edward VII. Ward.

The Provision of Radium in Manchester.

The Manchester radium committee held a meeting on April 20th at the Town-hall, and approved a draft scheme for the provision of a supply of radium for the city and the surrounding districts. The following hospitals will coöperate: the Manchester Royal Infirmary, the Christie Hospital, Salford Royal Hospital, Ancoats Hospital, the Northern Hospital, St. Mary's Hospitals for Women and Children, and the Hospital for Diseases of the Skin. The radium will be stored at the Royal Infirmary and patients will be treated there, but radium being required at any of the other hospitals application can be made to the central depôt. It is proposed to establish a radium department with an expert radiologist as its head. An appeal for funds will be issued shortly. Substantial additions have been made to the Radium Fund since my last report on this question in THE LANCET of Feb. 28th. The total amount has now reached £4317. The Manchester board of guardians has also taken up the matter so far as relates to the question of providing radium for the treatment of cancer cases in the Poor-law infirmary. There are at present in the infirmary 24 such cases. The South Manchester board of guardians has passed a resolution that, subject to the consent of the

Local Government Board, radium to the value of £2500 should be purchased and that the Local Government Board should be asked to allow the guardians to borrow that sum, to be repaid during a period extending over 30 years. A similar application will be made in respect of an X ray apparatus, the loan to be repaid in 15 years. During 1913 there were 123 cases of malignant disease in the South Manchester hospital.

Excessive Sickness Claims by Women Employed in the Textile Industries of Lancashire and Cheshire.

The excessive sickness claims under the National Insurance Act by women, particularly amongst the textile workers of Lancashire, have attracted much attention. The Textile Operatives' Approved Society, with 65,385 women workers, paid for sickness in six months £24,000, an excess above the actuarial estimate of £10,500. During the six months the payments amounted to an average of 7*s.* 6¼*d.* as against the actuarial estimate of 4*s.* 4*d.* per member. From a report obtained from the secretary of the Manchester Unity of Oddfellows—which has 872,608 members, 704,950 men and 167,653 women, in all parts of the United Kingdom—we learn that the payments in the various parts of the Manchester Unity have been on the average, including both men and women, England 7*s.* 9*d.*, Scotland 6*s.* 11*d.*, Wales 9*s.* 9*d.*, and Ireland 5*s.* 2*d.* per member. It appears that sickness claims are much heavier in Wales than in other parts of the United Kingdom, which is said to be the experience of all Friendly Societies. An analysis shows that Lancashire and Cheshire are in excess of the expectation so far as women are concerned, while the figures for men are all below the expectation:—

	Actual cost.	Actuarial estimate.
Sickness claims of men (nine months):		
Lancashire	8*s.* 11*d.*	9*s.* 9*d.*
Cheshire...	8*s.* 4*d.*	9*s.* 9*d.*
Sickness claims of women (nine months):		
Lancashire	8*s.* 8*d.*	6*s.* 6*d.*
Cheshire...	7*s.* 4*d.*	6*s.* 6*d.*

The excessive sickness claims in these two counties are attributed to the large proportion of married women working in the mills.

April 21st.

SCOTLAND.

Royal Visit to Glasgow.

ACCORDING to the provisional arrangements made for the visit of the King and Queen to Glasgow on Tuesday, July 7th, their Majesties on arrival in the forenoon will proceed to the Royal Infirmary, where the new buildings will be formally opened. The King will then lay the foundation-stone of the extension of the municipal buildings, and will be entertained to lunch in the city chambers by the corporation. At the conclusion of lunch their Majesties will be escorted to the Royal Hospital for Sick Children, at which the opening ceremony of the new hospital will be performed. The next item on the programme is a visit to the Western Infirmary, where at the main doorway their Majesties will receive an address from the managers. Afterwards the Royal visitors will drive through the grounds of the University on their way to the central station to entrain for Edinburgh.

Radium for Glasgow.

The movement started recently for the purpose of securing a supply of radium for Glasgow was advanced a stage last week at a meeting of influential citizens held in the Merchants' House, under the presidency of Sir John Stirling-Maxwell. The case was very well put by the chairman, who drew attention to the extreme costliness of radium. It never would be cheap, he said, but it was calculated that in future years its value might fall by one-half. It was also possible that other and cheaper methods might be discovered of obtaining the coveted rays which radium projects. Therefore, there was a measure of business risk in the purchase. Radium itself deteriorated so slowly that there was no objection to be raised to the scheme on that score. In 2000 years its power might be diminished by half, and a sinking fund of a few shillings could meet that contingency even for a purchase on a large scale. From the scientific and philanthropic side everything was to be said for a rich city like Glasgow having a supply of the new healing agent. The Senate has agreed to put a room at the University at the disposal of the committee, and to allow Mr. Soddy, who is one of the first authorities on radio-activity, to take general charge of it. The amount the committee has been advised to purchase is 300 milligrammes, and this would be available for the hospitals, and under certain conditions for private practice. Its use would be controlled by a committee of medical men, and a specialist would have to be employed to take immediate charge of it. The sum aimed at by the committee is £8000 or £9000.

School Children in Inverness-shire.

The annual report on the medical inspection of school children in the county of Inverness is an interesting document containing as it does many references to the general state of public health in the Highland area. According to the report, while many school boards, on whom lies the onus of seeing that treatment of defects is carried out, have been endeavouring to afford treatment to necessitous cases, as a matter of practice this has been found to be impossible to any great extent in the county, the sums provided by Government for the purpose being totally inadequate, if individual boards are to deal effectively with all the cases brought under their notice, while attempts at combined effort have also failed. In the remoter districts much difficulty is experienced in obtaining medical and nursing attendance. The need for specialised medical services in the Highlands is seen from the number of children with defective teeth and eyesight, and other conditions requiring the services of a specialist. Dealing with the question of feeding the school children, one of the medical officers says: "It is simply cruelty to send a child of five or six or seven years a distance of two or three miles to school in wintry weather with no other sustenance than a piece of dry oatcake, barley bread, or scone, with the prospect on arriving home at 4 o'clock of getting a solid meal—oftener not." He describes the children as "wiry," and remarks, "No wonder they are wiry."

April 21st.

TAUNTON AND SOMERSET HOSPITAL.—The committee has decided to carry out extensive additions to the Taunton and Somerset Hospital at an expenditure of £2063. A new operating theatre, with sterilising and anæsthetising rooms, is to be erected, and the children's ward is to be enlarged. The work will be commenced shortly.

IRELAND.

The Women's National Health Association.

THE annual meeting of the Women's National Health Association was held last week in Dublin under the presidency of Lady Aberdeen. Reports were presented dealing with the various activities of the association. A pavilion to accommodate 60 children will soon be completed at Peamount Sanatorium. The association has now 155 branches and 19,000 members.

The Dublin Housing Question.

The speech of the Chief Secretary to the Lord Lieutenant of Ireland in the debate in the House of Commons last week on the housing of the working classes of Dublin has caused considerable disappointment. Mr. Birrell a few months ago was in such a hurry to get to business that he would not hear of the appointment of a Vice-Regal Commission, but now he is all for delay. Having prevented, in his anxiety to deal with Dublin, any evidence being collected concerning other towns, he now thinks "it would be very difficult to make grants to Dublin and refuse them to other towns in Ireland." Mr. Birrell's speech seems to have shelved the report of the Departmental Committee. The unfortunate fact is that last November the public gaze was directed to Dublin, and now it is directed elsewhere, and the slums are to remain with us.

Epidemic of Measles in Dublin.

Dublin is at present suffering from a serious outbreak of measles, a disease which is not notifiable in the city. In four weeks there have been 102 deaths from this cause, and on April 11th there were 148 cases in the city hospitals. The disease is of a virulent type. Many of the deaths are among children who have suffered hardship in the recent industrial dispute. The general death-rate in Dublin has been alarmingly high for some weeks; in the week ending April 11th it reached 287 per 1000.

Sir Christopher Nixon.

I am informed that the report of the impending retirement of Sir Christopher Nixon from the active staff of the Mater Misericordiæ Hospital, to which I gave publicity last week, is incorrect. The distinguished physician has had a severe attack of influenza, from which there has been a retarded convalescence. He hopes, however, to take part in the work of the current session.

City Rates in Dublin and Belfast.

Last year the Dublin city rates amounted to 10*s.* 4*d.* on the north side of the city and 10*s.* 1*d.* on the south side. The rates which have just been imposed for the current year are 11*s.* 5¼*d.* on the north side and 10*s.* 9¼*d.* on the south side, being an increase of 1*s.* 1¼*d.* in the one case and 8¼*d.* in the other. In Belfast last year the municipal taxes (including Poor- and water-rate as in Dublin) were 7*s.* 1*d.*; this year they are 7*s.*

Scarlet Fever in Belfast.

There has been a further recrudescence of scarlet fever in Belfast, 52 cases having been notified during the week ended April 11th, as compared with 42 cases in the previous week and 25 cases in the corresponding week of last year.

Remarkable Weather for April.

It is many years since we had such warm weather in April as we have been experiencing during the past week in the north of Ireland, but unfortunately, owing to the want of any advance in road-making, the dust nuisance has become a veritable danger to health. Indeed, a cause of the sickness incidence in Belfast may well be the clouds of dust present in dry weather.

Poliomyelitis in County Tyrone.

I regret to report a further outbreak of acute poliomyelitis on the Tyrone shores of Lough Neagh. During the past week, in a farmer's house, the father, mother, and six children have been attacked, and two of the children—a boy aged 9 years and a girl aged 3—have died, while all the others are in a critical condition. It is really time the Local Government Board made some scientific investigation of these repeated outbreaks of this disease in Tyrone.

April 21st.

PARIS.

Proposed New Legislation as to the Care of the Insane.

MANY books, novels, and plays have been based on the supposed danger in France for a sane person of incarceration as a person of unsound mind at the instance of the family or heirs and from interested motives. Such cases have been very rare. Nevertheless, a Bill has been introduced into the Senate by M. Strauss to increase the discretion of the magistrates in such cases at the expense of that of the medical profession. This Bill, referred for consideration to the Académie de Médecine by the Ministry, provides that within three days of a committal the court must be advised thereof. When such committal has lasted for six months it may be made definite by judgment of the court. Nearly all alienists have protested against these provisions, and the Academy has now received from Professor Thoinot the report of its special committee of inquiry, which advises the rejection of the new provisions and recommends the continuance of the existing law with slight modifications. In support of these conclusions, M. Gilbert Ballet showed that the new law, in its desire to protect an insane person against arbitrary confinement, subjects him, and especially his family, to a greater wrong. Many patients now provisionally confined are cured in a few weeks by isolation and appropriate treatment, and return to civil life without the cause of their temporary absence being suspected, protected as they are by the secrecy of the medical profession. But the intervention of a court in the first three days would make the situation known to a *personnel* of magistrates, clerks, and employees under no such pledge of secrecy, whose lack of discretion, especially in small places, might compromise the moral and material position of the patient, and in the case of a woman her reputation, her chances of marriage, and her position in her family. Many families having members needing care would recoil before the publicity involved, and would send the patient to less exacting foreign institutions, especially those of Switzerland. As to the subsequent decision of the court after six months to prolong the confinement of those adjudged dangerous to themselves or others, it would amount to a sentence of imprisonment by an authority incompetent if the court alone decides, and useless if the court is merely to register the hitherto sufficient decision of the medical expert, while importing the harmful element of publicity. M. Ballet holds that so far from deserving the ignorant censure of novelists for their arbitrary rigorousness, the medical officers of asylums have too often prematurely released insane persons temporarily improved by isolation and quietude. He cited the case of one person three times confined and released on the demand of his family, who on each release had committed a murderous assault (*assassiné une personne*). M. Ballet urged that even when the asylum fulfilled the function of a prison in preventing the insane person from doing mischief it should preserve its medical character and remain under medical control. M. Magnan, physician to the Asile Ste. Anne, stood alone in favouring the new Bill.

The Bath as a Mode of Vascular Gymnastics.

M. Dausset and M. Henriot recently reported to the Académie de Médecine some original investigations on the use of baths to restore elasticity to the peripheral vessels. They put the patients into a bath at 98·6° F., which was then gradually raised to 113°, and slowly lowered to 86° and even to 68°, according to the tolerance of the patient. The peripheral vessels thus undergo a mild but energetic vaso-dilatation followed by vaso-constriction, which restores the vascular elasticity in arthritics and regulates irregularities of arterial tension. The treatment appears to be without danger, and those submitted to it learn to sustain without discomfort huge variations of temperature in a few minutes. The variations of tension must be controlled by the pulse during the procedure.

The Congresses.

Eastertide is the season of special congresses. Cannes, has recently been the meeting place of a Congress of Thalassotherapy, its entire session being devoted to the study of marine heliotherapy. Professor Albert Robin presided. At Paris the Congress of Physiotherapy of French-speaking Physicians and the Congress of Learned Societies have taken place simultaneously. The last named devoted only one meeting to medical science. Dr. Magnan and Dr. de Lariboisière reported to it an ingenious method of estimating the superficies of the human body. They covered the entire body with a layer, as thin as possible, of a mixture of 26 grammes of white lead and 100 grammes of linseed oil. The person thus treated is weighed, and this weight compared with that before the application of the layer gives the quantity of the material of the layer. The weight of the material requisite to cover a square decimetre having been determined accurately by very many experiments, the entire surface covered by it on the body can be ascertained with some accuracy. The Congress of Physiotherapy was professionally the more important. Under the presidency of Professor Maurel, of Toulouse, many French and foreign medical men—especially Belgian, for the congress was organised conjointly with the Societies of Radiology and Electrotherapeutics of Brussels—were assembled. Among those present were Dr. F. Howard Humphris and Dr. Cyriax, of London, Dr. Salomonson, of Amsterdam, and Dr. Edmundo Xavier, of Rio Janiero. Professor Landouzy, in opening the congress, counselled physiotherapeutists to study with precision the real causes of the conditions they treated before choosing the particular physical measure appropriate to the case. M. Maurel reviewed recent progress in regard to the physiological action of the principal agents of physical therapy, light, heat, cold, various radiations, &c. The following subjects were on the order of the day: the rôle of various physical agencies, and particularly of movement, in psychasthenias, the physical agents in gout, ankyloses, myopathies, lupus vulgaris, and ptoses. Of individual communications a large number dealt with the treatment of cancer by physical agents. Particularly noteworthy was a communication from Dr. Doyen, who denied any value in this respect to radium and the X rays, which he accuses not only of being useless, but even of favouring the development of the neoplasm. In his opinion the only efficacious treatment consists in local elevation of temperature to a point that kills the cancer cells selectively, the healthy tissues remaining unaffected. To this end the high-frequency current is most useful. The congress concluded with a kinematographic demonstration by Professor Bergonié, of Bordeaux, of the physiotherapeutic methods of treating infantile paralysis, especially such methods as permit the exercise of walking. There was an important exhibition of newly invented apparatus for physical therapy.

April 20th.

VIENNA.

Large Donations for Charitable Purposes.

WITHIN the last four weeks we have had the pleasant but too unusual experience of learning that wealthy men have been giving away large sums of money for philanthropic purposes in this city. One donor has given 300,000 kronen (£12,500) for the care of mothers and infants, which sum will be handed over to the institute erected some time ago with the object of reducing the mortality of infants. Another sum, which will exceed 1,000,000 kronen, is the gift of a well-known politician who is retiring from public life and is desirous of conferring substantial benefits on nine of the chief charitable institutions of Vienna, including the Hospital for Incurables, the Free Ambulance Corps, and the Cancer Hospital. The conditions of this gift are such that the whole of the money will be devoted to relieving patients of the poorer classes, and care has been taken to guard against the Government pursuing its usual policy of appropriating large sums from these charitable grants in the shape of rates and taxes. In a third instance a tailor who had made a fortune in his business has presented the Wilhelminen Children's Hospital with 3,000,000 kronen and a large estate in a rural district. Hitherto the numerous children who have been treated in the hospital for any infectious disease—such as measles, diphtheria, scarlet fever, or any other infectious disease—have on their recovery had to return to the unhealthy surroundings of their homes, but this munificent benefactor now wishes these children to be sent from the Wilhelminen Children's Hospital to the country for convalescence. There has not until now been any satisfactory method of dealing with the young convalescents at this hospital, which draws its patients from the poorest classes of the population; but in future the generous gift which has been placed at the disposal of the institution will enable about 600 children every year to spend at least four weeks in the country.

Government Provision for Tuberculous Patients.

The Government has ordered a sum of 1,000,000 kronen per annum to be employed for the next ten years in order to provide institutions for the treatment of tuberculous patients. Really effective places of this kind are rather uncommon in this country; in fact, with the exception of several small private establishments which are decidedly expensive, there is only one in Alland into which the poorer part of the population can try to obtain admission; it has accommodation for 150 patients, with a children's pavilion containing 64 beds. This institution will now be enlarged by about 100 beds, and in several other suitable places all over the empire such sanatoriums will be erected. Furthermore, in Tyrol the Government has begun the building of a "sunlight" treatment institute according to the system of Dr. Rollier, at Leysin, in Switzerland. It will be at an altitude of over 6000 feet above sea-level, and will be devoted chiefly to the treatment of surgical tuberculosis. By this method results successful beyond anything that could have been expected have been obtained, but it must be added that the recovery is slow, and that from one to two years of constant open-air life may be required.

The New Income-tax Regulations and the Medical Profession.

At the beginning of the present year new income-tax regulations were adopted by Parliament, and some of the items are of great interest to the medical profession. Whilst the limit of exemption from taxation has been slightly raised (1600 kronen, or £66), the general percentage of the tax has been raised by an amount varying from about 2 to 5 per cent. In future every person having a taxable income must make a correct return of it to the officials, and if intentional misstatement is discovered the delinquent may have to forfeit a sum equal to 10 times the amount of the tax. All medical men connected with private surgical homes, sanatoriums, and the like will have to inform the officials as to the number of operations performed there and as to the fees received by the medical advisers, who will also have to show their books in disputed cases. This will raise questions of professional secrecy and the medical corporations are taking action for the purpose of remedying such grievances. One section of the new regulations provides that the income-tax of bachelors and spinsters shall be increased by 15 per cent., whilst married couples without children or with only one child will have to pay 10 per cent. more than the ordinary tax; families with four or more children may claim a deduction of about 5 per cent. per child if the children are living with their parents.

April 2nd.

UNITED STATES OF AMERICA.

Bills to Legalise the Practice of Osteopathy and Christian Science in New York State.

Two Bills have just passed the Legislature of New York State which are likely, if they receive the Governor's assent, to do great harm. One of them will relieve Christian Science practitioners of the fear of prosecution if their patients die under treatment, and will place the practice of Christian Science on exactly the same plane as that of medicine or surgery, and incidentally will favour the extension of infectious diseases. The other Bill is intended to place the osteopath on practically the same footing as the regular practitioner of medicine. The medical profession of the State is up in arms against the Governor signing these Bills, and it is hoped that sufficient influence may be brought to bear upon him.

Pellagra.

The Thompson-McFadden Pellagra Commission of the New York Post-Graduate Medical School and Hospital a short time ago issued its "first progress report" on its investigation of the disease in the Southern States. While the Commission has failed so far to discover the specific cause of pellagra, its investigations seem to point to the fact that it is transmitted by the stable fly. The members of the Commission do not agree with Professor Louis Sambon, of the London School of Tropical Medicine, that pellagra is transmitted by the simulium (buffalo gnat), but with him they reject the theory that spoiled maize is the essential cause of the disease, which has attacked at least 50,000 residents of the Southern States. As to the infectious nature of pellagra, the Commission considers that the higher incidence of it in the more populous districts, the indications of its occurrence in definite foci, and the definite tendency to self-limitation of the attack in the absence of specific therapy and during continuance of a maize diet, strongly support this conception. A comprehensive consideration of the insect life in Spartanburg County, South Carolina, where the investigations were undertaken, suggests that, if the distribution of pellagra is to be accounted for by a blood-sucking insect, the Stomoxys calcitrans is the most probable insect carrier. Congress has authorised the establishment of a hospital at Spartanburg for the care and study of patients with pellagra.

National Committee of Mental Hygiene.

At the sixth annual meeting of the National Committee of the Society for Mental Hygiene, held in New York on March 10th, Dr. Lewellys F. Barker, professor of medicine at Johns Hopkins University Medical School, was elected president; Dr. William H. Welch, Baltimore, vice-president; Dr. Thomas W. Salmon, New York, director of special study; and Mr. Clifford W. Beers, New York, secretary.

The Study of Animal Diseases.

It has been announced that Mr. John D. Rockefeller has given $1,000,000 for the purpose of studying the diseases of animals. This gift is timely in view of the recent activity of the anti-vivisectionists in the United States, and especially in New York.

The late Professor Joseph D. Bryant.

The United States loses one of its prominent surgeons through the death in St. Vincent's Hospital, New York, on April 7th, of Dr. Joseph D. Bryant. Dr. Bryant had suffered for some time from diabetes, to which complaint, I understand, he succumbed. Joseph Decatur Bryant was born in 1845 at East Troy, Wisconsin, and was therefore 69 years of age. He received his early education at the Norwich Academy in New York, and his medical education at the Bellevue Hospital Medical College, where he graduated as M.D. in 1868. He became an interne at Bellevue, and in 1871 was appointed assistant to the chair of anatomy. From that time he held several professorial posts there in succession in anatomy, general and surgical, clinical and orthopædic surgery, and, on the amalgamation of this medical school with that of the New York University in 1898, he became professor of surgery to the conjoined schools, which post he held up to the time of his death. He had filled many important offices, among them health commissioner of the city of New York, president of the New York Academy of Medicine and of the American Medical Association, and Surgeon-General of the State of New York. He was a Fellow also of the newly established American College of Surgery.

He published a valuable work on operative surgery, and the concluding volume of the "American Practice of Surgery," which he edited in conjunction with Dr. Albert H. Buck, was reviewed in THE LANCET with great commendation of the entire work.

The Death of Dr. Egbert Le Fevre.

Dr. Egbert Le Fevre, of New York, died on March 30th, after four days' illness, from scarlet fever, and his sudden death has come as a shock to all his friends. He was of French Huguenot origin, the son of James Le Fevre, D.D., was born in Raritan, New Jersey, on Oct. 29th, 1858, and was educated at Rutgers College School, New Brunswick, New Jersey. He graduated in arts at Rutgers College in 1880, and in medicine at New York University in 1883. He became visiting physician to City (Charity) Hospital of New York in 1895. He was also dean of New York University and of Bellevue Hospital Medical School, attending physician to St. Luke's and consulting physician to Beth Israel Hospitals. He had already held various professorships at the Medical College of New York University, when, on the consolidation of this institution and Bellevue Hospital Medical School in 1898, he became professor of clinical medicine and therapeutics there. He was a Fellow of the New York Academy of Medicine. Dr. Le Fevre was a man of imposing presence, upwards of 6 ft. 4 in. in height, and large in proportion. He was exceedingly popular, and had one of the largest consulting practices in New York City.

April 2nd.

INDIA.

Sir Arthur Sloggett's Farewell.

IN a circular memorandum bidding farewell to the medical services in India Sir Arthur T. Sloggett conveyed his thanks to all the administration and executive officers of both the Royal Army Medical Corps and the Indian Medical Service for the loyal support and coöperation extended to him by all ranks, and stated that he carried away with him the happiest recollections of the six years he had spent in the country.

Extension of Tenure of Director-General, I.M.S.

Surgeon-General Sir C. Pardey Lukis, K.C.S.I., has been offered and has accepted an extension for two years of his tenure of Director-General, Indian Medical Service, which would otherwise expire on Dec. 31st, 1914.

Control of Leprosy.

The Secretary of State has sanctioned the strengthening of the bacteriological department by 15 new appointments.

Tuberculosis in India.

At the Lucknow Sanitary Conference in January last it was decided that in view of the present prevalence of tuberculosis in India serious attention and special measures for dealing with the disease were demanded, and that one or more officers should be placed on special duty to study in detail the different problems connected with it. It is understood that arrangements are in progress for the employment of Dr. A. C. Lankester, who has given special attention to this particular subject, for the investigation, and he will shortly start a tour throughout India with this object. He will give lectures and make general inquiries into the prevalence, distribution, and special causation of the disease in India. At the conclusion of this tour he will prepare a special report embodying the results of his inquiries for the information of the governing body of the Indian Research Fund Association, which is financing the scheme.

School of Tropical Medicine, Calcutta.

At a recent meeting of the Calcutta municipal corporation a resolution was adopted reducing the amount of contribution to hospitals by one lakh of rupees and reserving that amount for contribution to the hospital proposed to be attached to the School of Tropical Medicine.

Appointment of Serologist in Calcutta.

The following press *communiqué* has been issued by the Home Department: In recent years much progress has been made in applying biochemical tests to the origin of blood stains, and these have been found to be of great value in medico-legal practice for some time. Lieutenant-Colonel W. D. Sutherland, I.M.S., has been working on the subject in Calcutta and training others in his methods. The results achieved have been such as now to justify more formal arrangements, and it is proposed to employ Lieutenant-Colonel Sutherland for a period of two years in the first instance as a serologist in Calcutta to whom cases may be sent from any part of India. The work is of an expert character and demands special equipment and facilities. It is thought that it will be performed more expeditiously and satisfactorily by one officer than at different provincial centres.

Pure Milk for Bombay.

A company has been registered in Bombay with a capital of a lakh of rupees for the supply of pure sterilised milk. Mr. Ratan Tata is chairman of the directors of the new company. Shares have been privately subscribed and the object is a philanthropic one, being to enable the residents of Bombay to secure milk guaranteed to be pure. It is not proposed to attempt to supply the whole of the city, but an effort will be made to supply milk required for infantile consumption. It is proposed to establish near Bombay, and probably in the Salsette district, a dairy farm with some four acres or so of grass land, and on the farm there will be one or more stables or cowsheds erected on up-to-date sanitary principles with sufficient accommodation for 100 animals.

Leprosy in Bombay.

The Government of Bombay has just issued a short pamphlet entitled, "Leprosy and its Control in the Bombay Presidency." The pamphlet first quotes the latest expert opinion on the degree of contagiousness of the disease, and defines the limits within which restrictions on and segregation of lepers are justifiable. It next sketches the Lepers Act, and explains how it has been applied to a large number of the municipal districts in the Presidency proper. It details the measures taken to provide accommodation for lepers in new asylums and by enlarging and improving existing asylums, and shows that special attention is to be paid to the care of the untainted children of leprous parents. Finally, mention is made of the machinery necessary for the working of the Act.

Madras Hospital Removal.

The Government of Madras in a recent Order has directed the removal of the General Hospital and Medical College, Madras, from their present site and reconstruction on the Spur Tank, which "satisfactorily fulfils the conditions required and, indeed, affords the only solution of the problem."

Plague Passports.

It is understood that the Madras Government contemplate the abolition of the plague passport system in the near future, and the introduction in its place of a system under which people arriving from infected areas will be required to notify local authorities of their arrival. The matter is now engaging the attention of the Government.

Plague in Bihar.

Reports received by the press and from private sources state that plague is playing havoc in many of the towns and villages of Bihar, and there is quite a panic among the people owing to the virulent form in which it has broken out. This year the visitation appears to be worse than ever before.

Plague in the Punjab.

Mortality from plague in the Punjab has steadily increased during the current month. There were 2314 cases with 1702 deaths in the week ended March 14th. Every district except Lahore is now infected.

Agra Medical Students' Strike.

The medical students at Agra struck on March 15th. They left the hostel and passed the day and night in open spaces. Maltreatment is alleged to be their chief complaint. The authorities deny the students' version, and say that they were in the dark as to this development, which took place with great suddenness and secrecy. Until evening the students were playing games, and there was no inkling of any grievances on their part. The authorities believe this to be connected with the Lahore medical students' strike, but cannot give any definite cause with certainty.

Successful Use of Storaine at Bangalore.

Two successful major operations have been performed by Major R. F. Standage, residency surgeon at Bangalore, who used the spinal anæsthetic known as stovaine, in the presence of the local surgeons. Major S. G. S. Haughton, R.A.M.C., who is travelling through India to familiarise the hospitals with the use of the drug, demonstrated the technique to the meeting.

March 18th.

Correspondence.

"Audi alteram partem."

THE RELATION OF TUBERCULOSIS AND TYPHOID FEVER.

To the Editor of THE LANCET.

SIR,—I should like to make a short comment and criticism on the annotation in THE LANCET of April 4th with the above heading, to which my attention has been drawn.

Without an actual record of the figures of my cases and of those of my colleagues at the London Hospital it would be rash to deny that tuberculosis ever follows typhoid so closely that its onset and development can be attributed directly to the influence of the typhoid, but I cannot recall to mind any such case having occurred, and I should require details of a large number of cases before being convinced of such a sequence between the two diseases. If, however, such a sequence has been observed by those competent to express an opinion, founded on an observed frequency of result, I would then be in hearty agreement with Colonel Woodruff's view that it must in some way be due to too rigid an observance of the old canons of the dietetic treatment of typhoid patients.

If I am right, as I believe I am, in saying that I have not observed tubercle following on typhoid, while other observers note the frequent sequel, the difference must be due in some way to the treatment I adopt. For many years now I have discarded altogether any routine in the dietary of my typhoid patients and have adopted a plan which, summed up in a sentence, is: "Feed a typhoid according to his appetite," controlled *only* by frequent examination of his abdomen and stools, the former giving a very early warning of any tendency to distension, the latter being a measure of the completeness of digestion (all ordinary articles of diet being allowed except fruits with small seeds, grapes being especially forbidden owing to the almost hooklike tip of their pips).

My first published article on the subject appeared in the *British Medical Journal* for 1906, and in that article I pointed out that I had never had any reason to regret my line of practice, and I can say that my experience since has *not* led me in any way to modify my views. There was also another very striking point which I brought out—viz., that having adopted my plan for some years before I published my results, I had practically forgotten that there were such things as complications and sequelæ of typhoid, because I had seen so few examples amongst the 200 or so cases upon which my paper was founded; I had had my proportion of deaths from toxæmia, but my proportion of complications and sequelæ was almost infinitesimal, while I gained nearly a fortnight in the average duration of the stay in hospital. I published a fuller article on the matter in the *American Practitioner* for May and June, 1913.

I am, Sir, yours faithfully,

Harley-street, W., April 20th, 1914. FRED. J. SMITH.

TONSILS AND ADENOIDS IN CHILDREN.

To the Editor of THE LANCET.

SIR,—The plea for fewer operations made by Mr. T. B. Layton in THE LANCET of April 18th is very timely. As a responsible school medical officer I may say I have from the first fostered a conservative attitude on this subject. Undoubtedly the removal of tonsils and adenoids in carefully selected cases is an operation of the highest possible value, and should be urged as a necessity. There are, however, two or three points raised in Mr. Layton's paper, which I propose briefly to comment upon, as my own experience has led me to exercise my judgment.

1. The presence of carious teeth and septic mouths as a cause of glandular enlargement. Not many months ago I was asked to issue a voucher for an operation on the tonsils of a school child who had not been previously medically inspected under the Act of 1907. I was informed that the local doctor had said that removal of tonsils was necessary. As I strongly hold that no vouchers for operation should be issued by an education authority unless the child has been previously medically inspected, I made arrangements to see this child myself when visiting the neighbourhood in connexion with some county work. The tonsils were only moderately enlarged and were, in my opinion, distinctly consequent upon eight carious teeth in the child's jaws. To have removed the tonsils with the mouth in such a condition would, in my opinion, have been bad surgery. I declined to issue a voucher for removal of tonsils, and pointed out that the dental surgeon was the proper person to deal with the case. I shall be disappointed if the tonsils do not undergo

spontaneous cure when once the teeth are properly attended to.

2. The second point is with respect to infection with scarlet fever, &c., as a post-operative complication. With all due respect, I beg to differ from Mr. Layton that the disease is incubating in the child when the operation is done. On the contrary, I am of opinion that the mechanical injury to the tissues inseparable from the operation is an evolutionary factor which enhances the pathogenicity of some almost ubiquitous mouth micro-organism and directly produces a *de novo* case of scarlet fever in a susceptible child.

The evolutionary factor is unquestionable in post-operative pneumonia, as admitted by Mr. Layton, and I am of opinion from cases which have come under my observation that it is equally responsible for some of the cases of post-operative scarlet fever. (We sometimes see a similar sequel after burns.) The practical suggestions made by Mr. Layton as to preliminary use of formalin tablets for a few days before operation, and the adoption of Professor Killian's rule "never to operate if the temperature be above 99° F., deserve wide recognition and adoption.

I am, Sir, yours faithfully,
J. T. C. NASH.
Norwich, April 20th, 1914.

THE RAPID INCREASE OF DIABETES IN WOMAN.

To the Editor of THE LANCET.

SIR,—Until quite recently we were accustomed to look upon diabetes mellitus as a disease which attacked males much more frequently than females, the proportion being, in fact, about 3 to 1. During the last 25 years, however, there has been, at least in this country, an extraordinarily rapid increase of the disease in both sexes, and such a much more marked increase in the case of females than males that the records even of the Registrars-General of England, Scotland, and Ireland respectively would seem to indicate that very soon the frequency of the disease in females will surpass and greatly exceed that in males.

The following returns of death from diabetes specifically as furnished by the three Registrars-General of the United Kingdom, cannot fail to make us apprehensive that some prejudicial change in the mode of living in this country must have taken place during the last quarter of a century which is accountable for the great and rapid increase of the disease.

Deaths Registered from Diabetes in England and Wales.

Year.	Males.	Females.	Total.
1890	1076	787	1863
1900	1455	1312	2767
1911	1936	1917	3853
	In Scotland.		
1890	45	56	101
1900	154	166	320
1911	206	239	445
	In Ireland.		
1890	115	65	180
1900	162	106	268
1911	203	193	396

From the aforesaid returns, moreover, it is impossible for us to form anything like an adequate idea of the alarming increase of diabetes, for it must be remembered that very many more diabetics die every year than the returns of the various Registrars-General disclose. A state of hyperglycæmia lowers the resisting powers of the body and so renders the individual more susceptible to other diseases, to diseases which are apt to prove more fatal than usual because of the excess of sugar in the blood, and under such circumstances the death is registered under the intercurrent and not under the fundamental disease. The existence even of the diabetic state may neither have been known to the patient nor the medical attendant, and it may have escaped detection, for it is well known that during acute febrile diseases in diabetics the sugar often disappears temporarily from the urine.

It is undoubtedly a noteworthy fact that in the case of Scotland the death returns from diabetes are in 1911 quadruple what they were in 1890, and that in Ireland as well as England the specific death-rate from this disease is to-day twice what it was 25 years ago. Confronted with such facts we are impelled to believe that the great and rapid increase of the disease must be due to some influence or influences of a prejudicial character which have become more prevalent during the last quarter of a century. In my opinion the most important retrograde change in our mode of living which is disturbing the metabolic processes in our bodies and rendering us more susceptible to a state of hyperglycæmia is that which concerns our foodstuffs. Twenty-five years ago the question of adding chemical preservatives to our foodstuffs was unthought of, the practice of polishing rice and thus depriving this cereal of some of its most important mineral substances was unknown, and so, too, was the roller process of milling wheat as well as the bleaching of an already too impoverished flour. If the metabolic processes in our bodies are to be maintained *efficiently* the ingested foods will have to be more *wholesome* and less tampered with than they are *to-day*.

I am, Sir, yours faithfully,
JAMES OLIVER, M.D. Edin., F.R.S.E.
Harley-street, W., April 11th, 1914.

ALLEGED MALINGERING UNDER THE INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—The return of many insured patients to work on the appearance in their district of the medical referee has been widely commented upon. It has been hailed as an administrative triumph and as defending the Insurance Act, if not from the fear of its enemies, at least from danger of impending bankruptcy. A sympathising press has spilt much ink and shed virtuous tears over the wickedness of fraudulent patients and conniving doctors, as if further inquiry into the merits of the case were needless, and nothing remained to be attended to but the punishment of the guilty. The surprising thing has been that members of the medical profession should have been ready to join in the general outcry, and this fact it is which, perhaps more than anything else, accounts for the partly perplexed and mainly indignant feeling among panel practitioners.

In order to ascertain what foundation there may be for the allegations that have been made, I have looked up my notes of the few cases of my own in which the question of malingering has been raised, with results which have seemed to me instructive, and am writing this in the hope that others may be led similarly to examine the matter for themselves, and, it may be, to take a more favourable view of the *morale* both of the insured and of the insurance doctors than seems at present to prevail. The cases to which I wish to invite special attention constitute the majority of those patients of mine against whom accusations of fraud have been made or insinuated, and while not concerned to defend all their proceedings or to cast any aspersions on the skill and impartiality of the referee, I am bound to say that they did not at the time, and do not now, appear to me to have been cases of malingering at all. What they were and how far deserving of the treatment they received will be best indicated by three quite recent examples.

First, there is the case of a half-witted girl aged 19, rheumatic and neurasthenic, with a weak heart and frequent localised neuritis, who midway in one of her many illnesses went off the sick list, not because she felt able for work, but because she "was worried by the health visitor," and had before her eyes the fear, to her a very terrible one, of the medical referee. Next is the case of a teacher, aged 34, of extremely poor physique and not over strong mentally, recommended to take a long rest, but advised by the visitor that "although unable to teach she ought to find other work, which she could do," deterred from claiming sickness benefit through fear of being accused of fraud, and in the end throwing herself loyally on the charity of friends in order to obtain the prescribed rest. And, finally, there is the case of a barman, aged 27, with a valvular heart lesion and the peculiar type of combined physical and mental inefficiency which results from what is euphemistically called poor living, but what in his case was, in fact, chronic semi-starvation. The repeated catarrhs with slow recoveries, which form a large part of this man's insurance record, drew the attention of his Approved Society, who sent him a summons to appear before the medical referee. In this instance—and I am sorry to say that it is the only one of the kind I have to record—the zeal of the sham-detectors was unrewarded. In other respects they had planned the affair admirably, but a small oversight spoiled all. They had raided their victim at a time when he was not merely drawing no sick pay, but was actually at work earning his living.

The point in these illustrations, which it is the object of this letter to press home, is that under the Insurance Act we have to do with a very large number of persons who by constitution are, and must always remain, incapable, even under the most favourable conditions, of earning their living steadily and permanently; who, when they fall ill, require long periods of rest in order to recover, but who, as things are at present, have every inducement to resume work before they are in a fit state to do so. We have to ask ourselves whether it is right that such unfortunates should have constantly held over them the dread of being denounced as malingerers. Behind its somewhat cumbrous machinery is there not in this Act a humane intention meriting consideration from those who have to administer it? Is not this intention to lower in some degree the level of tolerable pain? Is it any part of the business of medical men to assist in frightening the "casual," the neurasthenic, the "born tired," and the feeble-minded into performing a little more painful labour than could otherwise be got out of them, for no other purpose than that an Act of Parliament, which is confessedly underfinanced, should go on for a little longer without having its notorious imperfections set right? Such are the questions which recent talk about malingering has set many of us asking, and which, once raised, can hardly be allowed to fall into abeyance till they have reached a final settlement.

In offering the above observations I do not, of course, deny that the class of persons in whose interest they are made furnish their quota of feigned illness. Having less vitality, they necessarily have for the most part less conscience than others, and will lie and prevaricate, when it serves their purpose, without scruple. What I would urge is that the expense entailed by their occasional malingering is a less serious evil than the premature and inconsiderate hustling of them into work which at present finds favour. In dealing with them we have, in fact, as far as possible to guard against both dangers, and the only way to do so effectually is to judge each case on its merits, unbiased by fear of irate Insurance Committees on the one hand or of diminishing panel lists on the other. Better to quit medicine altogether than practise it in the spirit of the slave.

I am, Sir, yours faithfully,

Stoke Newington, April 17th, 1914. I. B. MUIRHEAD.

THE BIOLOGY OF TUMOURS.

To the Editor of THE LANCET.

SIR,—I quite see the point made by Mr. Mansell Moullin in his letter in THE LANCET of April 11th, and must thank him for the explanation. In these laboratories we are trying to get to the bedrock of the questions of growth and reproduction because they seem to be the basis of the cause of tumours, including cancer; therefore I hope that Mr. Mansell Moullin will allow me to go into them a little more explicitly. We are trying to obtain answers to these questions not from any carping point of view, but in order to have a working basis.

What is meant by "growth," and does it clash with the expression "reproduction"? Assuming for the moment that a cell is the unit of life, when the cell divides (reproduction) into two, and the two into four, &c., if we are concerned with reproduction only, each daughter cell would be half the size of the parent, and as the generations pass the cells should progressively get smaller. But this is not the case. Each daughter cell *grows* until it usually attains the size of its parent. It seems to me, therefore, that when we speak of a tissue or an animal growing, we consider a condition brought about by a combination of two factors—reproduction, which increases the numbers, and growth, which increases the size of the individual units.

But this does not explain the meaning of "growth." It would appear that we must go further back than the cell as the unit of life—to the unit of living matter, which possibly is molecular; experiments with aniline dyes show that cells will live and move with part of their protoplasm apparently killed. When a cell grows, how does the increase of size take place? Is it due to each molecular unit increasing in size, or is it due to the reproduction of the units themselves bringing about an increase in their numbers? If the latter, it would seem justifiable to neglect the word growth.

This brings us to the question as to what are the effects of foods, which appear to build up the units and so increase their size. Foods contain auxetics, which stimulate reproduction; but the chemical groupings of auxetics (e.g., guanidine) are not necessarily foods. I fear these questions take us into deep water, but they are important to pathology. I hope that Mr. Mansell Moullin will suggest any line of experiment, and I agree with him that negative evidence, such as that which shows that certain cells will not divide without an auxetic, is difficult to prove outright. But I hesitate to believe that it is impossible, and every effort is being made, and I think should be made, to prove the point one way or the other. It seems improbable that a function like reproduction should have more than one immediate exciting cause.

I am, Sir, yours faithfully,

H. C. ROSS.

The John Howard McFadden Research Fund, London, S.W., April 17th, 1914.

INTERNATIONAL ANATOMICAL TERMINOLOGY: A CORRECTION.

To the Editor of THE LANCET.

SIR,—I should be obliged if you could find space to allow me to rectify an unfortunate *lapsus calami* in the "Plea for an International Anatomical Terminology Based upon the B.N.A.," which appeared in the second column of page 1132 of your issue of April 18th. I quote the offending words in italics. "How many of the 'nervi cerebrales' of the B.N.A. are in any sense cerebral? *These nerves are attached to the brain and spinal cord, and they pass to and fro through foramina on the one hand in the cranium, on the other in the spinal column.*" The error must have crept in at the last moment, for a recent manuscript, the only one on which I can now lay hands, reads: "The nerves attached to the brain and spinal cord pass," and so on. This wording was adopted in order to avoid clashing with either the British nomenclature or the B.N.A., for in the former the "cerebro-spinal" nervous system gives off the "cranial" and the "spinal" nerves, whereas in the latter the "cerebral" and the "spinal" nerves are attached to the "central" nervous system. In truth it is not easy to steer a safe course through these terminologies. They are almost as dangerous as the dark rocks of olden time, between which if a man should venture to sail they would crash together and crush his bark to atoms.—I am, Sir, yours faithfully,

WM. CUTHBERT MORTON.

The University, Leeds, April 18th, 1914.

A GAS INJECTING APPARATUS.

To the Editor of THE LANCET.

SIR,—In THE LANCET of April 18th there is illustrated under this heading "a new form of apparatus now in use at the Pinewood Sanatorium for injecting nitrogen or oxygen gas into the pleural cavity," and described as a "modification of the Kornmann, simplified."

I should like to warn intending users against the risk to which they will expose their patients. The illustration shows, and the description confirms, that "a large bottle reservoir is placed on a shelf behind, above the level of the top of the gas cylinders, and connected," &c. Measurements show that to displace all the water or fluid by nitrogen or oxygen gas will require a pressure equal to a column of 80 cm. of the fluid used. Thus the gas in the cylinder must be under this pressure, and on turning on the tap to connect with the needle a jet of gas at this pressure is forced through the point of the needle into the cavity or tissues where it may chance to be, and continuing until the pressure equalises, when the bottom tap is turned on and again this pressure is caused, the possible minimum pressure being the height of the gas cylinders, about 60 cm. —a too dangerous and totally unnecessary pressure for any contingency.

By the use of a cylinder of 29 cm. circumference and 36 cm. in depth holding 2000 c.c. attached to the back of a Kornmann apparatus at a level slightly below that of the gas cylinders in front, and connected to them by a three-way tap, I have an apparatus in use here in which it is impossible to produce a pressure greater than that of a column of 30 cm. of fluid, and with the gas cylinders filled to zero registering a pressure of 20 cm., which is more than sufficient for any purpose, and by the use of a small hand bellows attached to the large cylinder the upper portions of the cylinders are easily emptied of gas at any required pressure.

Murphy has laid great stress on the dangers of gas under pressure, and advises that it should be allowed to pass in only under the negative pressure produced in the chest. I have, however, found it necessary in some cases to produce a positive pressure up to 12 cm.; but this is invariably towards the end of the operation, when it would be almost impossible to obtain it with the apparatus shown without refilling, or raising the reservoir as against the simpler use of the hand bellows.

I am, Sir, yours faithfully,

ALFRED ADAMS, M.D.Liverp., D.P.H.

The Sanatorium, Delamere Forest, April 20th, 1914.

THE WATER-SUPPLY OF TUTICORIN.

To the Editor of THE LANCET.

SIR,—The inhabitants of Tuticorin, in any event, owe you a deep debt of gratitude for your able and interesting leading article on "Leisurely Tactics at Tuticorin" that appeared in THE LANCET of Feb. 1st, 1913. We were confident that it would certainly awaken the conscience of the local government and that immediate steps would be taken by the latter to redress the long-felt grievance of the inhabitants of this flourishing seaport. But in this we have been disappointed.

The rapid progress made in that branch of sanitary science which deals with the investigations of the causes of diseases enables us to assert authoritatively that the nature and quality of the water used by any community is a matter of vital importance. Is it to be wondered, then, that this unfortunate city should be visited periodically with cholera and other diseases when no provision has been made to give the people a sufficient supply of good drinking water?

The present water-supply of Tuticorin is tapped from the Tampravarni river, the reservoir being at Korampallam, a village about five miles south-west of Tuticorin. This and the tank half a mile away, which directly feeds the several wells of the town, are open, so that the supply is invariably contaminated, and it is not unusual to find all kinds of animal and vegetable filth washed into them. No attempt at purification has ever been made, and, so far as I know, no serious measures have been adopted to prevent the contamination of the wells from which the people draw their water by means of buckets and other similar appliances.

Tuticorin has been recently favoured with a visit from Lord Pentland, the Governor of Madras, to whom we offered a right loyal welcome. We sincerely hoped that his Government was going to grant us a boon by the gift of a good and unfailing water-supply. But his reply to the address presented by the Tuticorin municipality is very disappointing, and the water scheme that was in progress for more than four years has to be given up on account of increased financial outlay. Money should not stand in the way of carrying out any important sanitary scheme if it is within the range of possibility. Do the authorities who are responsible for this unfortunate state of affairs at Tuticorin realise that every life lost through preventable diseases is money lost to the country and the State?

No one doubts that this town has improved considerably during the past few years except in sanitation. Lord Pentland has told us that within ten years the trade of Tuticorin has increased from 3½ crores to 9 crores. Owing to the importance of Tuticorin as the port of Southern India the opportunities for commercial success are very great, but so long as no effort is made to give this town a good water-supply and thereby render it healthy I have serious doubts whether it will continue to be the centre of British commercial enterprise and the largest port in Southern India after the presidency town, Madras.

With apologies for encroaching on your valuable space,
I am, Sir, yours faithfully,
Tuticorin, March 12th, 1914. F.R.C.S., D.P.H.

⁂ We have had news of a more favourable kind, and we hope that it is true that measures will be taken to provide Tuticorin with an adequate and pure water-supply. It is as necessary that an adequate supply should be secured as that it should be pure. The use of enclosed conduits and the protection of reservoirs are absolutely necessary, but it must be remembered that such precautionary measures will not increase the supply, and that in times of drought the natives are practically without water.—ED. L.

THE NATIONAL INSURANCE ACT.

THE QUESTION OF LIABILITY FOR STATEMENTS MADE IN CERTIFICATES.

IN connexion with an inquiry before a subcommittee in Kent as to allegations made against medical practitioners on the panel, the question has been raised before the Kent Insurance Committee as to the position of medical men who give certificates, and whose certificates are handed to others than the patients concerned. Mr. A. Maude, treating the matter on behalf of the medical profession, expressed the opinion that the certificates could be made the subject of an action for damages for libel, that there was no statutory protection with regard to them, and that a certificate might contain a statement to the effect, for example, that an insured person was suffering from alcoholism or venereal disease, which might be resented by the patient and upon which a claim for damages might be founded. This possibility was recognised in the House of Commons when the Bill was in the Committee stage, and as a way out of the difficulty it was suggested that the certificate might be handed to the patient, who could pass it on to his society or not as he preferred. In reply to this it has been suggested that it is not right in the patient's interest in some cases to inform him fully as to his condition, but that in any case to inform a society of a patient's state behind his back is a breach of faith. The matter is not without doubt and difficulty, because it is clearly undesirable that a member of the medical profession should be made the target of litigation in respect of work done by him professionally and of any statement honestly recorded by him as the result of his professional observation. But if a statement made is found to be true an absolute defence to an action for libel is constituted. Further, if it should be proved that some error had occurred, it would be open to a jury to find that the publication was so made, and the matter published of such a nature, that the occasion was privileged. It seems extremely likely that in most imaginable cases under the Insurance Act a certificate sent to a Friendly Society in order that the Act may be carried out effectively will be found either to be justifiable as true or protected by the circumstances in which it is "published," which it is submitted would include the implied acquiescence of an insured patient in the practice usually pursued in the case of members of his society.

BRISTOL INSURANCE COMMITTEE AND THE UNDISTRIBUTED FUNDS.

At a meeting of the Bristol Insurance Committee the questions raised by Mr. Danckwerts's opinion, taken by the London Insurance Committee as to the allocation of undistributed funds, had as their result the following resolution moved by Mr. J. L. Brown:—

> That in view of the legal opinion obtained by the London Insurance Committee in respect of the unallocated surplus of the Panel Fund, this committee is of opinion that Insurance Committees throughout the country should be permitted to expend such surplus for the benefit of insured persons; they are further of opinion that such sums could be beneficially used in this direction, under Clause 21 of the National Insurance Act, in the provision of trained nurses for the purpose of nursing insured persons in cases of serious illness at their own homes or at suitable institutions, as provided by the Act.

An interesting and prolonged discussion took place in which the various aspects of the question were laid before the committee by the speakers, and an amendment was moved that the matter should be reported on by the Medical Benefit Sub-committee. In support of this it was suggested that if the undistributed funds did not go to the medical men on the panel the claims of the druggists might be considered and a portion of the money available might be used for making up the deficiency in respect of medicines prescribed. The amendment was, however, lost and the resolution carried by a large majority.

THE LIMITATION OF THE PANEL PRACTITIONER'S DUTIES.

An important question seems likely to be submitted for the decision of the Insurance Commissioners by the Surrey Insurance Committee. An insured person consulted a medical man on the panel, who found a papilloma on the lip of the patient, which he successfully excised. He performed the operation when unaware that the patient was insured, and charged a guinea for the operation. The local secretary of the Approved Society to which the patient belonged brought the matter before the Insurance Committee, and on the one side it was contended that the medical man could not make any charge to an insured patient, who was entitled as a right to such services as a medical practitioner on the panel could render, whereas those who differed held that the operation was outside the ordinary services due from a medical man on the panel and supported the unanimous finding of the Local Medical Committee that the operation "was not of a kind which can consistently and in the best interests of the patient be properly undertaken by a general practitioner with ordinary competence and skill." The subcommittee which had inquired into the question had recommended that the Insurance Committee should accept this decision of the Local Medical Committee and should report the matter to the Insurance Commissioners. One of the speakers at the meeting of the Insurance Committee said that from an interview which he had had with the Commissioners at the time of the passing of the Act, and from what he heard the Chancellor of the Exchequer say at a conference of the Advisory Committee, there could be no doubt that the intention was as expressed by the decision of the subcommittee. Eventually it was agreed that the matter should be further considered by the subcommittee, and the ultimate result if it leads to the Commissioners laying down principles upon which their rule is to be interpreted will be of interest.

GLASGOW AND UNDELIVERED MEDICAL CARDS.

At Glasgow the Borough Insurance Committee has had to consider the case of over 40,000 insured persons who have not received their medical cards through the post owing to unnotified changes of address. The Commissioners had suggested removing the names of these persons from the registers, but the chairman at a recent meeting of the committee stated that it had been decided before doing this to take further steps to get the cards into the hands of those for whom they were intended.

Medical News.

UNIVERSITY OF LONDON.—At the Second Examination for Medical Degrees, held recently, the following candidates were successful:—

Part I., Organic and Applied Chemistry.—Gustave Adler, London Hospital; Eric Miles Atkinson, St. Bartholomew's Hospital; Roy Douglas Aylward, London Hospital; Kenneth Norman Grierson Bailey, St. Bartholomew's Hospital; Santiago Ernesto Barraza and John Churchill Blake, University College; Harold John Blampied, St. Thomas's Hospital; Joseph Erwin Adolphe Boucaud, Geoffrey Bourne, and Norman Jesse Boxall, St. Bartholomew's Hospital; Charles Hargreaves Bracewell, University of Liverpool; Reginald Bertram Britton, University of Bristol; Elsie Charlotte Bulley, University of Liverpool: Ellinor Marjorie Burnett, London (Royal Free Hospital) School of Medicine for Women; Francis Caldecott, Guy's Hospital; Thomas Carlyle, St. Bartholomew's Hospital; Duncan Gillard Churcher and *Wilfrid Edward Le Gros Clark, St. Thomas's Hospital; Apollo John Cokkinis, St. Mary's Hospital; Eric Vere Corry, University College; William Adlington Date, St. Mary's Hospital; Charles Owen Davies, University of Liverpool; George Vincent Davies, St. Mary's Hospital; Edwin Frank Deacon, Guy's Hospital; Simon Cyril de Silva Wijeyeratne, University College; Phyllis Decima Dixon, London (Royal Free Hospital) School of Medicine for Women; Howard Lexter Douglas, London Hospital; Monte Edwards, St. Thomas's Hospital; Guy Waterman Elkington, Guy's Hospital; David Washington Evans, University of Bristol; Grace Hamilton Ewart, London (Royal Free Hospital) School of Medicine for Women; William Feldman, University College; Gerald Hartas FitzGerald, Guy's Hospital; *Richard Kenrick Foulkes, King's College; Maximilian Walter Geffen, University College; Nannie Gibson and Dorothy Gilford, London (Royal Free Hospital) School of Medicine for Women; Lawrence Gill, Guy's Hospital; Ernest Howard Glenny, St. Bartholomew's Hospital; Henry Gluckman, London Hospital; Eryl Glynne, London (Royal Free Hospital) School of Medicine for Women; Alice Muriel Griffiths, University College, Cardiff; Herbert Glynn Hall, University College; Joan Hardy, London (Royal Free Hospital) School of Medicine for Women; Leslie William Hefferman, Middlesex Hospital; Kenneth Reed Hill, University College; Bertha Hinde, London (Royal Free Hospital) School of Medicine for Women; Eric Clark Hinde, Guy's Hospital; Edward Arthur Holmes, King's College; Joseph Christopher Campbell Howe, Guy's Hospital; George Franklin Wise Howorth, Middlesex Hospital; Amy Margaret Kerr, London (Royal Free Hospital) School of Medicine for Women; John Isaac Kühne, King's College; Felix Raoul Leblanc, Guy's Hospital; Emily Catherine Lewis, London (Royal Free Hospital) School of Medicine for Women; Gordon Parmiter Lindsay, Guy's Hospital; Alice Lloyd Lloyd-Williams, London (Royal Free Hospital) School of Medicine for Women; Kenneth McFadyean, University College; Robin Gordon Mack, St. Bartholomew's Hospital; Bruce Maclean, University College; Gladys Matthews, London (Royal Free Hospital) School of Medicine for Women; Puthiyaveettil Narayana Menon, University College; Farid Morcos, St. Mary's Hospital; Ernest Rudolf Dudley Nagel, St. Thomas's Hospital; Martin Herbert Oldershaw, University College; Alexander Edward Patrick Parker and Frank Portas, King's College; Eric Denholm Pridie, University of Liverpool; Henry Norman Pritchett, Guy's Hospital; Olive Rendel, London (Royal Free Hospital) School of Medicine for Women; John Charles Ryder Richardson, London Hospital; Gabriel Francis Rodrigues, University College; James Paterson Ross, St. Bartholomew's Hospital; Eleanor May Scarborough, London (Royal Free Hospital) School of Medicine for Women; William Keith John Scroggie, University College; *Simeon Cyril Shaw, Middlesex Hospital; Reginald Henry Sunderland, London Hospital; Noel Tayler, University College; Montague Beavan Tench, Middlesex Hospital; Benjamin Thomas, St. Mary's Hospital; *Daniel Jenkin Thomas and John Herbert Thomas, University College; George Edwin Tilsley, University of Bristol; Charles Maitland Titterton, St. Bartholomew's Hospital; Alfred Robert Tothill, King's College; Kenneth Robert Traill, Guy's Hospital; Kenneth Tratman King Wallington, University College; Richard Walters, London Hospital; Sydney Arthur Thomas Ware, St. Thomas's Hospital; Frederick William Arbuthnot Watt, London Hospital; Gladys Millicent Rutland Webster, London (Royal Free Hospital) School of Medicine for Women; Alfred Douglas Weeden, Middlesex Hospital; Sik To Wong, Guy's Hospital; Sydney Carver Woodhouse, London Hospital; Irene Yates, London (Royal Free Hospital) School of Medicine for Women; and Frank Young, Guy's Hospital.

* Awarded a mark of distinction.

The following advanced free lectures in physiology will be delivered during the third term of the session 1913-14: 1. A course of eight lectures on Oxidation in the Tissues, at University College, by Mr. C. Lovatt Evans, D.Sc., at 4 P.M., on Fridays, May 8th, 15th, 22nd, 29th, and June 5th, 12th, 19th, and 26th. Attendance at this course is recognised in connexion with the B.Sc. (Honours) degree in Physiology. 2. A course of four lectures on the Regulation of the Composition and Volume of the Blood, in the physiological laboratory of Guy's Hospital, by Dr. J. S. Haldane, F.R.S., at 4 P.M., on Thursdays, May 7th, 14th, 21st, and 28th. 3. A course of four lectures on the Gaseous Exchanges of the Body, in the physiological laboratory of King's College, by Dr. T. G. Brodie, F.R.S., professor of physiology in the University of Toronto, at 4.30 P.M., on Monday, June 8th, Wednesday, June 10th, Monday, June 15th, and Wednesday, June 17th.—The following lectures in advanced medical subjects will also be delivered free during the third term: (1) A course of three lectures on Carbohydrate Metabolism in Health and in Diabetes, by Dr. Hugh MacLean, at St. Thomas's Hospital Medical School, at 5 P.M., on Tuesdays, May 5th, 12th, and 19th; and (2) one lecture on Recent Observations upon Ulcer of the Stomach, by Dr. Charles Bolton, at University College Hospital Medical School, at 5 P.M., on Friday, May 22nd.—The Semon lecture in Laryngology, 1914, will be delivered by Professor Gustav Killian, of the University of Berlin, at the Royal Society of Medicine, Wimpole-street, on Thursday, May 28th, at 5 P.M., the subject being Suspension Laryngoscopy and its Practical Use. The chair will be taken by Sir Felix Semon, K.C.V.O. Admission free, by ticket obtainable from the Academic Registrar, University of London. —In the physiological laboratory at South Kensington a course of eight lectures on the Rate of the Blood-flow in Man in Health and Disease will be given by Dr. G. N. Stewart, professor of experimental medicine, Western Reserve University, Cleveland, U.S.A., at 5 P.M., on Tuesdays, May 5th, 12th, 19th, and 26th, and June 2nd, 9th, 16th, and 23rd.—Dr. Arthur Cyril Hudson has been recognised as a teacher of the University (Ophthalmology) at the Royal London Ophthalmic Hospital.—A University studentship in physiology, of the value of £50 for one year, will be awarded to a matriculated or graduated student of the University qualified to undertake research in physiology, and will be tenable in a physiological laboratory of the University or of a school of the University. Applications much be received by the Principal on or before May 31st.—The National Dental Hospital and College has been admitted as a school of the University in the Faculty of Medicine (in dentistry only) until Sept. 30th, 1916.

SOCIETY OF APOTHECARIES OF LONDON.—At the Primary Examination held on April 6th, 8th, and 9th the following candidates passed in the subjects indicated:—

Biology.—A. S. Newton, Liverpool.
Chemistry.—A. S. Newton, Liverpool.
Materia Medica and Pharmacy.—G. H. C. Harding, Liverpool;

A. E. Pollitt, Manchester; F. Simpson, Charing Cross Hospital; and F. Smith, Manchester.
Anatomy.—E. V. Briscoe, St. Mary's Hospital; D. V. Halstead, Guy's Hospital; P. Hughes and T. F. Reason, St. Mary's Hospital; R. D. M. Tims, St. Thomas's Hospital; and C. G. G. Winter, St. Mary's Hospital.
Physiology.—E. V. Briscoe, St. Mary's Hospital; D. V. Halstead, Guy's Hospital; D. E. Hearn, Durham; P. Hughes and H. D. L. Jones, St. Mary's Hospital; W. J. Walters, Cambridge and Guy's Hospital; and C. G. G. Winter, St. Mary's Hospital.

QUEEN'S UNIVERSITY OF BELFAST.—At examinations held recently the following candidates were successful:—

SECOND MEDICAL EXAMINATION.

Anatomy and Physiology.—Mary I. Adams, George V. Allen, Charles D. Crawford, Francis Ewart, Eli Freeman, James A. Harbison, John M. M'Cormack, Thomas J. Marner, William Napier, William H. Pedlow, John Scott, Ernest S. G. K. Vance, Robert Weaver, and John Wilson.
Physiology.—Hugh B. Hall and Arthur J. Millar.

THIRD MEDICAL EXAMINATION.

Pathology, Medical Jurisprudence, and Hygiene.—Robert M. Beath and Sinclair Miller.
Pathology and Materia Medica.—Albert E. M. Carleton, John Cullenan, Charles F. Davey, James E. Finlay, Patrick Kane, James M'Kay, Joseph B. M. Mackenzie, Sylvia Marsh, John F. Meenan, William N. Montgomery, William Russell, Herbert S. Smith, and James M. Smith.
Medical Jurisprudence and Hygiene.—Eileen M. Bell, David Corry, and Michael Gilligan.
Materia Medica.—Ribton G. Blair.
Pathology.—William C. M'Cullough.

APOTHECARIES' HALL OF IRELAND.—The following candidate having passed the necessary examination has been admitted a licentiate:—

Richard John Aherne, L.R.C.P. & S. Irel.

A DEVONSHIRE CENTENARIAN.—Mr. Jonathan Lock died at Plymouth on March 31st in his 102nd year.

SCHOOL MEDICAL SERVICE GROUP OF THE SOCIETY OF MEDICAL OFFICERS OF HEALTH.—Medical officers whose duties include school medical work and who reside in the metropolitan and home counties areas are invited to attend a meeting, on Saturday, May 2nd, at 2 P.M., of the School Medical Service Group of the Society of Medical Officers of Health at 1, Upper Montague-street, Russell-square, London, W.C., for the purpose of forming sub-groups for these respective areas. The general meeting of the group will be held at 3.30 P.M. at the same address, and all officers having any school duties are entitled to join the group and attend its meetings. Matters affecting the future status of the service, especially of the assistant officers, will be discussed at these meetings. The honorary secretary of the group is Dr. Armly Ashkenny, 38, George-road, Edgbaston, Birmingham.

DONATIONS AND BEQUESTS.—By will the late Mr. Septimus Brocklehurst, of Sefton Park, Liverpool, left £1000 each to the Liverpool Convalescent Institution, Woolton; the Royal Liverpool Country Hospital for Children; the Children's Convalescent Home, West Kirby; and the St. Paul's Eye Hospital, Liverpool.—Among other charitable bequests the late Mr. Benjamin E. Mocatta has left £500 to University College Hospital.—By the will of the late Mr. T. Sherran Whittaker, whose net personalty has been sworn at £15,000, one-half of the residue, after certain bequests have been made, will go to Guy's Hospital and the other half will be used for the purpose of founding and endowing a cottage hospital for poor persons resident in Broadstairs or the Isle of Thanet. —The late Alderman Henry Harrison, besides numerous other bequests, by his will bequeathed the following charitable legacies free of duty: the Blackburn and East Lancashire Infirmary, £1000; the Seamen's Hospital Society, £3000; the Imperial Cancer Research Fund, £1000; the Cancer Investigation Department of the Middlesex Hospital, £1000; and the Cancer Hospital (Free) for Cancer Investigation, £1000. —The late Mrs. Mary Mitchel, of Baggrow, Allhallows, Cumberland, has left by will £1000 each to the Blencathra Sanatorium, Threlkeld, the Cumberland Infirmary, and the Cumberland and Westmorland Convalescent Institution at Silloth.—His Majesty's First Commissioner of Works has sent a donation of £1000 to St. Thomas's Hospital to endow a bed for the use of Civil servants. The bed will be known as the King George V. Coronation Bed.—An anonymous donor has sent a cheque for £500 to the Huddersfield Royal Infirmary for the endowment of a cot in perpetuity in the children's ward.—The late Mr. John Ritchie, of Liverpool, has bequeathed £250 each to the Royal Infirmary, Liverpool, the Royal Southern Hospital, Liverpool, the David Lewis Northern Hospital, Liverpool, the Infirmary for Children, Liverpool, and the Bootle Borough Hospital.

THE Reverend Walter John Barton has been appointed to the head mastership of Epsom College, which will become vacant at the end of the summer term, owing to the resignation of the Reverend T. N. H. Smith-Pearse, who has held the office for 25 years. At Oxford Mr. Barton obtained a first class both in Moderations and in Literæ Humaniores. For the past seven years he has been an assistant master in classics at Winchester College, and is also a distinguished geographer.

SEVENTH ANNUAL NURSING AND MIDWIFERY CONFERENCE.—This conference will be held at the hall of the Westminster Yeomanry, adjoining the Horticultural Hall, Westminster, S.W., from Tuesday, April 28th, to Friday, May 1st, both dates inclusive. The proceedings will begin each day at 2.30 P.M. At the afternoon session on April 28th the State registration of nurses will be discussed by Sir Victor Horsley, and the proposed London County Council registration of nursing homes will be dealt with by Miss L. M. Stower. In the evening, under the chairmanship of Colonel Bruce Skinner, M.V.O., the work of the St. John Ambulance Brigade will form the subject of a paper by Lady Perrott, Mr. James Cantlie will describe the work of the Red Cross Society, and Miss Hilda Stewart will criticise from the trained nurses' point of view the work of Voluntary Aid Detachments. At 8.30 P.M. there will be a reception by the committee at the Rooms of the Royal Society of Medicine, after which an address will be delivered by Sir George Savage. On April 29th Dr. Elizabeth Sloan Chesser will preside, and Dr. Burnett Ham, late chief medical officer for Victoria, and Dr. Lucy Naish will respectively deal with the eugenic consideration of venereal diseases and the infant's first week of life. Among other subjects to be dealt with will be the development of infant consultations and the moral influence of the midwife. On April 30th Dr. T. N. Kelynack will occupy the chair, tuberculosis being the subject for discussion. Dr. H. Hyslop Thomson will speak on the care and control of the tuberculous patient. In the evening Dr. Janet Lane-Claypon will preside, and Dr. Annie McCall will take for her subject how to avoid operative midwifery, the effect of the Insurance Act upon lying-in hospitals being dealt with by Mrs. Glanville. At a later session on the same day Dr. J. S. Fairbairn will speak on the teaching of midwifery by lantern slides. On the last day of the conference, May 1st, under the chairmanship of Dr. R. Murray Leslie, Dr. Robert Armstrong-Jones will deal with the progress of mental nursing, Dr. Edwin L. Ash will take for his subject the nurse and the care of nervous patients, and Dr. R. Langdon Down the Mental Deficiency Act. In the evening, under the chairmanship of Dr. E. W. Goodall, fever will be the subject for discussion, asepsis in fever nursing being dealt with by Dr. A. Knyvett Gordon.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Dogs Protection Bill.

A LETTER of protest has been addressed to the Home Secretary with regard to the Dogs Protection Bill which is now before Parliament. The letter is in the following terms:—

> "We desire to express to you our strong conviction that the Dogs Protection Bill, which is put down for second reading on Friday, 17th inst., would inflict very severe injury, not only on medicine and surgery, but also on the study of the diseases of animals. We think that we have some right to ask you to oppose this attack on the advancement of medical science and practice: especially as the Final Report of the Royal Commission on Vivisection does not advise the prohibition of experiments on dogs. We are absolutely certain that such experiments are necessary for the complete study of many problems of physiology, pharmacology, and pathology."

The above protest, which is signed by more than 350 persons, has been presented by Sir Thomas Barlow, President of the Royal College of Physicians of London, to the Home Secretary. The letter is influentially signed by representatives of the various departments of medical science throughout the United Kingdom. The signatories include the following:—

Medicine.—The President of the Royal College of Physicians of London, Sir Lauder Brunton, Sir James Reid, Sir William Church, Sir James Goodhart, Sir Thomas Fraser, Sir Dyce Duckworth, Sir William Osler, Sir David Ferrier, Sir James Kingston Fowler, Sir Malcolm Morris, Dr. C. E. Fitzgerald (President of the Royal College of Physicians, Ireland), Dr. J. J. Graham Brown (President of the Royal College of Physicians, Edinburgh), Sir Thomas Oliver, Sir Robert Phillip, Sir StClair Thomson, Dr. W. P. Herringham (Vice-Chancellor of the University of London), Professor William Russell (Edinburgh), Dr. Sidney Martin, Dr. James Mackenzie, Sir Alexander Simpson, Dr. W. Hale White, Dr. Byrom Bramwell, Dr. Hector Mackenzie, Dr. Frederick Taylor, Dr. John Playfair, Dr. Nathan Raw, Professor Robert Saundby, Dr. J. Mitchell Bruce, Professor Harvey Littlejohn; the Professor of Medical Jurisprudence, Glasgow; the Professor of Public Health, Edinburgh; and Professor George Murray.

Surgery.—The President of the Royal College of Surgeons of England, Sir Henry Morris, Sir Frederick Treves, Sir W. Watson Cheyne, Sir Frederic Eve, Sir John Bland-Sutton, Sir Berkeley Moynihan, Sir Victor Horsley, Sir Alfred Pearce Gould, Sir W. Arbuthnot Lane, Sir Alfred Fripp; the Professor of Surgery, Edinburgh; Professor Howard Marsh, Cambridge; Mrs. Scharlieb, Professor Gilbert Barling (Vice-Chancellor of the University of Birmingham), Mr. Edmund Owen, Professor William Thorburn, Mr. C. A. Ballance, Mr. Charters Symonds, and Sir George Beatson.

Gynæcology.—Sir Francis Champneys (President of the Royal Society of Medicine), Dr. Berry Hart (Edinburgh), Professor J. M. Kerr (Glasgow), Dr. W. S. A. Griffith, Dr. John Phillips, and Dr. Herbert Spencer.

Hospital administration.—Lord Knutsford (chairman of the London Hospital), Lord Northbrook (president of the Cancer Hospital), Sir Joseph Fayrer (superintendent, Edinburgh Royal Infirmary), Sir Frederick Macmillan (chairman, Queen-square Hospital), Mr. J. T. Helby (chairman, Metropolitan Asylums Board), and Dr. E. W. Goodall (medical superintendent, Eastern Hospital).

Tropical diseases.—Sir William Leishman, R.A.M.C., Sir Ronald Ross, Dr. C. J. Martin (director of the Lister Institute), and Major Cummins, R.A.M.C.

Physiology.—Professor J. N. Langley (Cambridge), Professor C. S. Sherrington (Oxford), Dr. A. D. Waller (London), Professor T. H. Milroy (Queen's College, Belfast), Professor D. Noel Paton (Glasgow), Professor W. D. Halliburton (King's College), Sir Edward Schäfer (Edinburgh), Dr. W. H. Gaskell (Cambridge), Professor W. M. Bayliss (University College), Professor William Thompson (Trinity College, Dublin), Dr. J. S. Haldane (Oxford), Dr. Leonard Hill (London Hospital), Dr. L. E. Shore (Cambridge), Professor Wace Carlier (Birmingham), and Dr. W. Ramsden (Oxford).

Pathology and bacteriology.—Professor Sims Woodhead (Cambridge), Dr. John Eyre (Guy's Hospital), Professor William Bulloch (London Hospital), Dr. R. M. Buchanan (bacteriologist to the Glasgow Corporation), Dr. Carnegie Dickson (Edinburgh), Professor H. J. Hutchens (Newcastle), Professor James Ritchie (Edinburgh), Dr. F. W. Mott (London County Council), Sir Almroth Wright (St. Mary's Hospital), Professor J. Lorrain Smith (Edinburgh), Dr. Vaughan Harley (University College), Professor Walker Hall (Bristol), Dr. Harold Spitta (St. George's Hospital), Dr. J. E. Arkwright (Lister Institute), Dr. J. D. Ledingham (Lister Institute), Dr. F. H. Thiele (University College Hospital), Mr. Alexander Foulerton (Middlesex Hospital), Dr. Ainley Walker (Oxford), Dr. Wakelin Barratt, Dr. Herbert Durham, and Professor W. S. Greenfield (Edinburgh).

Cancer research.—Dr. E. F. Bashford (director of Imperial Cancer Research), Dr. W. S. Lazarus-Barlow (director of Cancer Research, Middlesex Hospital), and Dr. Archibald Leitch (pathologist, Cancer Hospital, Brompton).

Anæsthetics.—Sir Frederic Hewitt (anæsthetist to the King), Mr. A. G. Vernon-Harcourt, and Dr. Dudley Buxton.

Diseases of the nervous system.—Dr. Henry Head, Sir Thomas Clouston, Dr. Edwin Goodall, Dr. George M. Robertson, Sir James Crichton-Browne, Sir George Savage, and Dr. J. S. Risien Russell.

Pharmacology.—Professor Arthur R. Cushny (University College), and Professor W. E. Dixon (King's College).

Veterinary medicine.—Sir John MacFadyean (principal, Royal Veterinary College), and Mr. O. C. Bradley (director, Veterinary College, Edinburgh).

Other sciences.—Sir E. Ray Lankester, Sir Norman Lockyer, Sir William Ramsay, Sir Henry Roscoe, Dr. Raphael Meldola, Professor Edward B. Poulton, Dr. W. H. Perkin, Dr. Charles S. Myers, Professor Alexander MacAlister, and Professor Arthur Keith.

HOUSE OF COMMONS.

THURSDAY, APRIL 16TH.

Treatment of Sick Poor.

Mr. ASTOR asked the President of the Local Government Board what was the total cost of institutional treatment of the sick poor for the last three years for which figures were available.—Mr. HERBERT SAMUEL wrote in reply: It is impossible to distinguish the cost of the treatment of sickness from the other expenses of maintenance of institutions. The Royal Commission on the Poor-laws and Relief of Distress estimated "that at least one-half of the total cost of pauperism is swallowed up in direct dealing with sickness." One-half of the total cost of the relief of the poor in the years ended March, 1911, 1912, and 1913, was approximately £7,500,000, £7,230,000, and £7,460,000.

Mr. ASTOR asked the right honourable gentleman how many boards of guardians had less than 100 beds for the treatment of the sick poor in their own workhouses and infirmaries respectively; how many had between 100 and 200 beds, how many between 200 and 300, and how many over 300 beds.—Mr. HERBERT SAMUEL (by written answer) replied: The following is the number of boards of guardians who have provided beds for the treatment of the sick poor:—

—	Less than 100 beds.	100–200 beds.	200–300 beds.	Over 300 beds.
Workhouses ...	330	36	16	13
Infirmaries	144	41	27	59

The above table includes the provision for chronic cases and cases under medical care but not needing active or continuous treatment or special nursing as well as acute cases. It does not include the number of beds provided by the Metropolitan Asylums Board or by other joint Poor-law authorities.

Mr. ASTOR also asked the right honourable gentleman how many boards of guardians had appointed salaried nurses for attending outdoor sick, how many subscribed to local nursing associations for such attendance, and how many made no provision for nursing the outdoor sick poor.—Mr. HERBERT SAMUEL replied: In eight unions the guardians employ salaried nurses appointed by themselves to attend the outdoor sick; 473 boards of guardians have been authorised by the Local Government Board to subscribe to district nursing associations. In the remaining 165 unions no similar provision has, so far as I am aware, been made, but I may point out that in these unions both the board of guardians and the relieving officers have power to employ a nurse to attend any particular case when required.

District Medical Officers.

Answering Mr. ASTOR, Mr. HERBERT SAMUEL wrote: The total number of district medical officers in England and Wales last year was 3761. In all but six cases the remuneration is by fixed salary with additional fees for midwifery cases and operations. In two unions payment is made wholly and in two partly by fees for attendance. Population has not been adopted as a direct basis for remuneration in any case.

Housing in Dublin.

In the course of the discussion in Committee of Supply on the vote for the Local Government Board, Ireland, attention was called at length to the report of the Departmental Committee on Housing in Dublin.

Mr. CLANCY said that there were still 20,108 families living in one-room tenements in Dublin. The report of the Departmental Committee showed that human beings ought not to be allowed to live in these tenements if they could possibly be accommodated elsewhere. Tuberculosis was bred in these places to an extent which was quite remarkable.

Sir A. GRIFFITH-BOSCAWEN dealt at length with various matters referred to in the report, and asked what steps the Government contemplated taking to remedy the disgraceful state of things which the report revealed.

Lord ROBERT CECIL described the state of things revealed by the report as incredible.

Mr. BIRRELL (Chief Secretary to the Lord Lieutenant of Ireland) said that the responsibility of the Irish Local Government Board for the corporation of Dublin was small. He could not act with any degree of authority except on complaint, and the complaints which had been made from time to time as regarded the Dublin corporation had not been great or numerous and the powers which he had been able to exercise were very small. He was glad that this departmental report of the Local Government Board had excited attention. It was a very painful report. It had put the state of life of the poorer portion of the inhabitants of Dublin in a manner which he did not think anyone could read without feeling grieved and to some extent ashamed. At the same time he did think that the Dublin corporation had been rather harshly dealt with by honourable Members opposite. It had done an enormous amount of work in main drainage, electric lighting, and paving, to say nothing of its own schemes for housing the poor, in which it was acknowledged to have done more than any other municipality in any other city in the United Kingdom. But Dublin was a very poor place. Wages were lamentably low. The rates were close upon 11s. in the £, collected from poor people. That, however, did not alter the fact that this report proved a lamentable state of things, and it had also shown that the Dublin corporation had not exerted to the full, or to the extent which it ought to have done, the legislative powers which it already possessed. An honourable Member had referred to 17 persons in the corporation who were owners of property. There were really only five who owned more than one house, and of the balance of 12, each was the owner only of one single tenement. He did not say that that was right or wrong, but to describe them as being 17 owners of tenement property would rather lead one to infer that they owned a considerable portion, at all events, of the tenement houses in Dublin. They owned a most insignificant fraction of these houses.

and there were not more than two or three who owned more than one or two at the most. He was asked what was he going to do. Something must be done. If more could be done than was done at present to assist Dublin in consequence of its exceptional conditions and the sorrow of its inhabitants, certainly the Chief Secretary would not be indifferent to any proposal of that sort which was likely to be made. But he was sure that no Chancellor of the Exchequer would be satisfied or willing to make a grant to Ireland and to refuse it to other places. It would be a very dangerous proposition to start with that wages were to be kept down by keeping down rents by means of payments which were to come out of other people's pockets. Therefore he could do no more than say that this report did not contemplate an instantaneous remedy of that great wrong. It might be that this corporation had acted selfishly, but at all events it did not create the situation. If it had acted strictly and rigorously up to its duties it was a question whether the members would have succeeded in being returned a second time. Still they might have done more than they had done. When all was said and done, the task of finding proper accommodation for all the poor people in Dublin was a difficult one. It might be said, "Build homes outside," but it would be a difficult thing to persuade them to go. To make a town plan for Dublin successfully and wisely was a task which of necessity must take some little time. On one thing he was perfectly clear, and that was that this report could not be allowed to rest as so many other reports had done in the pigeon-holes of offices. He was glad that this debate should have taken place and that the horrible state of things, in no sense exaggerated, should have been discussed. He hoped that the criticism to which the corporation of Dublin might be properly and fairly exposed, would not do it anything but good, and that honourable Members might look forward in the near future to such a rebuilding and reconstitution of these old tenement houses as must greatly advantage the health, happiness, and morals of the people of Dublin. The tenement houses were, he thought, quite capable of economic improvement if there was a good deal of expenditure upon them. But they must be emptied out of their present inhabitants. The other houses referred to in the report—some of them new and recently built houses—had become just as unfit as, and perhaps in some respects even more repulsive than, the tenement houses themselves. All these things he hoped would sink into the hearts of the people and lead to a remedy.

FRIDAY, APRIL 17TH.

Dogs Bill.

Sir **FREDERICK BANBURY** moved the second reading of the Dogs Bill. He said that he had heard the Bill described as an Antivivisection Bill, and it had been said that it was a measure which stopped vivisection. It did nothing of the kind. All that it did was to stop eminent scientists who did perform operations on living animals from using dogs for that purpose. The return for 1912 showed that the dogs and cats experimented upon without anæsthetics numbered 321. The dogs and cats allowed to recover after serious operations numbered 557. There was a certain amount of evidence given by medical men and learned professors to the Royal Commission on Vivisection to show that dogs were necessary for their experiment. On the other hand, there was also evidence given by other medical men and scientific men to the effect that dogs were not necessary. In the report there was no finding by the Commissioners as to there being a necessity for experiments to be made on dogs. If the Commissioners had been of opinion that in the interests of science it was necessary to include dogs among the animals to be operated upon, they would have said so in their report. The honourable Member read extracts dealing with experiments upon dogs. Man having made a friend of the dog for many thousands of years had rendered that animal particularly sensitive to all forms of pain and terror—much more so than the ordinary animal, which was in a more or less wild state. Therefore, unless it was proved that experiments on dogs were useful to man—and he said that it had not been proved—was it not right that he should ask that dogs should be exempted from being put to the torture of these experiments? He trusted the House would give the Bill a second reading.

Colonel **LOCKWOOD** seconded the motion.

Mr. **RAWLINSON** moved as an amendment the rejection of the Bill. He pointed out that experiments on living animals in this country could only be carried out by persons to whom licences had been granted, and these licences could only be obtained by persons who had received recommendations from the heads of certain scientific institutions. The licence could only be used upon certain registered premises. There was a power given to the Home Office to demand a full report as to what had occurred at a particular operation from the person who was authorised to perform it. That showed that the power of vivisection was restricted in England by the most careful safeguards practically at every operation. If there was any further safeguard required by all means let that matter be considered. Certainly it was not necessary to pass the second reading of this Bill at all to remedy that defect if it existed. This country had already gone further than any other in the way of restricting scientific research. Scientific men said that it was necessary that dogs should be used for experiments. It was owing to the experiments of Pasteur on animals, including dogs, that the nature of hydrophobia was cleared up. Were honourable Members going to hamper for all time the hands of those who were engaged in combating such diseases as cancer by extraordinary restrictions on experiments which might at any moment afford the chance of putting an end to so much human misery, pain, and loss of life.

Sir **PHILIP MAGNUS**, in seconding the amendment, observed that the House could trust scientific men to secure the exclusion and exemption of dogs from all experiments where they were certain that they could find other animals to serve their purpose.

Sir **HENRY CRAIK** opposed the Bill. He said that he wondered how without the inoculation experiments which had been tried upon dogs it would have been possible to attain to the great knowledge now available in regard to tropical diseases. He wondered how the experiments upon the heart which were published the other day would have been possible but for dogs—those experiments which, in the words of a medical man, had revolutionised medical knowledge of the heart and of the way in which medical men could deal with the valves of the heart and with diseases hitherto believed to be incurable. The truth was because of its nervous and physical structure, its habits of life, and the fact that it was at once vegetable eating and carnivorous, the physiology of dogs was more analogous to that of humanity than that of any other animals except the superior ape.

Dr. **CHAPPLE** dealt at length with the valuable scientific results which had been obtained from experiments on dogs. A Bill like the present, with its spurious sentimentality and ignorance of facts, might well interfere with a line of research which promised so much benefit to humanity.

Mr. **ELLIS GRIFFITH** (Under Secretary of State for the Home Department) in speaking for the Government observed that he might be allowed to say a word or two about the present position of affairs and the existing law. In the course of the discussion some charges had been made that there was cruelty, and perhaps unnecessary cruelty, now going on. So far as the Home Office was concerned he desired to say most emphatically that it did not think there was any basis or foundation for that charge. Perhaps the House would allow him to state shortly what were the present safeguards under which these experiments were conducted. In the first place, without anæsthetics there could not be inoculations beyond simple ones or superficial vivisection. In that there was no cruelty. With regard to experiments with anæsthetics these could only take place under three conditions, which were always attached to every licence for any experiment under anæsthetics. First of all, all operative procedures in connexion with the experiments detailed in certificate "B" should be carried out under anæsthetics of sufficient power to prevent the animal from feeling pain. Secondly, the animals experimented on should be treated with strict antiseptic precautions, or if these failed and pain resulted the animals should be immediately killed under anæsthetics. There was a third provision to which he attached special importance. It was in three paragraphs and referred to the anæsthetic condition, the antiseptic condition, and the pain condition. The paragraphs provided first if the animal after and by reason of any of the experiments under certificate "B" was found to be suffering pain which was severe or was likely to endure, and if the main result of the experiments had been attained, the animal should forthwith be painlessly killed. This condition was formerly imposed in some cases. It was now imposed in all cases. The second paragraph provided that if an animal after and by reason of the said experiment was found to be suffering severe pain which was likely to endure, such animal should forthwith be painlessly killed whether the main result of the experiment had been attained or not. That was new and was now universally imposed. The third paragraph provided that if any animal appeared to an inspector to be suffering considerable pain and if the inspector directed such animal to be destroyed it should forthwith be painlessly killed.

Colonel **LOCKWOOD**: That was one of the recommendations of the Royal Commission.

Mr. **ELLIS GRIFFITH**: That is carrying out the recommendation of the Royal Commission, of which the right honourable gentleman was a member. The debate was different from any other debate that had taken place on the subject matter of this Bill. In 1912 the honourable baronet introduced a Bill on the very same day, curiously enough, that the report of the Royal Commission was issued. In 1913 a Bill on this subject passed second reading in a manner best known to the honourable baronet himself without debate. He mentioned this to make it perfectly clear that this was the first time this House had discussed the subject matter of this Bill with the recommendations of the Royal Commission before it. Several extracts had been read from the report that afternoon, but with the exception of three lines no honourable Member had quoted the really operative clause of it. One honourable member quoted the first three lines. They were these: "In view of the variety of practice and divergence of opinion as to the necessity of employing dogs for experimentations and demonstrations, we find some difficulty in deciding upon this important question." There the honourable Member left the matter. Obviously honourable gentlemen must read further. The report proceeded: "Some of us regard the provisions of the existing law as sufficient; some of us would prefer that in the case both of experimentation and demonstration the further special protection given to horses, asses, and mules should be extended to dogs, while some of us would exclude dogs altogether." Now the operative words came: "But if any alteration is made in the existing procedure the majority of us would agree that the special enactments now applicable to horses, asses, and mules might be extended to dogs and also to cats and anthropoid apes." That was really all that the Royal Commission had done upon this interesting point. At present experiments on dogs might be performed as long as the experiments were under anæsthetics without a certificate to the effect that the experiments would be frustrated if a dog was not available, whereas if the experiment was on horses, mules, or asses such a certificate was necessary, and he in the committee last year supported the proposal to make an amendment to the effect that dogs should be put in the same position as horses, asses, and mules so that a special certificate should be required when the experiments were under anæsthetics that no other animal would serve for the particular purpose for which the experiment was made. That amendment was carried, and it led ultimately to the defeat of the Bill. As far as he was concerned what he favoured was not the total prohibition of all experiments on dogs, but if it was thought, as he thought, that additional safeguards were necessary, the safeguards which he had now indicated, should be available for the protection of dogs, so that in future if the suggestion which he had made was accepted no one would be able to have an experiment upon dogs unless it were found that no other animal was available for the purpose. That was a compromise. He did not want to oppose the second reading, but he wished to say quite frankly that he did his best to hold the balance between the two sides in committee last year. If the second reading were passed, he should be under the necessity in committee of supporting or moving some amendment so as not altogether to prohibit vivisection upon dogs, but to give that additional safeguard that belonged to the animals mentioned in Section 5 of the Act of 1876. It was his proposal to remove the dog from one classification to another, and although perhaps it would not satisfy the promoters of the Bill, it would give some safeguard.

The amendment for the rejection of the Bill was defeated by 112 votes to 80. The second reading was then agreed to.

MONDAY, APRIL 20TH.

Ireland and Medical Benefits.

Mr. ARTHUR HENDERSON asked the Chancellor of the Exchequer whether he intended to make an attempt this session to secure the passage of the Bill to extend medical benefits under the National Insurance Act to insured persons in Ireland.—Mr. WEDGWOOD BENN (on behalf of Mr. LLOYD GEORGE) replied: My right honourable friend is communicating with my honourable friend on the matter to the effect that he fears it is impossible to make the promise asked for.

Insured Persons and Medical Tickets.

Mr. CHARLES BATHURST asked the honourable Member for St. George's-in-the-East, as representing the Insurance Commissioners, (1) whether he was aware that Approved Societies were instructed to cease notifying the Insurance Committees of the changes of addresses of their members as from Jan. 12th, whereas the London Insurance Committee failed to send out medical tickets to insured persons resident in their area until the end of March, and that over 25 per cent. of the medical tickets sent out by that Committee had already been returned through the dead letter office; and would he say what steps he proposed to take to secure that the medical tickets should reach insured persons in London who had not received the same and who were having to pay for medical treatment as private patients; and (2) whether his attention had been called to the letters of complaint constantly being received by Approved Societies from members who had not received medical tickets and who had not received any answer to the applications which they have made for the same upon the prescribed form; whether he was aware that in a number of such cases insured persons were being compelled to pay fees to panel doctors for treatment given before their medical card was received; and would he state what steps the Government proposed to take to deal with such cases?—Mr. WEDGWOOD BENN answered: Experience has shown that Approved Societies do not become aware of the changes of address of their members sufficiently early to render their notification to Insurance Committees of any value commensurate with the labour involved, and arrangements have accordingly been made under the system now established with the express object of enabling such notifications to be dispensed with. As I have already said, special procedure has been set up to enable insured persons who have not received medical cards to obtain them upon application, and my right honourable friend has no reason to believe that these arrangements are not adequate for the purpose. But if the honourable gentleman will furnish particulars of the cases referred to by him in which the applicants have not been promptly dealt with, he will cause inquiries to be made.

Motor Ambulances and Petrol Duty.

Mr. CROOKS asked the Chancellor of the Exchequer whether he would exempt from duty all the petrol spirit used by authorities under the Local Government Board which had a service of motor ambulances to convey patients to hospitals and infirmaries.—Mr. MONTAGU (Secretary to the Treasury) replied: My right honourable friend hopes to deal with this matter in the Revenue Bill.

TUESDAY, APRIL 21ST.

Institutions Approved for Medical Benefit.

Mr. SNOWDEN asked the honourable Member for St. George's-in-the-East, as representing the Insurance Commissioners, to state what number of institutions had been approved for medical benefit under Section 15, Subsection (4) of the National Insurance Act in England and Wales; the number of persons who had accepted this method of medical benefit; and the number of institutes which had received the full amount allowed for medical benefit.—Mr. WEDGWOOD BENN wrote in reply: 87 systems and institutions in England and Wales have been approved under Section 15 (4) of the National Insurance Act, 1911. The rest of the information asked for is not available.

Vaccination and Life Insurance.

Mr. SNOWDEN asked the Postmaster-General whether unvaccinated persons were granted annuities on more favourable terms than those who were vaccinated; and, if not, would he explain why this was not done, seeing that his department assumed on the recommendation of the National Debt Commissioners that those who were unvaccinated were more liable to contract small-pox and die from it than were the vaccinated.—Mr. HOBHOUSE answered: Annuities are granted on the same terms to vaccinated and unvaccinated persons. The applicant for an annuity is not required to furnish any evidence as regards health.

Mr. SNOWDEN also asked the right honourable gentleman whether his attention had been drawn to the fact that many of the principal life insurance offices did not now make any difference in the rates charged on the lives of unvaccinated as compared with vaccinated persons; whether he would state on what date the National Debt Commissioners recommended the differential treatment of unvaccinated persons as compared with the vaccinated under the life insurance scheme of the Post Office; whether he was aware that conscientious objection to vaccination had been recognised by the State since 1898; and whether he was aware that life insurance companies which did not impose restrictions of the character mentioned upon the assured were getting business which would otherwise be done through his department.—Mr. HOBHOUSE replied: I am aware that there is a diversity of practice amongst the life insurance offices with regard to the acceptance of proposals for life insurance from unvaccinated persons. The question of the acceptance of an unvaccinated person under the life insurance scheme of the Post Office first arose about two years ago.

WEDNESDAY, APRIL 22ND.

Cancer Research.

Captain FABER asked the Prime Minister whether, seeing that the disease of cancer had nearly doubled itself in the 30 years ending in 1910, and that the research into the disease was very costly, he would apportion a certain sum yearly for cancer research.—Mr. HERBERT LEWIS (Parliamentary Secretary to the Local Government Board) replied: A very large sum has been expended from voluntary sources for this purpose, and as at present advised my right honourable friend is not inclined to propose to the Treasury a State grant. He would, however, be glad to consider any representation on the subject which may be made by the honourable Member and others.

The Milk-Supply.

Mr. ASTOR in the evening proposed a motion calling attention to the unsatisfactory state of legislation and administration with reference to the milk-supply.

Mr. H. SAMUEL (President of the Local Government Board), in replying to the discussion, said that in a Bill which he would introduce before long a clause would provide that the Board of Agriculture should apply to imported milk similar restrictions to those imposed on home milk. In regard to compensation paid to farmers for the slaughter of tuberculous cows, it was recognised by the Board that the present form of Order was inadequate. The Board were on the point of issuing an amending Order which would grant compensation on more generous terms and assist the local authorities in their expenses in administering the Order. It was also necessary to trace back the tuberculous milk to the cow. The present provisions were most inadequate, and it was necessary to amend the law in that regard. In addition to tuberculosis, it was recognised that enteric fever, scarlet fever, and diphtheria were communicated by milk, and epidemics continued to be caused by infected milk. Further, dirty milk had a considerable bearing on the rate of infant mortality. All these matters needed to be dealt with. His department held the strongest view that it was essential that further measures should be taken to safeguard the health of the community. The law as to adulteration also required strengthening. Any Bill introduced should supersede the various local codes by uniform provisions. The Bill he hoped to introduce very shortly would be modified as compared with the Government's previous Bill so as to meet objections. The powers conferred were much more restricted. He proposed that the making of regulations should not rest with the Local Government Board alone, but that wherever the regulations touched the interests of farmers the concurrence of the Board of Agriculture should be required. Milk-sellers would be registered in order that their premises might be inspected, but he did not propose that they should be licensed. As to tuberculous milk he would take full powers to trace back the milk to its source and to deal effectively with the cows. He agreed that cost should not be imposed on the farmers. It was not a question of cost but of care. The Bill would enable samples of milk to be taken at any stage from the cow to the consumer. It would insist on the local authorities performing their duties, and the new grants in aid of rates ought to assist. Finally, it was hoped by the Bill to obtain uniformity in the law. As to certified milk, he would leave that open to be proposed as an amendment to the Bill if desired.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

CROSSE, R. E., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Referee under the Workmen's Compensation Act, 1906, attached more particularly to the Wandsworth County Court in County Court Circuit No. 45, to act also for the Reading, Newbury, Farnham and Aldershot, and Chertsey County Courts, and one of the Medical Referees for County Court Circuit No. 52, attached more particularly to the Hungerford County Court.

HARWOOD-HARDMAN, FREDERICK, M.D. Edin., has been appointed Honorary Radiologist to the Croydon General Hospital.

HORTON, THOMAS, M.D., B.S. Durh., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Consulting Surgeon to the Torbay Hospital, Torquay.

JONES, HERBERT, L.R.C.S. Irel., D.P.H. Camb., has been appointed President of the Society of Medical Officers of Health.

MASTERMAN-WOOD, JAMES LETT, M.B., Ch.B. Edin., has been appointed Honorary Anæsthetist to the Torbay Hospital, Torquay.

NALL, JOHN FREDERICK, M.D. Durh., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Honorary Anæsthetist to the Torbay Hospital, Torquay.

SCRASE, J. J. SHIRT, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Scattered Homes by the Newton Abbot (Devon) Board of Guardians.

SPONG, AMBROSE, M.D. Manch., Ch.B., F.R.C.S. Eng., has been appointed Honorary Surgeon to the Torbay Hospital.

TAYLOR, WILLIAM PEACH, L.M.S.S.A., has been appointed Honorary Surgeon to the Bristol Eye Dispensary.

WILLIAMS, RICHARD, L.R.C.P. Edin., M.R.C.S., has been appointed one of the Medical Referees under the Workmen's Compensation Act, 1906, for County Court Circuit No. 29.

ERRATUM.—The announcement was made on April 4th that Dr. William Macewen had been appointed Epidemiologist to the Metropolitan Asylums Board. Dr. Macewen was appointed on April 1st, 1914, as a Temporary Medical Assistant in the Public Health Department of the London County Council, and we regret the appearance in our columns of the erroneous notice.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ARGYLL, COUNTY OF.—Assistant County Medical Officer and Executive Tuberculosis Officer. Salary £300 per annum.

BARNSLEY, BECKETT HOSPITAL AND DISPENSARY.—Second House Surgeon, unmarried. Salary £100 per annum, with apartments, board, and laundry.

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL.—House Surgeon. Salary £120 per annum, with residence, board, and laundry.

BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

BETHNAL GREEN INFIRMARY AND WORKHOUSE, Cambridge Heath, E.—Assistant Medical Officer. Salary at rate of £120 per annum, with apartments, board, and washing.

BIRKENHEAD UNION INFIRMARY.—Senior Resident Assistant Medical Officer. Salary £150 per annum, with board, apartments, &c.

BIRMINGHAM CITY HOSPITAL, Lodge-road.—Assistant Resident Medical Officer. Salary £160 per annum, with board, residence, &c.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer and Resident Surgical Officer. Salary £80 per annum each, with board, washing, and attendance.

BIRMINGHAM, QUEEN'S HOSPITAL.—House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

BIRMINGHAM UNION.—DUDLEY-ROAD INFIRMARY: Resident Assistant Medical Officer. Salary £150 per annum, with apartments, rations, laundry, and attendance.

BOMBAY, BARODA, AND CENTRAL INDIA RAILWAY.—Medical Officer. Salary Rs.500 per calendar month.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £120 per annum, with board, residence, and laundry.

BRADFORD ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing.

BRIGHTON PARISH POOR-LAW INSTITUTION, Elm Grove.—Resident Assistant Medical Officer, unmarried. Salary at rate of £140 per annum, with furnished house, rations, &c.

BRIGHTON, ROYAL SUSSEX COUNTY HOSPITAL.—Honorary Medical Clinical Assistant and Honorary Surgical Clinical Assistant.

BRISTOL CITY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, washing, and attendance.

BRISTOL CITY TUBERCULOSIS SCHEME.—Assistant Medical Officer. Salary £200 per annum, with board, rooms, and attendance.

BROADMOOR, CROWTHORNE, BERKS, STATE CRIMINAL LUNATIC ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £225 per annum, with quarters, coal, gas, and attendance.

BURNLEY, VICTORIA HOSPITAL.—Second House Surgeon for six months. Salary at rate of £100 per annum, with residence, board, and washing.

BURY INFIRMARY.—Junior House Surgeon. Salary £100 per annum, with board, residence, and washing.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary £200 per annum, with apartments.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd-street, St. Pancras, W.C.—House Surgeon. Salary at rate of £50 per annum, with board and residence.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.—Resident House Surgeon. Salary £50 per annum, with board and laundry.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistants for three months.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House Physician. Salary £90 per annum, with board, apartments, and laundry.

CHICHESTER, WEST SUSSEX COUNTY MENTAL HOSPITAL.—Junior Assistant Medical Officer. Salary £200 to £250 per annum, with apartments, board, laundry, and attendance.

DARLINGTON HOSPITAL AND DISPENSARY.—House Surgeon, unmarried. Salary £140 per annum, with board, lodging, and laundry.

DERBY COUNTY ASYLUM, Mickleover, Derby.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, and washing.

DERBY, COUNTY BOROUGH OF.—Junior Assistant Medical Officer of Health. Salary £150 per annum, with board and residence.

DEVONPORT, ROYAL ALBERT HOSPITAL.—House Surgeon, unmarried. Salary £50 for first six months, £75 for second six months, and at rate of £150 per annum during second year. Also Assistant House Surgeon, unmarried. Salary at rate of £75 per annum, with board and laundry.

DEWSBURY AND DISTRICT GENERAL INFIRMARY.—House Surgeon. Salary £120 per annum, with board, residence, and laundry.

DUDLEY, GUEST HOSPITAL.—Senior Resident Medical Officer. Salary £120 per annum, with board, residence, attendance, and washing.

DURHAM COUNTY ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, and washing.

DURHAM COUNTY COUNCIL.—Two School Medical Inspectors. Salary £300 per annum.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House Surgeon for six months. Salary at rate of £75 per annum, with board, residence, laundry, &c. Also Medical Officer to Casualty Department for six months. Salary at rate of £100 per annum, with luncheon and tea provided.

ECCLES AND PATRICROFT HOSPITAL.—House Surgeon. Salary £70 per annum, with board, washing, and lodging.

ENNISKILLEN, FERMANAGH COUNTY HOSPITAL.—House Surgeon. Salary £104 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—House Surgeon for six months. Salary at rate of £75 per annum, with board, residence, and washing.

HALIFAX ROYAL INFIRMARY.—Second House Surgeon and Third House Surgeon, unmarried. Salary £100 and £80 per annum respectively, with residence, board, and washing.

HALIFAX *UNION POOR-LAW* HOSPITAL, Salterhebble.—Resident Medical Officer. Salary £120 per annum, with apartments, rations, and washing.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL, Haverstock Hill.—Clinical Assistant to Throat, Nose, and Ear Department for six months.

HASTINGS, EAST SUSSEX HOSPITAL.—House Physician. Salary at rate of £80 per annum, with residence, board, and washing.

HELLINGLY, EAST SUSSEX COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, washing, and attendance.

HOSPITAL FOR EPILEPSY AND PARALYSIS, *AND OTHER DISEASES OF* THE NERVOUS SYSTEM, Maida Vale, W.—Resident Medical Officer for six months. Salary at rate of £75 per annum, with board, *lodging, and washing.*

HOSPITAL FOR WOMEN, Soho-square.—Clinical Assistants in Out-patient Department.

HUDDERSFIELD ROYAL INFIRMARY.—Assistant House Surgeon. Salary £80 per annum, with board, residence, and washing.

HUNTINGDONSHIRE COUNTY COUNCIL.—Assistant County Medical Officer and Assistant School Medical Officer (female). Salary £300 per annum.

KENT COUNTY COUNCIL.—Locum Tenens Tuberculosis Officer for four months. Salary at rate of £500 per annum.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum and board.

LEEDS GENERAL INFIRMARY.—House Surgeon for six months. Also House Surgeon. Board, residence, and laundry provided in each case. Also *Resident Medical Officer for six months at Ida and* Robert Arthington Hospitals. Salary £60 per annum, with board, residence, and laundry.

LEEDS, WEST RIDING ASYLUM, Menston.—Fourth Assistant Medical Officer. Salary £200 per annum, with board and apartments.

LEICESTER POOR-LAW INFIRMARY.—First Resident Assistant Medical Officer and Second Resident Assistant Medical Officer. Salary £200 and £150 per annum respectively, with rations, apartments, and washing.

LEICESTER ROYAL INFIRMARY.—Assistant House Surgeon for six months. Salary at rate of £100 per annum, with board, apartments, and washing.

MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

MALDON, ESSEX, MALDON UNION.—Medical Officer and Public Vaccinator. Salary £80 per annum.

MANCHESTER, BAGULEY SANATORIUM FOR TREATMENT OF TUBERCULOSIS.—Assistant Medical Officer. Salary £200 per annum, with board and residence.

MANCHESTER *CHILDREN'S HOSPITAL (OUT-PATIENTS' DEPARTMENT)*, Gartside-street, Manchester.—Senior Medical Officer. Salary £180 per annum. Also Assistant Medical Officer for six months. Salary £50 per annum.

MIDDLESBOROUGH, NORTH ORMESBY HOSPITAL.—Assistant House Surgeon. Salary at rate of £100 per annum first six months and £110 per annum afterwards, with board, apartments, washing, and attendance.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland-street, W.—Assistant Dental Surgeon.

NATIONAL SANATORIUM, Benenden, Kent.—Assistant Medical Officer. Salary £120 per annum, with board, residence, and laundry.

NEWARK-UPON-TRENT HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and laundry.

NEWCASTLE-UPON-TYNE HOSPITAL FOR SICK CHILDREN.—Honorary Assistant Surgeon. Also Junior Medical Officer for six months. Salary £80 per annum, with board, lodging, and laundry.

NOTTINGHAM CITY ASYLUM.—Locum Tenens Assistant Medical Officer for about three months. Salary £5 5s. per week, with apartments, board, and washing.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Physician. Salary £100 per annum, with board, residence, and laundry.

OLDHAM ROYAL INFIRMARY.—Senior House Surgeon and Second House Surgeon for six months. Salary £140 and £120 per annum respectively, with residence, board, and laundry.

PADDINGTON GREEN CHILDREN'S *HOSPITAL*, London, W.—House Physician and House Surgeon for six months. Salary at rate of £52 10s. each per annum, with board and residence.

PEMBROKESHIRE EDUCATION AUTHORITY.—*Assistant School Medical* Officer. Salary £300 per annum.

PETERBOROUGH INFIRMARY AND DISPENSARY.—House Surgeon, unmarried. Salary at rate of £120 per annum, with *residence*, board, and laundry.

PORTSMOUTH CORPORATION MENTAL HOSPITAL.—Assistant Medical Officer, unmarried. Salary £225 per annum, with board, apartments, attendance, and washing.

PORTSMOUTH WORKHOUSE INFIRMARY, WORKHOUSE, AND CHILDREN'S HOME.—Second Assistant Resident Medical Officer, unmarried. Salary £130 per annum, with apartments, rations, &c.

PRESTON ROYAL INFIRMARY.—Resident Medical and Surgical Officer, unmarried. Salary £150 per annum, with board, residence, and laundry.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Pathologist. Salary 120 guineas per annum. Also Honorary Medical Registrar.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—Assistant Resident Medical Officer for four months. Salary at rate of £50 per annum, with board, residence, and washing.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road.—House Physician for six months. Salary at rate of £80 per annum, with board, residence, and washing.

READING, ROYAL BERKSHIRE HOSPITAL.—Second House Surgeon for six months. Salary at rate of £80 per annum, with lodging, board, and washing.

ROCHDALE INFIRMARY.—Senior House Surgeon, unmarried. Salary £110 per annum, with board, residence, and laundry.

ROTHERHAM HOSPITAL.—Assistant House Surgeon. Salary £100 per annum, with board, lodging, and washing.

ROYAL INSTITUTE OF PUBLIC HEALTH, *Russell-square*, W.C.—Assistant Director of the Bacteriological Laboratories. Salary £250 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Honorary Physicians.

ST. MARK'S HOSPITAL FOR CANCER, *FISTULA*, AND OTHER DISEASES OF THE RECTUM, City-road, E.C.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

ST. PANCRAS SOUTH *INFIRMARY* AND WORKHOUSE, Pancras-road.—Senior Assistant Medical Superintendent and Senior Assistant Medical Officer. Salary at rate of £175 per annum, with residential *allowances.*

SALISBURY INFIRMARY.—Assistant House Surgeon, unmarried. Salary £75 per annum, with apartments, board, lodging, and washing.

SHEFFIELD, EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—House Surgeon for Out-patient Department. Salary £100 per annum, with board and residence.

SHEFFIELD ROYAL INFIRMARY.—Ophthalmic House Surgeon for six months. Salary £80 per annum, with board and residence.

SHEFFIELD, SOUTH YORKSHIRE ASYLUM, Wadsley.—Locum Tenens Assistant Medical Officer for five months. Salary £5 5s. per week, with apartments, board, and attendance.

SHEFFIELD UNION HOSPITAL, Firvale.—Resident Assistant Medical Officer, unmarried. Salary £140 per annum, with apartments, rations, &c.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Junior House Surgeon. Salary at rate of £100 per annum, with rooms, board, and washing.

STOCKPORT, COUNTY BOROUGH OF.—Tuberculosis Officer. Salary £400 per annum.

TOTTENHAM EDUCATION COMMITTEE.—Assistant School Medical Officer. *Salary £300 per annum.*

TRINIDAD, BRITISH WEST INDIES.—Three Medical Officers required to Conduct Campaign against Ankylostomiasis. Medical Officer in Charge, salary £600 per annum. Two Assistant *Medical Officers*, salaries £400 per annum.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, &c.

WALSALL AND DISTRICT HOSPITAL.—Senior House Surgeon and Assistant House Surgeon. Salary £150 and £110 per annum respectively, with board, residence, and laundry.

WARRINGTON, LANCASHIRE COUNTY ASYLUM, Winwick.—Locum Tenens Medical Officer, unmarried, for about five months. Salary 6 guineas per week, with board, apartments, attendance, and washing.

WEST HAM UNION SICK HOME, Forest-lane, Forest Gate.—Second Assistant Resident Medical Officer. Salary £160 per annum. Also Female Assistant Medical Officer at Workhouse, Union-road, Leytonstone, N.E. Salary £140 per annum.

WEST LONDON HOSPITAL, Hammersmith, W.—Ophthalmic Surgeon. Also Resident Casualty Officer for six months. Board, lodging, and *laundry provided.*

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £100 per annum, with board, apartments, and washing.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer. Also Two House Surgeons for six months. Salary in each case at rate of *£125 per annum*, with board, rooms, and laundry.

WREXHAM INFIRMARY.—Resident House Surgeon. Salary £120 per annum, with board, lodging, and *washing.*

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of a vacancy for a Certifying Surgeon under the Factory and Workshop Acts at Llanwrtyd Wells, in the county of Brecknock.

Births, Marriages, and Deaths.

BIRTHS.

DAVIS.—On April 20th, at Darelan, West Heath Drive, Hampstead, the *wife of* Edward D. Davis, F.R.C.S., of a son.

MCALLUM.—On April 15th, at Scotswood, Milford-on-Sea, *the wife* of J. H. McAllum, M.R.C.S., of a daughter.

SLATER.—On April 14th, at Holme *Top* House, Bradford, Yorkshire, Ella (neé Beales), the wife of B. Holroyd Slater, B.A., M.B., F.R.C.S., of a daughter.

MARRIAGES.

FOWLER—STONE.—On April 18th, at All Saints', Isleworth, Middlesex, Oliver H. Fowler, M.R.C.S. Eng., to Helen Grace Stone, daughter of C. Stone, Lancing, Worthy-road, Winchester.

WALKER—HARDING.—On April 15th, at Woodford Parish Church, Gerald Walker, M.A., M.B., D.P.H. Cantab., to Gertrude, second daughter of Mr. and Mrs. Charles F. Harding, of Churchfields, Woodford.

DEATHS.

GRIFFITHS.—On April 17th, at Ferncoombe, Bournemouth, *Thomas* Druslyn Griffiths, M.D. Lond., D.Sc. Oxon., in his 78th year.

LEES.—On April 15th, at South-side, *Clapham* Common, S.W., suddenly, Dr. Joseph Lees.

MATCHETT.—On April 15th, at Nether Stowey, Anwyl *Charles* Matchett, M.B., C.M., aged 45.

PEARSE.—On April 14th, 1914, at Torquay, Thomas Fredk. *Pearse*, M.D., F.R.C.S. Eng., late Medical Officer of Health, Calcutta, aged 57 years. Indian papers please copy.

WILLIAMS.—On April 20th, at Bennett Park, Blackheath, *Hutchins* Williams, M.D. Edin., M.R.C.S. Eng., L.R.C.P. Lond., in his [illegible] year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

"GUY'S MEN."

THERE are few things more helpful to the continuance of worthy effort than a long line of honourable tradition of achievement, fostered in each succeeding generation by the presence of a standing object lesson rather than by precept. The plan which has been adopted at Guy's Hospital of collecting and placing in special bookcases near the entrance to the Wills library books written by Guy's men is calculated to subserve this end and is worthy of commendation and imitation elsewhere. Mr. William Wale, librarian of Guy's Hospital, has contributed to the Guy's Hospital Reports (Guy's Hospital Reports, 1913, vol. lxvii. (reprint)) an annotated list of these books, including under the term Guy's men "those who have at any time been connected with the hospital, either as students or in an official capacity." Garrison ("Richard Bright's Travels in Lower Hungary; a Physician's Holiday," *Johns Hopkins Hospital Bulletin*, June, 1912) has pointed out that the special achievement of the men of Guy's lay in the department of original descriptions of disease. Addison's description of suprarenal disease, Bostock's—the first complete one—of hay fever, Bright's penetrating observation not only of morbus brightii, but of acute yellow atrophy of the liver and other conditions, Hodgkin's account of the disease that bears his name, all so philosophic in breadth of grasp, Pavy's researches on diabetes, Wilks's descriptions of post-mortem appearances in disease, not to mention more recent work of many still among us, at once come to mind. But Mr. Wale's notes furnish us also with some interesting items of medical gossip. In the matter of "records," Thomas Bell (1792–1880), of Guy's, according to Sir John Erichsen, was the first to apply the general rules of surgery to the art of dentistry, while Joseph Fox, also of Guy's, was probably the first dentist in England to write a scientific work on the teeth (1803) and give lectures at a medical school. To Guy's also belongs the honour of having furnished the first trials in this country of static electricity in disease (Addison and Golding-Bird, 1837), the first gastrostomy in England (Cooper Forster, 1858), the first discovery of albuminous urine in puerperal eclampsia (J. C. W. Lever, 1843), the first publication of annual hospital reports, the first President of the Royal Medico-Chirurgical Society (Williams Saunders, 1805) and of the Epidemiological Society (Dr. Babington, jun.), and the first course of lectures in English on medical jurisprudence (Alfred Swaine Taylor, 1831). There is in the library, it need hardly be said, a complete series of the poetical works of John Keats; also a life of the Rev. Frederick Denison Maurice, who was chaplain to Guy's from 1836-46. It is worthy of note that Thomas Hodgkin was offered the Fellowship of the Royal College of Physicians in 1836, but declined to accept an honour which, in his opinion, created an invidious distinction; while equally noteworthy is the fact that when Golding-Bird, at the age of 21, submitted himself for examination for the L.S.A., that body, in view of his already established reputation, declined to examine him and conferred its licence on him with "the honours of the court." We learn also that the founder of the hospital, Thomas Guy, has at least thrice been credited with saintship, for "St. Guy's Hospital" is referred to in the register of Deadman's Place Meeting House (1758), in an essay by Thomas Sutton, M.D. (1813), and in a letter from Sir Robert Peel, then Prime Minister, to Queen Victoria (1845). But Mr. Cuthbert Golding-Bird, who points out the first of these mistakes, incontinently makes a knight instead of a saint of him—Sir Thomas Guy, knight. A very interesting note is Sir Astley Cooper's estimate of himself, found among his private papers after his death: "Sir A. Cooper," it reads, "was a good anatomist, but never was a good operator where delicacy was required. He felt too much before he began, ever to make a perfect operator. Quickness of perception was his forte, for he saw the nature of disease in an instant, and often gave offence by pouncing at once upon his opinion. The same faculty made his prognosis good. He was a good anatomist of morbid as well as of natural structure. He had an excellent and useful memory. In imagination he was vivid. His principle in practice was never to suffer any who consulted him to quit him without giving them satisfaction on the nature and proper treatment of their case. My own success depended upon my zeal and industry, but for this I take no credit, as it was given to me from above." A note of striking present interest is on the flyleaf of Dr. Robert John Thornton's "Easy Introduction to the Science of Botany" (1823): "This book contains a singular discussion as to whether it is decent to teach girls botany, seeing that plants have sexual organs and functions."

"ON A BUSINESS FOOTING."

A WELL-KNOWN consulting surgeon recently received the following communication, type-written, from a person of whom he had never previously heard. We suppress all names, but publish the letter as a good illustration of the profound belief that some members of the public have in the venality of the doctor.

> DEAR SIR,—Dr. A——, of B——, has advised me to write to you to inform you that I am willing to receive a delicate lady or convalescent patient, with or without nurse companion, as paying guest. —— House is delightfully situated, standing high in own grounds, commanding superb views over moorlands. Good tennis-court, orchard, flower garden, and meadows. Young companionship with my daughters, who speak perfect idiomatic French, and would coach in same. We are ten minutes from C——, and close to beautiful inland country and scenery. Close to golf and tennis clubs. Hunting with two packs. Good sea and river fishing. We live exceedingly well and most liberal table kept. I myself had hospital training many years ago, and all my life had much experience with illness and nursing, and would ensure that a delicate guest received every care and attention.
>
> Our climate is mild in winter. ...... We have an invigorating mixture of sea and moorland air which is restful and yet health-giving for convalescents or nerve patients, who rapidly regain health and strength. ...... Dr. A—— will be pleased at any time to answer questions and act as referee, and we are also well known to, and personal friends with, the Vicar of D——, who would also act as referee.
>
> I might mention that in return for any kind assistance you may give me by recommendation and sending me patients, I should like all to be on a business footing and for there to be a liberal commission on every guest—a definite fee to you on arrival of guest, followed by regular weekly commission throughout the visit. Trusting that you may be able to send me guests (I am willing to take two, but not more),
>
> Yours faithfully, (Lady) —— ——.

We are perfectly certain that Lady —— has no idea that her letter is a concentrated insult. From her point of view she is making an ordinary commercial offer.

PLANE TREES AND DISEASE.

WE observe that this week the question has been again raised whether the broken fruit spicules of the plane trees floating in the air in parts of London give rise to inflammation of the eyes and air passages. We referred at some length to this question in an annotation published in THE LANCET of May 14th, 1910, p. 1363, when we said that the evidence adduced was far from convincing, although there was nothing inherently improbable in the suggestion. At the same time we hoped that the character of these trees would be vindicated, as they grow well in London and are a welcome addition to our streets and parks.

THE LEBANON HOSPITAL FOR THE INSANE.

THE efforts of Mr. Theophilus Waldemeier, the founder of the Brumana station of the Friends' Foreign Missionary Society, warmly seconded by workers of all nationalities in Syria and by many friends in England, America, Switzerland, and elsewhere, resulted in the opening of the Asfuriyeh Asylum in August, 1900. This is to this day the only hospital for the insane in Syria or Palestine, and no other on a similar plan exists in the Ottoman Empire, though several hospitals in the capital have wards for the insane. The hospital property, of 36 acres, is situated about five miles from Beirut, at an elevation of some 400 feet above the sea, in a most healthful region, and has a good supply of water. It has now accommodation for 100 patients. A new building is being erected for 30 more men. The hospital is always overcrowded, and men and women have constantly to be turned away. Last year 201 patients enjoyed the benefits of this hospital, of whom 95 were remaining from the preceding year. Of the 106 new cases, 66 were men and 40 women. 103 remained at the end of the year under consideration. Of the other 98, 24 were discharged cured, 18 improved, 40 unimproved, while 14 died. Two others admitted were found to be not insane. In the 12 years from its opening to 1912, over 1000 patients have been received, of whom 290 have recovered and 241 have been dismissed improved. This 1000 represent a wide geographical area, for besides the large number from the Lebanon district and Beirut, many have come from Damascus, Sidon, Baalbek, Tarsus, Cæsarea, Adana, Marash, Aleppo, Egypt, Cyprus, and further away. They represent many religions, too. Thus, there have been 364 orthodox, 259 Maronites, 161 Moslems, 86 Jews, 84 Roman Catholics, 62 Protestants, 13 Druses, and 6 Armenians. These figures show the international and undenominational nature of the enterprise. The executive committee of the hospital is in Beirut, and consists of

Dr. Webster, Dr. Moore, Dr. Graham, Dr. Adams, and Dr. Hoskins. This committee works in connexion with a general committee in London, of which Miss A. M. Gooch is the general secretary. The income from invested funds is £230 annually, and the annual subscriptions and donations amount to £1230. In spite of the fact that one-third of the patients are utterly destitute and another third pay extremely little, the income from patients stands at £2070, a most encouraging showing. Yet it will be seen that these amounts are far too small for an institution of the size and possibilities of this one. Another £1040 yearly is very much needed.

THE PRINTING AND ALLIED TRADES EXHIBITION.

THIS exhibition, to be opened at the Royal Agricultural Hall by the Lord Mayor of London on May 13th, will be the largest and most representative exhibition of its kind ever held, every available space in the Great Hall, the Gilbey Hall, King Edward's Hall, and the galleries being occupied with exhibits strictly appertaining to the graphic arts. New machinery and appliances will be shown alike interesting to the expert and the general public, in addition to a very fine display of specimens of printing by all processes, including photogravure. The exhibition has the support of the various societies associated with the printing and allied trades, and most firms of repute in the industries represented are co-operating, we understand, to make this quadrennial exhibition a success.

"VIROLAX."

IN our analytical report of this preparation last week we stated that analysis gave 36 per cent. of total unsaponifiable oil (petroleum). This result is by weight, which substantiates the claim that virolax contains approximately 50 per cent. by volume of petroleum.

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Parathalassa.—Theocin-sodio-acetate, or, to give it its full name, theophylline-sodium-sodio-acetate, is a compound of sodium acetate and theophylline (di-methyl xanthine), an alkaloid obtained by synthesis (patented), and called generally theocin, which is isomeric with theobromine. (Reported favourably upon for œdema and dropsy of cardiac origin and as seldom causing unpleasant effects.) Theobromine sodium salicylate (diuretin) is a compound of the true theobromine with sodium salicylate, a diuretic which given in small doses causes sleeplessness without affecting the nervous system. It has been described as a safe diuretic in scarlatinal dropsy of children. These preparations are generally conceded to be more powerful diuretics than the ordinary tartrates, acetates, and citrates.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced:—

April 27th–May 1st (London, Royal Horticultural Hall).—Nursing Conference and Exhibition.
May 1st–Nov. 1st (Lyons).—International Town Hygiene Exhibition.
,, 15th–Oct. 15th (Berne).—Swiss National Exhibition.
,, 18th–21st (London, Imperial Institute).—Victoria League Imperial Health Conference.
May–October (London, Shepherd's Bush).—Anglo-American Exposition.

METEOROLOGICAL READINGS.

(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

THE LANCET Office, April 22nd, 1914.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
April 16	30·51	N.E.	...	100	59	39	43	46	Fine
,, 17	30·27	S.E.	...	106	60	43	48	51	Cloudy
,, 18	30·10	S.E.	...	107	61	46	47	53	Fine
,, 19	30·23	S.E.	...	111	68	46	48	52	Fine
,, 20	30·29	E.	...	111	73	46	49	54	Fine
,, 21	30·34	S.E.	...	107	74	49	49	58	Fine
,, 22	30·22	S.	...	85	65	54	53	57	Cloudy

The following journals, magazines, &c., have been received:—British Journal of Nervous and Mental Disease, Medical Chronicle, British Journal of Dental Science, American Journal of Orthopedic Surgery, Quarterly American Medicine, Therapist, London Hospital Gazette, Quarterly of the Federation of State Medical Boards of the United States, British Indian Medical Record, Revista Especialidades Médicas, British Dental Journal, Journal of Obstetrics and Gynæcology of the British Empire, Surgery, Gynecology and Obstetrics, Archives of Pediatrics, Office International d'Hygiène Publique, Knowledge, &c.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London W.

THURSDAY.—Dr. J. C. Willis: On the Lack of Adaptation in the Tristichaceæ and Podostemaceæ (communicated by Dr. D. H. Scott, foreign secretary to the Royal Society).—Mr. R. P. Gregory: On the Genetics of Tetraploid Plants in Primula Sinensis (communicated by Prof. W. Bateson).—Mr. J. A. Gunn: The Action of Certain Drugs on the Isolated Human Uterus (communicated by Prof. C. S. Sherrington).—Prof. B. Moore: The Presence of Inorganic Iron Compounds in the Chloroplasts of the Green Cells of Plants, considered in Relationship to Natural Photo-synthesis and the Origin of Life.—Mr. D. J. Lloyd: The Influence of Osmotic Pressure upon the Regeneration of Gunda Ulvæ (communicated by Prof. J. S. Gardiner).—Surgeon-General Sir D. Bruce, Major A. E. Hamerton, Captain D. P. Watson, and Lady Bruce: (1) Glossina Brevipalpis as a Carrier of Trypanosome Disease in Nyasaland; (2) Trypanosome Diseases of Domestic Animals in Nyasaland. Trypanosoma Pecorum—Part III., Development in Glossina Morsitans.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY.

SECTION OF ODONTOLOGY (Hon. Secretaries—Robert McKay, F. Coleman): at 8 P.M.

Casual Communications:

By Mr. W. H. Dolamore, Mr. G. Northcroft, Mr. F. N. Doubleday, Mr. H. C. Visick, Mr. Wm. de C. Prideaux.

TUESDAY.

SECTION OF MEDICINE (Hon. Secretaries—H. Batty Shaw, John Fawcett): at 5.30 P.M.

Dr. E. P. Poulton: Observations on CO_2 in Alveolar Air of Diabetics, especially in Relation to Onset of Coma, with Demonstration of Fridericia's Method of Measuring it Clinically.

Dr. F. Parkes Weber: (1) Aplastic Anæmia; (2) Multiple Superficial Linear Ulceration of the Stomach.

Dr. J. A. Braxton Hicks: A Pedunculated Intratracheal Tumour (Sarcoma) causing Bronchiectasis.

FRIDAY.

SECTION OF LARYNGOLOGY (Hon. Secretaries—E. A. Peters Cecil I. Graham): at 4 P.M.

Annual Meeting.—Election of Officers and Council for Session 1914–1915.

Cases:

Will be shown by Dr. Milligan, Dr. Jobson Horne, Dr. E. A. Peters, and others.

(The SEMON LECTURE (University of London) will be given on May 28th by Professor Killian (of Berlin) on Suspension Laryngoscopy.)

SECTION OF ANÆSTHETICS (Hon. Secretaries—H. E. G. Boyle, Cecil Hughes): at 8.30 P.M.

Paper:

Dr. Goodman Levy: Sudden Death under Chloroform Anæsthesia.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Dr. P. Stewart: Recent Treatment of Cerebro-Spinal Syphilis and General Paralysis.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne-street, Edgware-road, W.

THURSDAY.—8.30 P.M., Paper:—Mr. E. Clarke: Errors in Diagnosis and Treatment in Ophthalmic Practice.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, West London Hospital, Hammersmith-road, W.

FRIDAY.—8 P.M., Members are invited to show cases. Paper:—Dr. F. G. Crookshank: Exophthalmic Goitre, its Pathogeny and Treatment.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY.—5 P.M., Mr. Shattock: Specimens illustrating Papilloma and Adenoma. (Museum Demonstration.)

FRIDAY.—5 P.M., Prof. Keith: Various Forms of Peritoneal Adhesions, Bands, and Mesenteries. (Museum Demonstration.)

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. 2.30 P.M., Mr. P. Harman: Diseases of the Eye.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Dr. Simson: Diseases of Women

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THURSDAY.—9.30 A.M., Dental Department, Mr. G. Thomson. 10 A.M., Cardiac Department, Dr. Stott. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department, Dr. Phear, Dr. S. Thompson. 4.30 P.M. Laryngological Department, Mr. Mant.

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ON

SOME MODERN THEORIES CONCERNING HYSTERIA.

Delivered before the Royal College of Physicians of London on March 19th, 24th, and 26th, 1914,

BY J. A. ORMEROD, M.D. OXON.,
F.R.C.P. LOND.,

REGISTRAR TO THE COLLEGE; CONSULTING PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL AND TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, QUEEN SQUARE.

LECTURE II.[1]

Delivered on March 24th.

MR. PRESIDENT, FELLOWS, AND GENTLEMEN,—In my first lecture I considered some of the most striking symptoms of hysteria with the view of showing the difficulty in choosing absolutely between the two alternative methods of explaining them—namely, the physiological and the psychological. I must now turn to the various theories that have been propounded about this disease, limiting myself for brevity's sake to a few, and to recent theories only.

Briquet, the pioneer in modern studies of hysteria, says that it is a disorder of that part of the nervous system which subserves the emotions. Dejerine says: "What emotion can produce as temporary effects, hysteria can produce as lasting effects." Sir Bryan Donkin lays stress on exaggerated impressionability or tumultuous emotion as a principal factor in the disease. Oppenheim holds that hysteria is a disorder of the mind, principally affecting the emotional sphere, and consisting in a want of proportion between the intensity of the stimulus and the strength of the reaction.

Russell Reynolds, Charcot, and Moebius all emphasised the importance of "ideas" in producing hysterical symptoms. Bernheim and Babinski find the keynote in "suggestion." Sollier maintains that there is a torpor of the brain, local or general. Dr. S. J. Sharkey looks on hysteria as a peculiar condition of the brain in which the current or nerve force is distributed in an irregular and fluctuating way, so that some centres are apt to be flooded, others left high and dry, the result being in the one case overaction, in the other paralysis.

Dr. Parkes Weber, regarding hysteria from the point of view of phylogenesis, suggests that it is a sort of secondary sexual character.

Most of these opinions, valuable as they are, have not been elaborated into precise theories, so as to explain in detail the wonderful variety of symptoms which meets us in this disease. Let us go on then to authors who aim at more detailed explanation of the facts.

PHYSIOLOGICAL VIEWS.

Dr. Charlton Bastian[2] studies hysteria from the point of view of anatomy and physiology. He thinks, however, that the term "hysterical" should not be applied to all nervous affections for which we cannot find an organic cause; there are some which we may justly term functional, but not hysterical. The class of cases which he would thus detach from hysteria is a limited but very important one—viz., paralyses, motor and sensory. One reason given for thus detaching them is that such paralyses may often be found in patients who exhibit no other symptoms—no fits, that is, nor mental peculiarities, such as proneness to exaggeration or caprice, which Bastian apparently considers to be most characteristic of hysteria. Further, whereas hysteria is generally considered to be a perversion of the highest cerebral functions, these paralyses can, in his view, be shown to depend on local affections of the nervous system, and that not only of the cerebral cortex, but also of the lower centres and of the afferent nerve fibres. I alluded in my first lecture to certain similarities between hysterical and organic paraplegia; these and other similarities between hysterical and organic paralysis are studied by Bastian in detail and in a most interesting series of cases. I must be very brief in considering these.

A young woman was unable to move her right arm. There was (at the time of observation) very little sensory loss, except that there was loss of muscular sense in that arm. There was no rigidity. She stated that she could imagine or picture to herself movements of the left (non-paralysed) arm, but could not imagine movements of the right. This type of monoplegia corresponds to the effects of a local lesion in the arm centre of the left Rolandic area—an area which, in Dr. Bastian's view, is not so much motor in function as kinæsthetic. Movements were no longer possible, because the memories of movements were annulled.

We may take other kinds of case. The hemianæsthesia so common in hysterical cases would be explained as a failure of function in the posterior part of the opposite internal capsule, and a paraplegia, unaccompanied by loss of sensation, but accompanied by rigidity, as a failure of function in the pyramidal tracts of the cord.

Consideration of So-called Functional Paralysis.

Any views enunciated by a physician of Dr. Bastian's experience, and enforced by the cogency of argument whereof he is a master, must deserve the greatest respect. Yet I cannot altogether bring myself to agree with him in separating these forms of so-called functional paralysis from hysteria. His arguments for so doing are mainly two. First, that the affection is a local one. But is this satisfactorily proved? Take the fairly common case of a hysterical hemiplegia, which is generally incomplete and non-spastic, but combined with a hemianæsthesia which is often very marked. On the localising hypothesis there must be two lesions, one in the Rolandic centre and another in the sensory part of the internal capsule. Does not the necessity for supposing two lesions indicate a weak spot in the localising hypothesis? Again, take the spastic cases, and particularly spastic paraplegia. We cannot thoroughly discuss these without reference to Babinski's sign (the extensor plantar reflex). The presence or absence of this is not mentioned by Bastian, for the very good reason that the sign was not known at the time when he wrote. Still, knowing, as we now do, that Babinski's sign is always absent in functional disease, we may assume that it would not have been found in Bastian's cases. Here, then, would be a contradiction; rigidity is present, and from its presence we are asked to infer an abnormal condition of the pyramidal tracts, but Babinski's sign, a far more delicate index of the condition of the pyramidal tracts, is absent. Take, again, the symptom of anæsthesia. If this symptom (as I endeavoured to show in my first lecture) is in a sense unreal—i.e., that many of these patients feel, though they do not know that they feel—surely this

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[1] Lecture I. was published in THE LANCET of April 25th, 1914, p. 1153.

[2] Hysterical or Functional Paralysis. London: H. K. Lewis, 1893.

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militates against the notion of a local lesion, even of a "functional" nature, in the afferent tracts. For how can nerve fibres be so damaged as to bar the transmission of conscious sensations and at the same time let the subconscious sensations through? Lastly, it appears that such paralyses, whether motor or sensory, have been made and unmade by hypnotic suggestion. It is difficult to suppose that such an action takes place in the conducting fibres or anywhere else than in the highest centres.

Dr. Bastian's other reason for refusing to call these forms of paralysis hysterical is that many such patients have no hysterical fits and exhibit no hysterical temperament. But others of them certainly do have fits, and what is more to the point, occasionally a paralysis of this kind appears as the direct sequel of a hysterical fit. About a patient's temperament it is often difficult to be sure without an intimate personal knowledge. Besides there are some patients whom with Charcot we must recognise as "*hystériques placides*." Lastly, in the history of these hysterical paralytics we often find the same sequence of events as in typical hysteria—namely, a neuropathic family history, disappointments, grief, anxiety, fright, ill-health, traumatisms, and (shall I say it?) surgical operations. So that I would still continue to class them as hysterical.

Pathogenesis of Functional Paralysis.

As to the pathogenesis of this functional paralysis, apart from the localisation of it, Dr. Bastian speaks with reserve. He considers (without entirely adopting it) the hypothesis of a vaso-motor spasm causing local defect of function. That hypothesis is naturally suggested by the sudden appearance and disappearance of the symptoms which we often witness. Against it stand the cases where the paralysis lasts for months or years. Another hypothesis is that of a local malnutrition of the affected nerve areas, primary and not dependent upon any change in the blood-supply, just sufficient to interfere with proper function, but not sufficient to produce structural disorganisation. But we do not know, I think, of any such kind of malnutrition; and moreover the sudden and unaccountable changes which sometimes occur in such cases are very difficult to explain on the basis of a malnutrition, whether from vaso-motor or other cause.

I give as an illustration of this curious changeability the following case of hysterical aphemia or mutism. It will be remembered that Dr. Bastian has pointed out that this particular symptom of mutism, as we see it in hysteria, is just what would be produced by a local lesion of the fibres leading downwards from Broca's convolution to the bulbar nuclei. My case is quoted by Dr. Kinnier Wilson in his article on Hysteria in *Brain* (Vol. XXXIII., p. 312).

A young woman, intelligent, quiet, apparently unexcitable, and anxious to get well, was admitted under my care at Queen-square for an incomplete hysterical hemiplegia. After some weeks she began to stammer. To stop this faradisation was applied. The result was unexpected, for she suddenly became unable to utter a word, as dumb as the son of Crœsus in Herodotus, or as the priest Zacharias in the Gospel of St. Luke. The sister of the ward invented a treatment of her own—namely, to manipulate the patient's tongue. One day, while this was being done, she recovered her speech. But such a speech! A loud, harsh, syllabic monotone, produced with a mouthing and an effort, which was most unpleasant both to hear and to see—"*δεινὸς μὲν ὁρᾶν, δεινὸς δὲ κλύειν.*" It was so disagreeable, in fact, that for the sake of the other patients her hours of speech had to be curtailed; and finally, as it seemed necessary to do something, she was given an anæsthetic, together with the firm assurance that when she came round she would speak quite well. But again the unexpected happened, for when she came round she was completely dumb again, and in spite of all persuasion, whether in hypnosis or otherwise, dumb she remained up to the date of her discharge and for some weeks after. Then the final turn of the wheel came in the following curious way. She happened to find unexpectedly in a drawer a lost picture of her deceased father, concerning which she and the aunt with whom she lived had had frequent discussions as to whether the face looked to the right or to the left. On finding it she said suddenly, "Look, auntie, I was right," and soon afterwards she recovered her speech entirely.

Now I can hardly think that a local variation of blood supply, still less a local malnutrition of nerve fibres, was responsible for all these curious fluctuations in her speech.

Vaso-motor Hypothesis of Hysterical Symptoms.

The hypothesis of a vaso-motor spasm or vaso-motor paresis as a basis for hysterical symptoms, which Dr. Bastian only suggests, is adopted without reserve by Dr. T. D. Savill. This author considers:[3] 1. That "hysteria consists of an instability or undue irritability of all the nervous and reflex centres throughout the body, and particularly those of the vaso-motor and sympathetic systems." 2. That "hysterical paralysis or tremor and many other hysterical phenomena hitherto unexplained are produced by vascular changes in the nervous system and elsewhere." The only mental process that he admits is that emotion, as a determining factor, may set in action the irritable vaso-motor machinery. "Given inherently unstable nerve centres and cells throughout the nervous system, emotion starts vaso-motor changes and thus disturbs the blood supply and the nutrition of other unstable centres sufficiently to produce in them an abeyance or an irritation of their functions."

Savill lays great stress on certain vascular phenomena which may be witnessed in the skin, such as general or partial blanching and patches of transient congestion, which he affirms are very frequent in hysteria, and, indeed, characteristic of it. He argues that similar processes may take place in the central nervous system, and that local flushing or ischæmia of nerve centres thus caused may bring about hysterical paralyses or other symptoms. For myself I do not agree that the skin symptoms mentioned by Savill are in any way characteristic of hysteria; and I think that there is no independent evidence of the supposed vaso-motor affections of the nervous system, and that even if they existed they would furnish a very poor explanation of the phenomena of hysteria. Nevertheless, we shall do well to remember that the mental state which we call emotion has a close connexion with our bodily states, and especially with the state of our vaso-motor apparatus; and further, that in the opinion of several authors (as I mentioned at the beginning of this lecture) emotion is an essential factor in the production of hysteria.

PSYCHOLOGICAL VIEWS.

You will have seen that both of these English authors approach the problem of hysteria from the physical or physiological side. We will now consider the opinions of two distinguished French authorities (I must limit myself to two) who take the other point of view. In dealing with the French literature I must acknowledge my obligations to my friend, Dr. Kinnier Wilson, both for his excellent article in *Brain* which I have just mentioned, and for other help.

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[3] THE LANCET, 1907, vol. i., p. 1633.

THE VIEWS OF PROFESSOR BABINSKI.

Just as Dr. Bastian would curtail hysteria as viewed from the physical side, so would Professor Babinski curtail it as viewed from the psychical aspect.

Hysteria, according to Babinski,[4] is essentially a matter of suggestion. The symptoms arise in conformity with ideas that have been implanted in the patient's mind, and they can be removed by "persuasion," by which he appears to mean a counter-suggestion of a reasonable kind, calculated to restore the patient to a normal condition. The patient is not a malingerer, for she does not produce the symptoms consciously and of set purpose; nevertheless she does, unconsciously, produce them, and they are never of a kind which she could not produce voluntarily. There is simulation, but it is unconscious and involuntary simulation. How, then, does the patient come by the ideas to which the symptoms conform? And how does it come to pass that in so many patients we find, again and again, the same symptoms (i.e., the same ideas) recurring with such regularity that they have been called "stigmata"—that is, characteristic marks of a disease? Babinski's answer is that these stigmata are suggested by the physician as he examines the patient.

Suggestion as a Factor in Anæsthesia.

Say that a patient is being examined for hemianæsthesia; the touch first on one side of the body, and then on the other, accompanied by the question, "Do you feel that?" in each case is enough to make the patient suppose that she ought not to feel alike on the two sides of the body—and consequently she does not. And it is, as a fact, noteworthy that often before she was examined she did not know that she was hemianæsthetic. In his own practice, Babinski tells us, when the examination is so conducted that no such inference can be drawn from it by the patient, hysterical anæsthesia does not exist.

Now, I have no difficulty in believing that anæsthesia can be produced in this way; indeed, I remember a striking instance of it. There was a girl in Queen-square Hospital whose illness I had diagnosed as hysterical. My then clinical assistant was deeply interested in the study of the distribution of the sensory nerve roots. He told me one day, and demonstrated to me, that this patient was anæsthetic in the area of one of the cervical roots. This, I felt, was a blow to my diagnosis. Next week the anæsthesia had spread to the area of the adjacent nerve root. The following week, however, it had spread all over her body. So we settled down comfortably to the original diagnosis. The patient had somehow appropriated the anatomical knowledge of her examiner.

But that all, or even most, hysterical anæsthesia is produced by such suggestion I cannot admit. Other physicians are as careful as Babinski in their methods of examination, and yet they find anæsthesia in patients who have never been examined before. You will remember, Sir, the method described by Dr. Glynn in his Bradshaw lecture, in which no question is put to the patient at all. Sometimes, too, we find anæsthesia distributed in ways which we do not ourselves expect—for instance, in irregularly scattered patches. Lastly, it sometimes happens that the patient knows that she is anæsthetic before she comes to the physician. The following illustration of this is from Dr. Kinnier Wilson's paper; it is a case that I well remember, under the care of Dr. James Taylor at Queen-square Hospital. A woman, who had had exceptionally good health previously, developed hysterical symptoms after a fall. She discovered for herself before she came to the hospital and before she was examined by any doctor a numbness and loss of sensation on the right side. There was nothing in the manner of her fall to suggest to her an injury on this side, for she struck her back and her head and supposed that these were the parts injured.

I conclude, therefore, that suggestion by the physician is by no means the only way in which anæsthesia and the other stigmata are produced: I doubt, indeed, whether it is a usual way.

Other Symptoms and their Relation to Suggestion.

Then there are all sorts of other symptoms, which are evidently not suggested by the physician or friends, because they come as a complete surprise to them. These, we are told, may be the result of "auto-suggestion." Now, auto-suggestion is a word as convenient as "auto-intoxication," and about as unsatisfactory. The last part of it implies something coming from the outside; the first part "auto" implies that the preponderant factor is the working of the patient's own mind. Now this would take us back to the remembrance and to the mental elaboration of any previous experiences and any previous ideas—in short, to an explanation which may indeed be correct, but which comprehends far more than the "suggestion" with which we started.

There are further objections to making suggestibility the sole canon of hysteria. We all know people who are gullible enough who are not at all hysterical; and, on the other hand, many hysterical patients are not particularly open to persuasion, at any rate when you try to remove their symptoms that way, whether in hypnosis or out of it. And for the majority of them, granting the supposed susceptibility to suggestion, what causes this? It can hardly be a primary attribute of their minds; there must surely be something beyond it.

And what of such symptoms as œdema, congestion, hæmorrhage, and so-called trophic symptoms, which are so difficult to explain on any psychological theory? These at any rate are not such as the patient could produce by will, apart of course from self-mutilation. Some of them Babinski would class as secondary symptoms. Muscular atrophy, for instance, he considers to be secondary to disuse of the limb. With others he deals very summarily—namely, by denying their existence. They do not suit the theory and therefore they must go. This seems rather too drastic: Professor Babinski is, we know, a giant among neurologists, but he ought not to play the part of Procrustes.

THE VIEWS OF PROFESSOR JANET.

I must now turn to the views of Professor Pierre Janet. For the sake of brevity I am obliged to put them before you in a somewhat dogmatic form; but his method as I daresay you know, is not dogmatic or deductive, for his generalisations are built up on the results of close study of hysterical patients. Certain questions are involved here, of a psychological rather than a medical nature, such as the nature of our personal consciousness and of what is often called now subconsciousness.

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[4] See principally Ma Conception de l'Hystérie et de l'Hypnotisme (Pithiatisme). Chartres. Imprimerie Durand. 1906.

On this subject Janet advances the following statements.

Consciousness and Subconsciousness.

From our earliest years our ideas—that is to say, mental phenomena or (more shortly) mental states of all kinds, whether they be sensations, volitions, memories, or emotions—have been grouping themselves together into a system in which they become bound together by innumerable ties of association. How or when this system originated we do not know, but the process of addition to it is always going on. Each time that a new mental state is brought into relation with this system we are aware of the fact, and this assimilation or synthesis of the new with the old constitutes a personal perception or act of consciousness.

But much goes on in our minds of which we are not conscious. An impression may be made on our bodily organs and the corresponding mental state arise, a memory may recur or an emotion stir within us, yet we may not realise the fact, because it has not reached the dominant system of our personal consciousness. Many instances will occur to you; thus of some things, such as the sensations from our internal viscera, we are hardly ever conscious, at least in health; other things may not reach our consciousness, because at the time it is busy with something else. In questioning a candidate for examination you might not hear the clock strike; in listening attentively to a lecture you might not notice how close the room was. Such trivial instances show at least that our consciousness has a limited range; it cannot take in an unlimited number of things at once, especially if one of them is particularly engrossing. Now the assumption may be made that this limitation of the range or "field" of consciousness differs in different individuals, that we have not all the same power of simultaneously taking into it a large number of mental states, and further, that in hysterical patients this power of synthesis is pre-eminently defective.

The importance of this last dictum will appear as we go on; meanwhile we may ask what happens to the mental states which never rise into the personal consciousness, but remain (as the phrase goes) subconscious. These too may combine into systems, separate from though analogous to the system of personality. The chance for such a combination to begin comes when our personal consciousness is at a low ebb, as may happen during the exhaustion of illness or anxiety, or during morbid reveries, or from the paralysing effect of a sudden emotion, such as terror, which has given us, so to speak, a knock-out blow; or perhaps because we are so constituted that our personal consciousness has naturally a feeble and noncomprehensive grasp—that is to say, because we are predisposed to hysteria. A vivid impression made upon us at such times becomes associated with other impressions of the moment and with appropriate memories of the past, and thus is originated an independent system of ideas withdrawn from our personal consciousness, a secondary consciousness. Under favourable circumstances this secondary system may grow until it interferes with the primary system or even threatens to usurp its place. The hysterical mind offers a favourable soil for such a growth, for the personal system cannot assimilate readily, and thus leaves the more material for parasitic systems to feed upon. The central government is weak and there results a turbulent home rule all round.

Varied Meanings given to Subconsciousness.

Perhaps I have gone too far in stating these things in the terms of a definite theory. I hasten to add that Professor Janet himself puts forward his views on subconscious phenomena less as a cut-and-dried explanation of facts than as a convenient way of summarising facts. In this he is certainly more moderate than others whose speculations on this subject have been inclined to run riot. For subconsciousness is fast becoming quite a popular word—most unfortunately, I think, for there is still much doubt what it ought to mean,[5] whether it means merely what Carpenter described as "unconscious cerebration," or whether the "subliminal consciousness" of Myers, a mental substratum possessed (as he thinks) not only by every man, but by all men in common, and indeed a part of the infinite mind, or whether the "unconscious" of Freud, that large dark chamber of our mind, the door of which is partly open at night to dreams, but mostly closed by day, until the psycho-analyst comes to call spirits from its vasty deep.

Again, the subconscious system of ideas, or secondary state of consciousness, has been elaborated into the conception of a dual, alternating personality like Dr. Jekyll and Mr. Hyde, or other more historical cases; or even multiple personalities, more than one of which may coexist in the same patient at the same time, as in the famous case of Miss Beauchamp described by Dr. Morton Prince[6]—I beg her pardon, I ought to say the Misses Beauchamp, for there were some four or five of her in the same body. Two of them had a simultaneous existence—namely, the original shy, prudish, neurotic Miss Beauchamp, and a certain rollicking girl called Sally, who knew all Miss Beauchamp's thoughts and doings, and chiefly employed herself in getting her into scrapes. Truly a remarkable psychological family, several people in one, including this oddly assorted pair of Siamese twins! To speculate on their personality makes one's head go round.

Mental "Stigmata."

But to return to hysteria. The fundamental defect, according to Janet, consists, it is true, in a feebleness of mental synthesis; yet this is a condition which has to be inferred and cannot be directly observed. But there are certain very common mental traits open to observation to which he gives the name of mental stigmata, adopting the term used by Charcot for certain common bodily symptoms. These I need only just mention, because I think you will not doubt their existence. Neither will I stop to show their connexions with the fundamental feebleness of synthesis; I will leave that to you. Now we may mention among such mental "stigmata":—

1. Suggestibility—not merely that an idea can be easily implanted in a patient's mind, but that it tends to develop there and engross the whole mind.

2. Distractibility. This is merely the obverse of suggestibility; while the patient is occupied with one idea she forgets all others.

3. Feebleness of will, so called "aboulia." Whatever "the will" means, it implies at the lowest estimate a weighing and comparison of many motives, which is just the sort of thing which the hysterical patient cannot do. Sir James Paget, I think, put it thus: It is not that the patient will not, but that she cannot will.

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[5] See Subconscious Phenomena, by Münsterberg and others, Rebman, Limited.

[6] The Dissociation of a Personality.

4. Changeability and waywardness, as of symptoms, so of disposition and desires—a trait that has been most unjustly transferred to the whole female sex. "Varium et mutabile semper Femina" was the excuse the gods gave to Aeneas—when he deserted Dido! though it would have been more honest to say with the drunken sailor in the *Tempest*—

> Then to sea, boys, and let her go hang.

Amnesia.

But there is one mental peculiarity on which we must dwell longer—namely,

5. Defective memory—amnesia. In accordance with Janet's fundamental hypothesis, we should expect that a person who cannot gather up into his consciousness many things at once would have a bad memory. Nevertheless, loss of memory in the ordinary sense of the term—namely, a general forgetfulness of all events extending over a given time in the past—is not, I think, very familiar to us as a symptom of hysteria. Possibly that may be because, like anæsthesia, the symptom requires to be looked for. Thus a girl under my care in St. Bartholomew's Hospital gave us a fair history of her illness, but on questioning her more closely concerning the onset it was found that she had totally forgotten all the events of a fortnight or so at that period of her life. She filled up this gap apparently with what she had been told. Her mother, to whom we referred, knew all about the girl's peculiar loss of memory, but had not thought it worth mentioning. So in this case the symptom was found out almost by accident. Similarly the sister in charge of my then female ward at St. Bartholomew's Hospital told me not long ago that when hysterical patients who had been in the ward came back to visit her after their discharge, being apparently well, many of them did not remember anything about their illness nor what had happened to them in the ward, or at most had hazy memories about it, "like a dream." But Janet gives much more striking instances of this kind of amnesia, where a piece of the patient's life is clean cut out of remembrance.

But in addition to this localised amnesia there is a loss of memory which may be called "systematised." The patient forgets everything connected with a particular person, or a particular event, or even a particular conception. It is a class of memories that disappears, not a series of events in time. This is less strange than it seems at first sight, for our normal memory is a faculty which is given to specialising. One man remembers people by their faces, another by their voices. I knew a gentleman who had a wonderful memory for histories, poetry, languages, derivations of words, and so forth, but if he took a hand at whist he could hardly remember a card that had been played. Now what the hysterical patient is most apt to forget are the things connected with the causation of her symptoms. Thus Mrs. A (already mentioned in my first lecture), when she came to me for a contracture of her fingers, gave me an account from which one would have supposed that the contracture came on spontaneously, until her husband said, "Why, you have forgotten to tell the doctor about the dog that bit your hand." And this brings us to a sort of amnesia which we should all admit to exist—namely, that after a severe hysterical fit the patient, when she has come completely round, forgets all the circumstances, physical and mental, of the fit itself. But in all these cases of hysterical amnesia there is a fact which must be emphasised—namely, that the memories are not annihilated, they are simply in abeyance, and under appropriate circumstances can revive. Thus, if the patient's fits be of the dramatic or somnambulistic type, the drama, or at least its *leit-motif*, recurs in each attack. Or perhaps under hypnotism or by means of automatic handwriting the patient may be made to reveal the lost memories. So we may put it in this way—the memories have disappeared from the system of personal consciousness, and the patient cannot call them up at will, but they remain in the subconsciousness, attached probably to some independent system of ideas, in connexion with which they can automatically reappear.

Fixed Ideas.

After saying that hysterical patients are apt to be forgetful, changeable, and irresolute, it seems almost a contradiction to say that they are dominated by fixed ideas. So far from being a contradiction, however, it is almost a corollary of what has been already said. In speaking of a fixed idea we generally, I think, refer to the obsession of a psychasthenic patient. This is something actually present to his consciousness. He knows too well the feeling that he may have committed some crime, the fear that he may be suffering from some disease, the impulse to injure himself or others. As a set off, indeed, to the unwelcome presence of this idea, he generally retains some control over it, so that it rarely becomes completely realised, either in thought so as to become a delusion, or in action so as to become a crime. But the fixed idea of the hysterical patient is altogether subconscious. It is part of, indeed the nucleus of, a secondary system of consciousness. Thus, being out of relation to the system of personal consciousness, ignored, uncontrolled, and uncorrected by the patient and by the realities of her daily life, it is all the more likely to become fixed and to develop abnormally, both in precision of detail and in overpowering effect. You and I, perhaps, with our humdrum lives and phlegmatic temperaments, hardly recognise the picturesque and realistic power of a vivid idea. Yet you remember how the widowed Lady Constance describes the loss of her only son—

> Grief fills the room up of my absent child,
> Lies in his bed, walks up and down with me,
> Puts on his pretty looks, repeats his words,
> Remembers me of all his gracious parts,
> Stuffs out his vacant garments with his form—
> Then have I reason to be fond of grief.

So long as the fixed idea remains buried in the subconsciousness it may give rise to no overt trouble; but should circumstances arise to weaken the grasp of the personal consciousness, so that it vacates its proper dominion, then the subconscious idea may assume command. The result is a hysterical fit—that is, a somnambulism, or second state of consciousness, in which the patient passes out of relation to her real conditions, into an imaginary set of conditions dictated by the fixed idea or reminiscence of the past. As we do not often see in this country perfect specimens of hysterical somnambulism, I will quote one from Janet's writings.[1]

A girl had been alone in lodgings with her mother; she had nursed her day and night and worked in the intervals for her daily bread. When the mother died the daughter tried to restore the respirations, but the only results of her efforts were that the body fell from the bed and she had the utmost difficulty in replacing it. The girl's fits began some time after the funeral. In the fit she went through the scene of her mother's death, partly in word, partly in action, with all the terrible details; and when that was over began preparations for her own suicide by throwing herself under a train. She stretched herself on the floor of the ward and lay there half frightened, half impatient, waiting for the train to come. At last it came; her eyes dilated with terror, she gave a loud shriek, and then lay motionless as if dead. This fit might be repeated more than once, but when it was well over she picked up the work she had been doing and went on with it, totally unconcerned with what she had been through, because, indeed, she was now totally ignorant of it.

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[1] Les Névroses, Paris, Flammarion, 1910.

In such a fit the sudden and complete development of the idea and the equally sudden and complete disappearance of it are in striking contrast with the persistent, conscious, but incompletely realised obsession of a psychasthenic patient.

Action of Subconscious Ideas.

But the subconscious fixed idea, without superseding the personal consciousness and without taking temporary control of the mind, may have other more permanent effects upon the patient. I have mentioned the theory that hysterical paralysis is due to an idea. This originally meant that the patient did not move because she thought she could not, or because some thought restrained her from moving. It was urged as an objection that patients denied the existence of any such thought. This difficulty disappears now, since we have learned that there are many thoughts in our minds of which we know nothing. In some cases the existence of such an unrecognised thought can be shown by the history, as when the paralysis can be traced back to some suggestive event, such as an injury, or a fright, or the sight of some stricken person. Or again, the symptom may follow directly upon a hysterical fit, so that we may suppose that some part of the idea, which was elaborated in the fit, survives when the fit has subsided. In the drama of suicide, just mentioned, if the imaginary train had gone over the patient's legs, it is quite likely that she might have remained paraplegic. In many cases, however, we can obtain no clue to the patient's fixed idea, unless we can make some direct appeal to the subconsciousness, by hypnotism or some similar means. But if you grant that a subconscious idea may act in the way described, then it is obvious that a large variety of hysterical symptoms may be explained in this way, not only paralyses, but also pains, spasmodic movements, and some peculiar contractures like those quoted in my first lecture.

There are other ways in which Janet's theories are adapted to the explanation of hysterical symptoms. Anæsthesia, for instance, can be referred at once to his fundamental conception of hysteria—namely, the inability to realise many ideas at the same time. Owing to this inability sensations, which may be at the same time unimportant for the patient to realise, are allowed to drop out of her personal consciousness, and fail again to find a place in it. We can understand the peculiarities of hysterical anæsthesia when we consider it from this point of view; how it is that the patient is unaware of her anæsthesia, how it is that she can still feel, though she does not recognise that she feels, and finally the distribution of the anæsthesia, which does not correspond to anatomy, but to the anatomical ideas of the man in the street about a hand or a wrist, an arm, or other parts. Though of course if a functional anæsthesia befell some member of my audience whose anatomical conceptions are correct, and who think in terms of Dr. Head's diagrams, its distribution might possibly be different.

Hemianæsthesia, limited by the middle line, has always seemed to me a little curious regarded in this light. I suppose Janet's explanation is that we think of ourselves as made up of two halves, right and left. I wonder if we really do. An observation by Dr. Foster Kennedy, quoted by Dr. Kinnier Wilson,[8] seems to point that way. Dr. Kennedy, while going his rounds as house physician at Queen-square Hospital, found a woman who had hysterical hemianæsthesia of the left side, with her right arm so placed that her right (sound) hand was well to the left side of her body. It occurred to him to test the sensation of the right hand while it was in this position, and he found it was anæsthetic, which it had not been before.

The Psychological Representation of a Function.

Anæsthesia has been advanced as an explanation of diverse other hysterical symptoms—for instance, it has been said that retention of urine is due to anæsthesia of the bladder, and anorexia nervosa to anæsthesia of the stomach. But of many things of this kind Janet takes a much more general view which is based on his idea of that which we roughly call a function. This idea I must try to put before you, in concluding this lecture.

I suppose that by "function" we generally mean a combination of bodily events, so that they work harmoniously together towards some given physiological end. In some of these combinations the organisation is complete and fixed almost from our birth, like that of the circulation, over which we have little, if any, personal control. Over others, like that of micturition, a certain amount of control is still exercised. In others, like that of walking, we can watch the gradual change from conscious effort to something like automatism. It is worth noting, however, that even when practice has made a function perfect, it is still liable to be upset by unusual mental conditions. A person who can walk without thinking along a country road, or even saunter through the traffic of a big thoroughfare, might be unable to walk in a State procession down the nave of Westminster Abbey, because, as we say, he is "nervous."

The combinations necessary for the performance of a function are made in the central nervous system, and in the case of the lower, most completely organised, functions we know the groups of cells and fibres, the so-called centres, which chiefly preside over the function. We know something of the anatomy of even such a high function as that of speech, and we imagine that similarly for the very highest functions there must be some anatomical arrangements in course of formation, though we must own we do not know. Now Janet holds that for the due performance of a function an organisation, comparable to this bodily organisation, must have been made in the mind. Just as simple sensations and memories are built up to form the idea of an object or of a movement, so a far more complicated system of ideas and memories is built up to form the psychological representation of a function.

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[8] Brain, vol. xxxiii., pp. 334, 345.

Perhaps you will think this rather too transcendental, and will find in it only the desire to escape, as many desire to escape, from the thraldom of our vile body, as in the Ideas of Plato, and the bodies celestial of the Apostle Paul. But no denial is made of physical organisation within the brain; it is merely asserted that in the present state of our knowledge it is more profitable to study the psychological aspect.

Exercise of Function in the Hysterical.

Let us assume that combinations or systems of ideas exist in our minds, which represent functions. These in the normal mind must be in touch with and under the control of that large system of ideas which we have called our personal consciousness. But in the hysterical mind this is evidently just the proviso that may fail, because the unifying personal element is feeble. The bodily conditions necessary for the exercise of a function may be perfect, the psychological organisation, also necessary for it, may exist, but this latter may have dropped away from the personal consciousness. Two possibilities may then arise: either the patient may be utterly unable to exercise the function voluntarily and consciously, or else the function may exercise itself automatically and without control. I will take but one illustration—namely, the function of speech.

1. "Functional paralysis" of speech, in an incomplete form, is seen in hysterical aphonia, hysterical stammering, and possibly in other varieties of speech affection. In a complete form it is seen in hysterical mutism or dumbness. Yet in such cases the organisations necessary for speech, whether bodily or mental, must be intact, for the patient may find her voice under the surprise of an electric shock or perhaps will talk in her sleep, and in any case we know full well that some day she will speak quite well.

2. The other condition—viz., uncontrollable speech—is not, I must own, very familiar to me. But Janet has seen many examples of what he calls hysterical logorrhœa, in which the patient pours forth, for hours together, floods of conversation, generally of a disconnected kind and forgotten as soon as uttered. The only illustration I could myself give was not a case of pure hysteria, for the lady who was the subject of it became insane. All her friends knew that an attack was coming on when once she began to talk; soon the talking became incessant, and delusions became intermingled with it. One delusion was that she was the recording angel, and the things that she recorded, in a loud voice, were extremely embarrassing to many of her friends.

Now, whether you grant the existence of psychological equivalents of functions, or whether you think the conception too vague and elastic, still you will admit that such an idea may help to give some definiteness to our notion of a "functional disease" which hitherto has been based simply on negative characteristics.

I hope, Sir, that I have not wearied you out with this discussion on theories, and I hope that in trying to put them into the compass of one lecture I may not have seriously obscured the authors' meaning.

In the next lecture I propose to consider Professor Freud's doctrines about hysteria, and since that will involve the discussion of certain disagreeable topics I must ask you your pardon in advance.

THE DIAGNOSIS OF POST-PYLORIC (DUODENAL) ULCER

BY MEANS OF SERIAL RADIOGRAPHY.

BY LEWIS GREGORY COLE, M.D.,
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IN previous communications[1] evidence has been assembled to show that the portion of the gastro-intestinal tract, previously called the first or ascending portion of the duodenum, pars superior horizontalis, or "bulbus duodeni," is not part of the duodenum, but really belongs to the stomach, and the name "pilleus ventriculi" (cap of the stomach) has been applied to it. Therefore the term post-pyloric ulcer, or ulcer of the cap, should be substituted for "duodenal ulcer," and will be used herein except in quotations. The diagnosis of post-pyloric ulcer and its differentiation from and relation to malignant and non-malignant lesions of the stomach form one of the firing lines of surgical advance. The importance of this field of work is evidenced by the communications of Wier, Moynihan, Codman, Mayo, and others, who have adequately described the clinical and surgical aspects of the subject.

Considering the part that radiology has played in medical and surgical diagnosis, it is appropriate that serial radiography should be an active scout in the detection of ulcers of the cap. Communications having a direct or indirect bearing on the radiographic diagnosis of gastric and duodenal ulcers have been published by Hemmeter, Holzknecht, Schwartz, Ashbury, Haudek, Strauss, Kreuzfuch, and Pfahler. Two diagnostic methods have been employed. One is based on symptom-complices, or groups of clinical manifestations, some of which are recognised by fluoroscopy or radiography. But they are symptoms only, as the name suggests, and not direct evidence of the lesion. The other method depends on the contention that bismuth will adhere to the surface of an ulcer or lodge in its crater. Failure to differentiate such flecks from retention in the normal cap is the weak point in this theory. Haudek's "niche" is a finding of undoubted significance. But it very frequently occurs in extensive inoperable carcinoma of the lesser curvature, and furthermore must be carefully differentiated from a small deposit in a pouch of the œsophagus near the cardia.

Strauss's excellent article on duodenal ulcer[2] covers many of my observations, some of which have been published, but certain of his deductions do not correspond with my interpretation of the phenomena presented.[3] He bases the diagnosis of ulcer on a rather elaborate symptom-complex which he has compiled. Strauss's remark that roentgen-kinematography may sometimes prove of great diagnostic assistance brings me to the crux of my communication.

The technique of serial radiography, and especially the relative value of serial radiography and roentgen-kinematography, have been fully explained heretofore. The gist of it is that 24 instantaneous radiographs of different phases of different cycles, made in rapid succession, are of more diagnostic value than 24 radiographs of different phases of one

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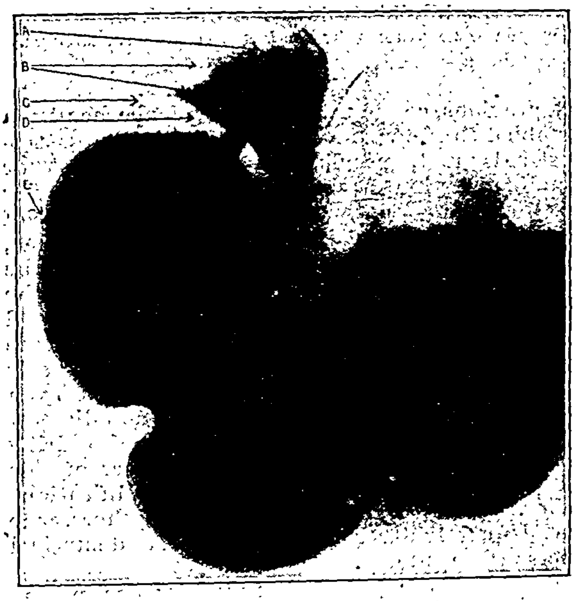
[1] Archives of the Roentgen Ray, April, 1912, No. 141, p. 427; Journal of the American Medical Association, Nov. 30th, 1912, vol. lix., p. 1947; and 1913 Meeting of the American Medical Association, Minneapolis.

[2] Fort. a. d. Geb. Roentgenstrahlen, 1913, Band xix., H. 6, S. 461.

[3] Archives of the Roentgen Ray, October, 1912, No. 147, p. 172; Journal of the American Medical Association, Nov. 30th, 1912, vol. lix., pp. 1947-51.

FIG. 1.

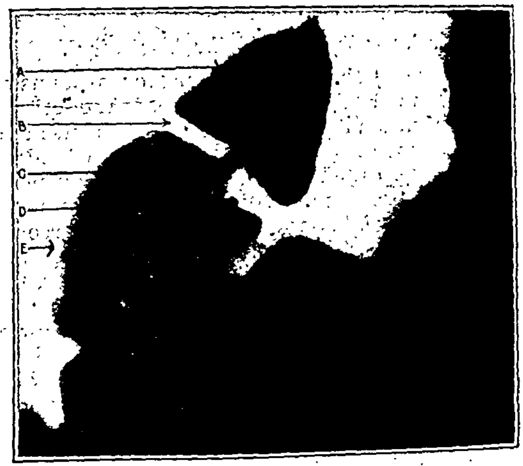


Normal cap and sphincter. A, Cap. B, Indentation of cap by descending duodenum. C, Descending duodenum. D, Pyloric sphincter. E, Terminal wave.

cycle. Technique aside, we pass at once to a description of the anatomy and physiology of the pars pylorica, pyloric sphincter, and pilleus ventriculi as observed by means of serial radiography. This subject was fully discussed before the American Medical Association in a paper which is now at press.[4]

The progression of the gastric peristalsis observed by Cannon in the cat[5] was demonstrated in man by Kaestle, Rieder, and Rosenthal.[6] While the progress of the peristalsis may be seen in nearly all cases, the speaker recognised and has previously described a much more complicated gastric motor phenomenon, which, like the heart action, takes place in cycles, marked by a systole and diastole, or a contraction and relaxation of all the peristaltic waves simultaneously. A cycle exists during the time occupied by the formation of each terminal wave or antrum. During the stage of systole (Fig. 3A), which consumes about seven-tenths of the gastric cycle,

FIG. 2.



Normal cap. A, Cap. B, Sphincter. C, Lumen of sphincter. D, Congenital fold. E, Terminal wave.

chyme is expelled through the lumen of the pyloric sphincter into the pilleus ventriculi. The remaining three-tenths of the cycle are consumed by diastole (Fig. 3B) when the pyloric sphincter closes and prevents the chyme in the cap from dropping back into the stomach. Sometimes the chyme in the stomach drops away from the pyloric sphincter.

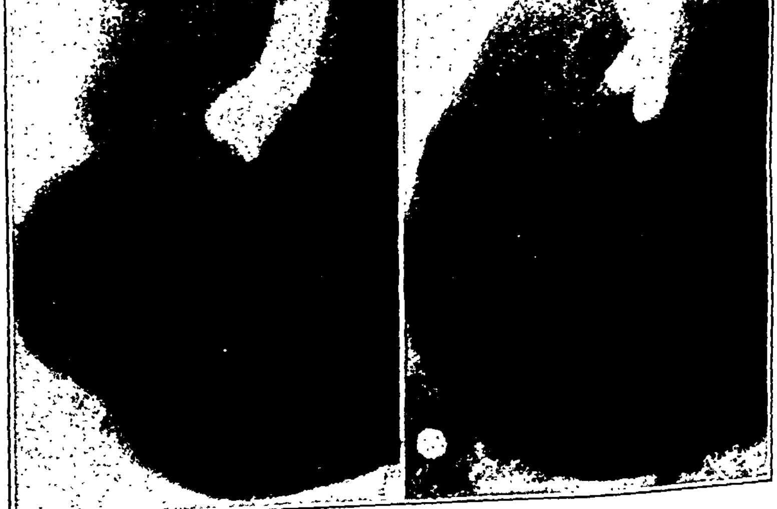
The Physiology of the Pylorus, Pilleum Ventriculi, and Duodenum was discussed in a paper before the American Medical Association, June, 1913.[7] There is no evidence of a periodical opening and closing of the pyloric sphincter independent of the gastric cycle.

The radiographic evidence that all the characteristics of the cap are gastric rather than duodenal is corroborated by embryology, anatomy, physiology, histology, and surgery. The cap (Figs. 1, 2, 3A and B) corresponds in

FIG. 3.

A

B



A, Systole.

B, Diastole.

A, Cap. B, Sphincter. C, Terminal wave.

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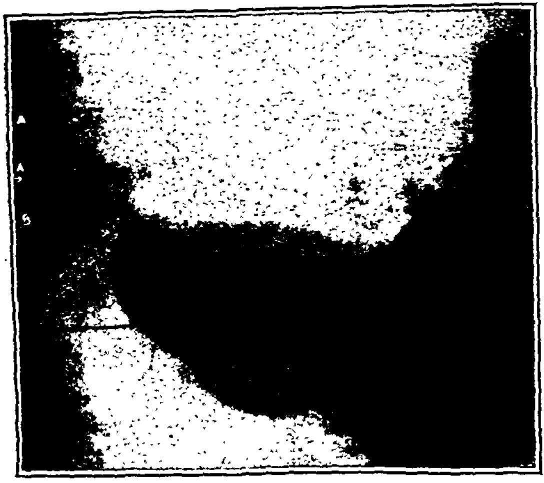
[4] 1913 Meeting of the American Medical Association, Minneapolis.

[5] Wisconsin Medical Journal, No. 5, October, 1908.

[6] Archives of the Roentgen Ray, No. 119, June, 1910.

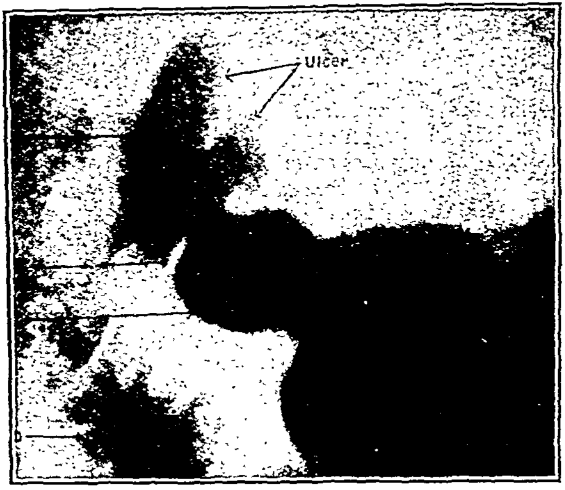
[7] Journal of the American Medical Association, Sept. 6th, 1913.

FIG. 4.



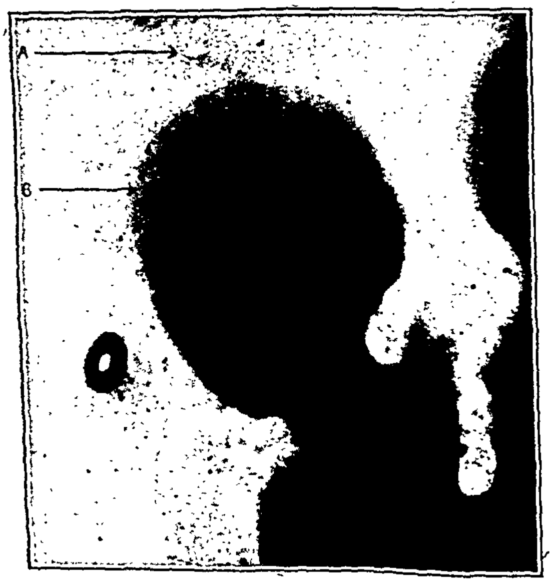
Post-pyloric (duodenal) ulcer. A, Induration from ulcer. B, "Pouch." C, Sphincter. D, Terminal wave.

FIG. 5.



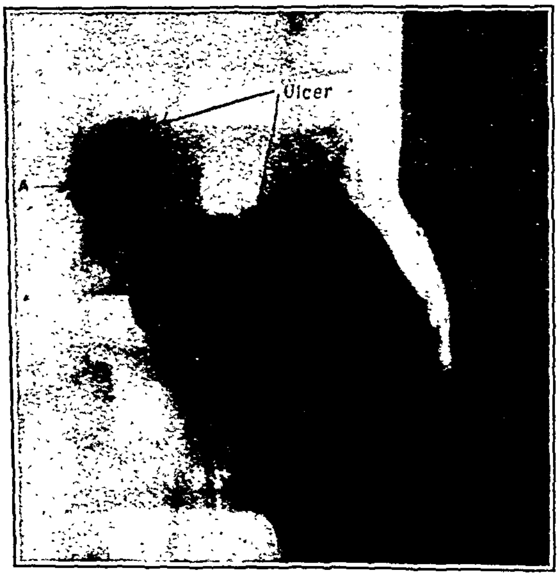
Ulcer of cap (duodenal). A, Cap. B, Sphincter. C, Terminal wave. D, Descending duodenum.

FIG. 6.



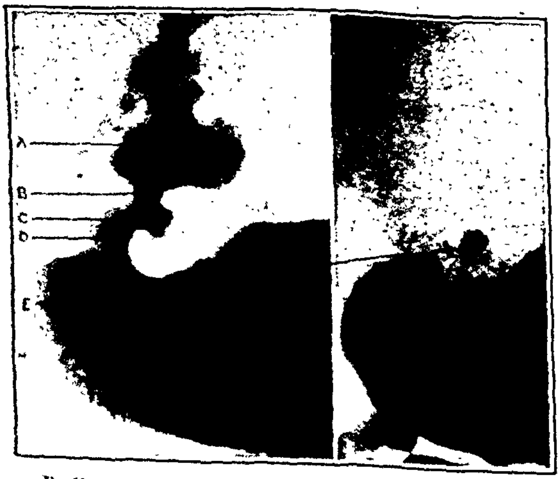
Complete destruction of cap shown at A. B, Terminal wave (antrum).

FIG. 7.



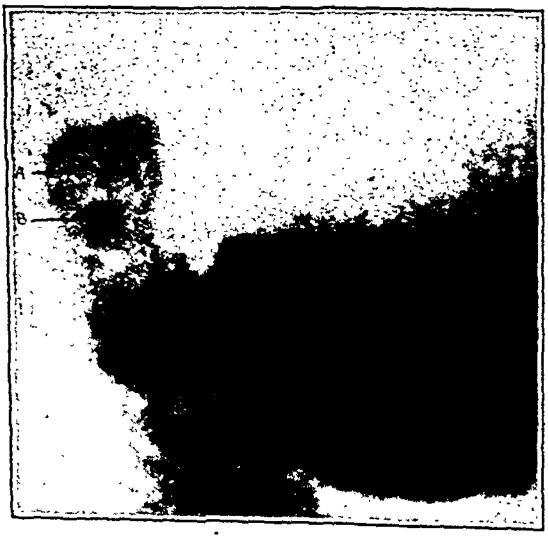
Old ulcer with cicatricial contraction of cap. A, Uninvolved part of cap.

FIG. 8.



Profile of ulcer. A, Cap. B, Everted edges of ulcer. C, Crater of ulcer. D, Everted edge of ulcer. E, Fleck of bismuth in crater of ulcer.

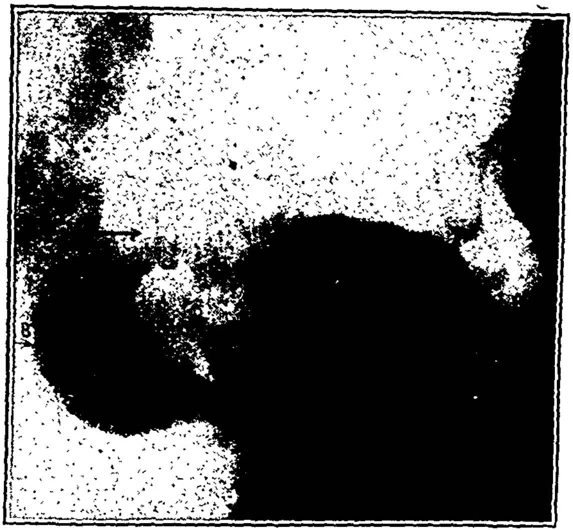
FIG. 9.



Ulcer on anterior wall of cap seen "full face." A, Deformed cap. B, Crater of ulcer.

ulcer, in which a localised area of the muscular coat has been destroyed and replaced by non-elastic connective tissue. Codman acknowledges that such areas are difficult to detect at operation or necropsy, even when a surgeon is looking for them, and I think that these areas correspond with the lesion described by Bloodgood as non-ulcerative lesions in this region. The frequency with which they are recognised radiographically corroborates Codman's contention that ulcers of the cap occur much more frequently than one suspects. And it also indicates the frequency with which ulcers heal without surgical interference. The clinical history must be considered in determining whether these slight, constant deformities are sufficiently extensive to require surgical interference or even to be observed surgically, especially if the surgeon is adverse to the diagnosis of post-pyloric ulcer, and is looking for an appendix, Lane's kink, or something else.

FIG. 16.



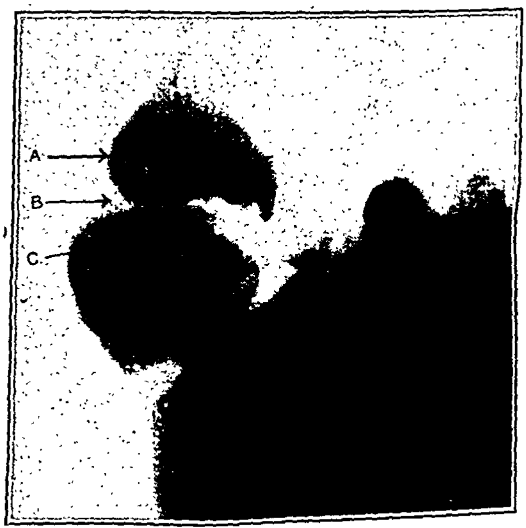
Ulcer with cicatricial contraction and pyloric obstruction.
A, Destruction of cap. B, Terminal wave.

A spasm of the cap, associated with appendicitis, Lane's kink, renal calculi or gall-stones, resembles the distortion from post-pyloric ulcer, except that the spasm varies in appearance, and is absent in one or more of the 40 or 50 radiographs of the series. It can usually be completely relieved by administering belladonna before the confirmatory examination, with the result that a normal cap and sphincter presents. Such functional disturbances must be carefully differentiated from organic lesions of the cap. If one radiograph out of 50 shows a perfectly symmetrical cap, and a normal pyloric sphincter, a negative diagnosis of post-pyloric ulcer is justified.

A positive differentiation between post-pyloric ulcer and adhesions of the cap from gall-bladder infection cannot always be made exclusively from the radiographic findings. Gall-bladder infection usually presents a more extensive involvement of the pylorus and cap. It may involve the greater curvature and draw the stomach to the right, causing an angulation of the cap. The cap may be involved in the adhesions, but not more so than the pyloric end of the stomach, and there is no evidence of a localised area of induration of the cap, nor is obstruction of its lumen so frequent. This differential diagnosis between post-pyloric ulcer and gall-bladder infection is of more scientific interest than practical value, because in either of the conditions surgery is indicated, if the lesion sufficiently extensive and associated with sympton

Adhesions from post-pyloric ulcer may invol other organs, the hepatic flexure of the colon, t stomach or the duodeno-jejunal junction, where t lower end of the C-shaped duodenum lies in clo proximity to the cap. Sometimes the symptoms adhesions of the colon are more marked than tho of the ulcer itself, and lead to a radiograpl examination of the colon rather than of the stomac It is therefore wise in all cases of adhesions of t hepatic flexure and first portion of the transver colon to make a radiographic examination of t stomach and duodenum. When adhesions from ulcer of the cap involve and obstruct the lower e of the C-shaped duodenum, there is an unusu dilatation of the descending and horizontal portion causing the sausage-shaped duodenum, referred to Holzknecht. This sausage-shaped appearance not necessarily an indication [of ulcer of the ca as it is more likely to present in cases of chron obstruction of the duodenum by the root of th mesentery, a condition described by Codman. Th same obstruction at the duodeno-jejunal junctio may also be caused by ulcers on the posterior wal of the stomach.

FIG. 17.



Small ulcer of sphincter. A, Cap. B, Sphincter. C, Small ulcer.

By the use of serial radiography, previousl described by the present author, George (Boston has been able to diagnose post-pyloric ulcers with a degree of certainty equal to that of the work herein reported. The procedure may seem very elaborate and therefore expensive, but considering the obscurity of these lesions, and the fact that the negative or positive diagnosis of post-pyloric ulcer by serial radiography is equally as accurate as the radiographic diagnosis of renal or ureteral calculus, one is justified in expending an unlimited amount of energy in detecting this lesion and differentiating it from other lesions.

This article has dealt solely with the *method* of diagnosing post-pyloric ulcer, and with one or two exceptions all of the cases illustrated have been proven by surgical procedure. Lack of space has necessitated the omission of many other proven cases of equal interest.

New York.

ACUTE LOBAR COLLAPSE OF THE LUNG.

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AND

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HOUSE PHYSICIAN TO POPLAR HOSPITAL.

THE following case has recently been under our observation at Poplar Hospital.

The patient, a man aged 29 years, was admitted on Feb. 4th, 1914. He was quite well until two days previously, when he had suddenly felt a pain in the right side of the chest. This was followed by cough, sweating, vomiting, and several shivering fits. These symptoms continued until Feb. 4th, when he was seen by a medical practitioner for the first time and sent to hospital. His previous health had been perfect.

On admission the patient complained of pain in the right side, especially over the sixth and seventh ribs in the axillary line. His face was slightly cyanosed and the alæ nasi were working. There was a frequent restrained cough. The temperature was 103° F., the pulse was 104, and the respirations were 40. The sputum was scanty, thin, and contained no blood. On examination on the right side the movement of the thorax was seen to be very slight. The percussion note was impaired. The air entry was poor and the breath sounds were faint. No tubular breathing was heard. A few fine crepitations were present at the site of the pain but not elsewhere. The vocal resonance was increased but not altered in character. The cardiac dulness was entirely to the right of the mid-sternal line. The apex beat was not visible or palpable. The heart sounds were audible only in the epigastrium. On the left side of the chest the air entry was increased, but otherwise the lung was normal. The liver and spleen were not palpable. The temperature fell gradually and the pulse became slower, but the respirations remained rapid.

When seen on Feb. 11th the temperature was normal, but the respiration was very rapid. Cough was infrequent. Pain was slight, and there was no superficial tenderness. There was slight cyanosis. The sputum was very scanty and contained no blood. No tubercle bacilli were found in the sputum. The right side of the thorax moved very slightly, except at the apex. The percussion note was definitely impaired, but not absolutely dull. The note was resonant to the left of the right border of the sternum. The air entry was very slight, and the breath sounds very faint, except at the apex. No tubular breathing and no crepitations or friction sounds were present. There was no whispering pectoriloquy or ægophony, but the vocal resonance and tactile fremitus were both increased on the right side. The cardiac dulness could be definitely recognised and separated from the right lung. At the level of the fourth rib it extended from the mid-sternal line to 3 inches to the right. The apex beat was not palpable, and the heart sounds were audible only in the epigastrium. In the mid-axillary line the liver dulness reached to the upper border of the fifth rib. On the left side the breath sounds were loud, but otherwise normal. There were no signs of pneumothorax. Traube's area of stomach resonance was somewhat large. On measurement the two halves of the thorax were both 18½ inches at the end of expiration. These measurements were the same on all subsequent occasions. The intercostal spaces on the right side showed no abnormality. The abdominal movements on the right side were diminished; otherwise there was nothing abnormal to be found in the abdomen. The nervous system was normal and there was no sign of paralysis. There was no clubbing of the fingers. No glands were palpable.

From that time the patient gradually improved. The respiration became slower, and the abnormal physical signs gradually disappeared. The percussion note on the right side became more resonant, while the vocal resonance and tactile vocal fremitus diminished, and the respiratory movements became greater. No moist sounds were heard. The sputum, always scanty, became less and soon disappeared. The heart meanwhile moved towards its normal position. The following table gives the measurements of the cardiac dulness from the mid-sternal line at various dates:—

	Right.	Left.
Feb. 11th	3 inches.	0
„ 18th	1¾ „	1¼ inches.
„ 24th	1¾ „	1¼ „
March 7th	1½ „	2 „
„ 14th	1¼ „	2½ „
„ 21st	Right border of sternum	3½ „

The pulse was regular throughout and no cardiac murmurs were present. The heart sounds gradually became audible over the area of cardiac dulness. The apex beat was just palpable when the patient left hospital. He felt perfectly well at the beginning of March, but the pulse and respiration remained more rapid than normal, and on his discharge were 80 and 24 respectively. In the lungs the abnormality which persisted longest was the increased vocal resonance on the right side. The physical signs were normal on March 21st.

The patient was radiographed on March 18th at the London Hospital by Dr. S. Gilbert Scott, who reported that the diaphragm was moving well, the heart being normal in size and position, the aorta normal and the apices of the lungs clear, and that no enlarged glands were present. The patient was discharged on March 23rd.

Diagnosis.—In view of the position of the heart and the physical signs in the lungs, the diagnosis of the pulmonary condition lay between fibroid lung and acute lobar collapse. The measurements of the two sides and the absence of previous ill-health excluded the presence of a fibroid lung, and the diagnosis of acute lobar collapse was made.

Apart from pneumothorax, acute lobar collapse may be considered to follow two conditions: (1) blockage of the air passages, and (2) inhibition or paralysis of the muscles of respiration.

Blockage of the air passages may result from various causes, such as a foreign body, plastic bronchitis, plugs of mucus, and pressure from neoplasms and aneurysms. The patient denied the possibility of a foreign body. There was nothing to suggest neoplasm or aneurysm. The physical signs did not point to the presence of bronchitis. No plugs of fibrin were coughed up as in plastic bronchitis.

With regard to inaction of the muscles of respiration, paralysis of the diaphragm may result from various conditions of the nervous system, such as diphtheritic neuritis or myasthenia gravis. Paralysis of the diaphragm would not account for the present case, since when the diaphragm is paralysed without the other muscles of respiration the lower ribs expand more than normally during respiration. The cause for this is referred to below. In the present case the ribs and the abdomen in the neighbourhood moved less than on the sound side. It appeared that the muscles of respiration had been reflexly inhibited. There was no abdominal cause to lead to this, and the apex of the lung was less affected than the base. The diagnosis was therefore made that as the result of pleurisy at the right base the muscles of respiration on that side had been inhibited, and this had been followed by acute lobar collapse of the lung.

The Occurrence of Acute Lobar Collapse.

Any foreign body which occupies space within the thorax must cause a certain degree of collapse of the lung. Such foreign bodies may be a pleural effusion, a pneumothorax, a neoplasm, or a gross enlargement of the heart, aorta, or pericardium. Of these, pneumothorax alone can cause sudden collapse, and must of necessity do so. Lobular collapse occurs in broncho-pneumonia, and may be extensive when the cause is widespread. Apart from these circumstances, a true acute lobar in fact, for delicacy of sensation, may be compared with the sensation at the tip of the tongue. But the sensation at the anal orifice is not only tactile. There are two senses: one is tactile, produced by contact of the contents of the bowel with the mucous membrane of the anal canal, and the other is the muscle sense, which may be described as the sensation caused by the stretching action of the muscle due to something within its grip. The sensitive area is practically confined to the anal canal proper; from an inch to an inch and a half above the anal orifice the mucous membrane is hardly at all sensitive except to distension of the rectal lumen.

The operation for piles of necessity implies interference with this sensitive area. Now, almost all the sensations at the anal orifice have for their immediate object some alteration in the state and degree of contraction of the sphincter muscle, and the action of this muscle is almost entirely reflex in character. It is therefore easy to understand why operations in this area are liable to result in pain, since the wounds cause constant irritation of this reflex, with consequent spasm and painful contraction of the muscle. Realising this, and influenced by the teaching of Hilton, surgeons attempted to prevent post-operative pain by stretching this muscle and so causing temporary paralysis. This was not successful, however, because, in the first place, unless the muscle is actually damaged paralysis is too transient—not lasting more than 30 minutes in most cases, and often not as long—and also because the muscle in the process of recovering its powers of contraction contracts spasmodically, causing sudden violent pain each time one of these contractions occurs.

The relief of pain by opium and morphia, while preferable to allowing the patient to suffer, is not satisfactory. To be of any real use it must be administered at frequent intervals for several days. Even then it will have the effect of making the patient feel ill and uncomfortable, and often of rendering him quite miserable. How, then, can we best prevent pain after this operation? The answer is that pain can be prevented by applying the same principles that have enabled surgeons to avoid pain resulting from operation wounds in other parts of the body. We have found that if a wound is made with no bruising or tearing of the tissues, under aseptic conditions, through clean tissues, and is kept aseptic and at rest, pain, except of a very slight and transient character, does not result. The anal region is no exception to this rule, and, given the same conditions, after-pain will be equally absent from operations in this region. Many surgeons, however, have assumed that an operation for piles cannot be carried out under aseptic conditions owing to its involving the rectum, and have therefore been content to perform this operation under conditions which they know are not aseptic, in that the tissues are not aseptically clean, or that contamination of the wound during or immediately after the operation is almost certain to take place. By a little alteration of the technique of the operation the conditions usually obtained for other operations can be secured when operating for piles. Very careful attention to the details of aseptic technique must, however, be observed in order to obtain success. The patient must be so prepared for operation that the rectum is quite empty and will remain so for some days. This is essential. The rectum and the whole of the field of operation must be thoroughly washed out with soap and water, and afterwards with a suitable antiseptic, until the surgeon is satisfied that the area of operation is surgically clean. The sphincter should not be stretched or damaged in any way, and the patient must therefore be thoroughly and deeply anæsthetised, or the sphincter will be in a condition of spasm which will render it impossible for the surgeon to reach the piles properly. The operation must be carried out with as little damage to the tissues as possible. By this I mean that pressure forceps should not be applied to tissues which are not going to be removed, that the mucous membrane or skin at the anal margin must not be included in ligatures, and that the number of ligatures applied for the control of hæmorrhage must be reduced to the smallest possible number. After the completion of the operation the wound must be bathed with some suitable antiseptic, the best, in my opinion, being 1 in 40 carbolic. Lastly, some form of dressing must be applied which will prevent infection of the wound. For this purpose I have found sterilised vaseline to be the best, and the lower part of the rectum may be filled with this.

For the last ten years I have been operating for piles on these lines, using the ligature operation in all but a few special cases, and I have found that post-operative pain is not more severe or frequent than after operations for hernia or varicose veins. Morphia is not required except as a hypnotic or to prevent the bowels from acting, and in the great majority of cases there is no pain of any consequence after the operation. Of course, it occasionally happens that the aseptic technique breaks down and infection of the wound occurs, with the result that post-operative pain requiring the use of morphia follows; but with increasing experience I have found that these cases have become less and less frequent, and most of the failures have been due to the fact that the preparation of the patient to ensure the bowels being empty has not been sufficiently carefully carried out. Pain after this operation, instead of being the rule, has become quite the exception.

Pain when the bowels act for the first time is avoidable with care and good nursing. With a skilled nurse pain after an action of the bowels is the exception. There is nothing to be gained by keeping the bowels confined for more than three or four days, as by that time the wounds in the anal canal have commenced to granulate and infection will not result in pain. After this a mild aperient daily is all that is necessary. I never allow the interior of the bowel to be interfered with in any way until all the ligatures have separated, except by the administration of a small injection of oil into the bowel daily to assist smooth action and protect the surface of the wounds.

I think it is better not to interfere with the patient's diet in any way, and instead of putting the patient on a slop diet after operation I allow an ordinary diet, but the amount of this is somewhat diminished until the bowels have been opened. I find patients are far less likely to get indigestion or discomfort, and the bowels are more easily relieved when the diet is not altered. Suddenly to put a healthy man on a diet of milk is quite sufficient to give him indigestion without the added factor of an operation and confinement to bed.

It is obviously difficult to obtain reliable statistics on such a subject as post-operative pain, but the following figures may, I think, be taken as approximately correct. They show the result of the last 200 consecutive cases of piles from my private case-books. All the cases in the series have been in private nursing homes, and the after-treatment has been carried out under my own personal supervision. Of the 200 cases 143 were men and 57 women. Of the total number only 28 (14 per cent.) complained of pain after the operation sufficiently severe to require an injection of morphia; and in only 8 cases (4 per cent.) was the pain bad enough to require more than one injection of morphia. In all the remaining cases pain was altogether absent or was relieved by 10 grains of aspirin, or by some simple measure such as a hot-water bottle.

I think these figures will compare very favourably with those for post-operative pain after any operation other than that for piles, and they show that there is no necessity for any special liability to pain after the operation for piles. These figures refer only to the ligature operation, cases treated by the cautery or Whitehead's operation having been excluded.

I have not worked out the figures for my cases treated in hospital during the same period, but I think the proportion of cases having pain is somewhat higher. It is difficult to obtain reliable figures in hospital practice owing to the fact that the house surgeon is constantly being changed, and while one can be depended on to keep the notes accurately in this respect another cannot. It must also be remembered that the same amount of individual attention cannot be given to hospital patients that is given to patients in private homes. Even in my hospital patients, however, it is quite the exception for morphia to be required after an operation for piles.

Hyde Park-place, W.

THE EARLY DETECTION OF DIABETES BY A SIMPLE METHOD OF ESTIMATION OF THE BLOOD SUGAR.

BY DR. OSCAR-KRAUS,
CARLSBAD.

SINCE urinalsis has become a usual method of investigation cases have been frequent in which different symptoms seem to point to the diagnosis of diabetes, and yet the urine does not show any trace of sugar. It is commonly said that when the amount of the sugar normally contained in the blood or, as it is called, the "sugar level," rises, by degrees the filtering apparatus of the kidney becomes permeable and the sugar passes into the urine. Consequently there must be a previous period in which, although there is not as yet any sugar in the urine, still there must be a greater amount than is normal in the blood.

Unfortunately estimation of the blood sugar has not hitherto been easy of performance on account of the great discomfort connected with the methods by which blood was obtained—namely, either by bleeding or by venepuncture. But in November, 1912, Max Adler and myself[1] published a new method by which it is rendered possible to obtain 15 drops of blood by a simple needle prick in the finger, and with this quantity to make an accurate estimation of the sugar contained in the blood. We originally performed the titration by using Fehling's solution very highly diluted, i.e., 1:10, and obtained good results. But as the method presented certain difficulties, especially for less trained operators, I substituted a new method of titration which permits the end of the reduction to be readily observed.

The analysis of blood sugar is carried out in the following manner. The pulp of the middle finger is thoroughly cleansed with ether and alcohol and a prick made with a Francke's needle, and about 15 drops of blood are dripped into a special small glass receptacle. The latter has a mark roughly indicating 1 c.c. and a second indicating 2 c.c. There must always be an excess of 1 c.c. of blood. Then by means of a capillary pipette 1 c.c. is measured into a small beaker and the pipette washed out with very little distilled water.

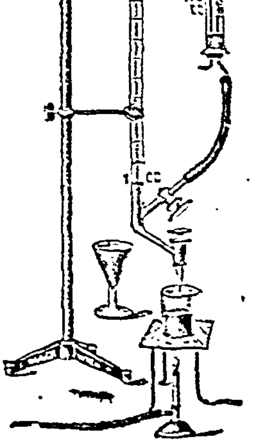
The sugar estimation consists of two parts:—

(*a*) *The dealbuminisation.*—This is carried out according to Max Adler's modification of Michaelis' and Rona's method. The liquid in the beaker is cautiously heated, whilst stirring it up, until it begins to turn turbid. Then 4–5 drops of 10 per cent. ferrum oxydatum dialysatum duplex (Merck) are added, and subsequently a few drops of a saturated watery solution of potassium sulphate, with constant soft boiling and stirring. All of a sudden the albumin will accumulate on the surface, while the liquid beneath will become absolutely clear. It is then very easy to separate the clear liquid from the albumin by filtering it into another small beaker and washing twice with hot distilled water. This liquid will hold all the sugar contained in 1 c.c. of blood.

(*b*) *The titration.*

I. *Preparation of the Standard Solutions.*

1. *Copper standard solution.*—2 grm. of sulphate of copper are exactly weighed and dissolved in about 100 c.c. of water and cooled down. Then 400 grm. of sulphocyanate of potassium, 12 grm. of ignited carbonate of sodium, and 24 grm. of citrate of sodium are dissolved with the aid of heat in about 600 c.c. of distilled water and filtered. It is then cooled down and the copper solution added by slowly pouring it into the other solution with constant stirring. 5 c.c. of a solution of 5 per cent. of ferrocyanide of potassium are now added and the whole is diluted with distilled water to exactly 1000 c.c. This solution, as compared with Fehling's solution, has the great advantage that it consists of a single liquid and keeps unaltered.



Special capillary burette for the estimation of blood sugar.

2. *Sugar standard solution.*—0·165 grm. of pure glucose is dissolved in a flask that holds 100 c.c. and is provided with a mark. Then a double tube is inserted and the bottle, neck downwards, is put into communication with a special burette by means of a rubber tube (see illustration). This burette holds 1 c.c. divided into 100 subdivisions.

II. *Testing the Standard Solutions.*

25 c.c. of the cuprous solution, with 25 additional c.c. of distilled water, are measured into a beaker and heated; then the sugar solution, still boiling,

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[1] Zur Bestimmung des Blutzuckers, Berliner Klinische Wochenschrift, Nov. 18th, 1912, No. 47.

is poured into the beaker, at first rapidly, finally drop by drop. We generally use 3·35–3·36 c.c. to reduce 25 c.c. of the cuprous solution. The reaction is complete when the colour changes from light blue to faint canary. By a special device a second, third, and fourth c.c. can subsequently easily be passed from the flask into the burette without removing the latter from the flame. This result will hold good for a long time, because the sugar solution will not be easily altered, provided a small crystal of thymol is added. The *titration of the* blood sugar takes place on the same principle. 25 c.c. of the standard solution are added to the blood filtrate and heated, and the end point will be obtained by addition of the sugar solution. The difference between the result of the test titration and the amount of sugar solution that it was necessary to add to the blood filtrate, when *multiplied* by 0·165, gives the percentage of sugar in the blood.

There has been lately a tendency in the German literature of the subject to differentiate between the sugar content of the blood cells and that of the serum. But the results of the researches of the different authors with regard to this point differ so much that we have been *justified* hitherto *in* neglecting this question, the more so as for practical purposes only the figures of the total blood-sugar content are of importance. There is still another question worthy of a careful study—namely, that of "rest-reduction," as it is called in the German literature. It is most interesting *to know which reducing substances contained in* the blood are liable to fermentation and which are not. We hope to be able to publish the result of our investigations concerning this matter later on. Our first care after having worked out the above method[2] was to compare it with old methods, which would work only with larger quantities of blood, and we found that *it* worked with absolute accuracy.[3] These comparisons having given satisfactory results, we endeavoured to find out what were the figures of the blood-sugar content, while the stomach is empty, in individuals whose carbohydrate metabolism was normal. The following 25 cases from our practice show that the upper limit is at 0·114, the lower at 0·078, while the mean is at 0·09 per cent. We do not think that either the different authors or we ourselves have hitherto had a sufficient number of observations to allow of the estimation of an average figure, which should not be a merely fortuitous one. *Only with a very* big number are average figures trustworthy.

1. Mr. W.	0·11	per cent.	14. Mr. J.	0·087	per cent
2. Mrs. B.	0·09	,,	15. Dr. S.	0·094	,,
3. Mr. B.	0·08	,,	16. Mr. E.	0·08	,,
4. Mrs. F.	0·086	,,	17. Mr. B.	0·10	,,
5. Mr. Th.	0·079	,,	18. Mr. V.	0·109	,,
6. Mrs. K.	0·089	,,	19. Mrs. F.	0·09	,,
7. Mrs. M.	0·010	,,	20. Mrs. C.	0·114	,,
8. Mr. H.	0·10	,,	21. Mr. H.	0·085	,,
9. Mr. M.	0·10	,,	22. Mrs. A.	0·094	,,
10. Mrs. M.	0·09	,,	23. Own blood ...	0·09	,,
11. Mrs. W.	0·089	,,	24. Miss F.	0·089	,,
12. Mr. S.	0·106	,,	25. Miss L.	0·10	,,
13. Mrs. S.	0·106	,,			

I will now show the way by which this estimation of the blood-sugar content can be utilised in determining the tolerance in diabetics. The following case is a very good example.

The patient, a diabetic, called on May 17th, 1913, when his urine was found to be *free from sugar*, but, on the other hand, the blood test showed an excess of sugar—namely, 0·163 per cent. before breakfast. He was put on the Carlsbad cure with appropriate diet. 27th: The figure was 0·086 per cent. before breakfast, a normal amount. Accordingly, on June 2nd 50 grammes of white bread were allowed for breakfast, the same quantity for lunch, and the blood was tested two hours after lunch. It showed a figure of 0·12 per cent., still a little too high, and therefore the total amount of bread was reduced to 60 grammes (30 for each meal) on June 4th, when the figure was 0·087 per cent. The next day 80 grammes were permitted, with a resulting figure of 0·10 per cent. Consequently the optimum of tolerance for white bread lay at about 70 grammes, corresponding to 40 grammes of carbohydrates according to *Schwenkenbecher's table of foods.*[4]

The above case is, from various points of view, very *instructive and demonstrative. It shows, first,* that a diabetic may have too much sugar in his system, even when he has none in the urine. His "internal tolerance" is not yet up to the assimilation of any amount of carbohydrates. It would therefore be a great mistake to stop the antidiabetic treatment (special diet included) until the blood test shows normal figures before the first meal in the morning. Then only is the patient fit for tolerance tests with measured quantities of carbohydrates. We always try white bread, because it is the very thing the patient craves for, and we administer it at the *first two meals, just as it is* taken in practice. Patients generally can dispense with taking bread in the evening. If the allowance is too high we reduce it, and *vice versâ*. Once the proper quantity is known it is a very simple thing to substitute other sources of carbohydrates, such as cereals, soups, fruit, and so forth, for the whole or part of the bread allowance, and thus to vary the *menu*.[5] Patients are but too thankful to know what they are entitled to instead of guessing. I do not want to complicate this simple statement by going into minute details, as, for instance, acetonuria, different tolerance for different species of meal (wheat, corn, potato, and so on), but I owe the reader *a motive for the title of* this paper. Here it is.

I stated that cases were frequent in which different symptoms would point to the diagnosis of diabetes and yet the urine would not show any trace of sugar. These symptoms are the well-known premonitory signs of diabetes, affections of the skin, pruritus, fall of the hair, &c. In many cases of the kind I could find a hyperglycæmia and the symptoms would subside after an appropriate light antidiabetic treatment. The following cases are very interesting.

A. B., a Brazilian, consulted me on July 3rd, 1912, with acne *furunculosa of the face* and the diagnosis of "gouty disposition," on account of which he had been *advised not* to eat too much meat and nitrogenous food, but more green food, fruit, and carbohydrates. He had no sugar in the urine, yet his blood test showed 0·16 per cent. before breakfast—i.e., hyperglycæmia—which subsided readily on appropriate treatment, as also did the furunculosis. It is obvious that his previous diet had been just the reverse of *that which it ought to have been.*

A compatriot of A.B. called on July 18th of the same year. He was very obese, and although his urine was all right he was afraid of diabetes on account of similar cases in his family. Fortunately, his fears were not well-founded, his level being at 0·10 per cent., within normal limits.

A. B. had suffered for two years from sycosis and general furunculosis. There was no sugar in the urine, but 0·23 per cent. after 100 grammes of dextrose and *0·16* without taking anything in the morning.

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[2] Oscar-Kraus: Eine Neue Methode der quantitativen Blutzuckerbestimmung, Wiener Medizinische Wochenschrift, No. 26, 1913, and previously; Max Adler and Oscar-Kraus: Ibid., 1913, No. 18, and lately; Oscar-Kraus: Ibid., 1913, No. 47.

[3] For special details see the publications given in preceding footnote.

[4] At Georg Thieme's, *Leipzig*, 1907.

[5] The above-mentioned or similar food tables will give the percentage of carbohydrates contained in different kinds of food; for example, boiled potatoes 21, mashed potatoes 5, cocoa 34·2, cauliflower (boiled) 3·5, asparagus 1·3, soups of cereals 7, nuts 13, almonds 7·3, oranges 5·3, apples 12, and so on.

Another very interesting case was that of a patient whose family medical attendant had found sugar in the urine, while another practitioner on the same day had found none. The latter was right, because after examination there were a great many reducing substances in the urine, but no sugar. Yet the blood test showed (July 15th, 1912) 0·30 per cent. before breakfast—i.e., hyperglycæmia.

Whether these and similar cases of hyperglycæmia will end in real diabetes time alone will show. At any rate, experience teaches that diabetes, of all affections, should be attended to as soon as possible, and the examination for blood sugar is the proper means for its early detection.

We began our researches in response to the demands made by our daily practice in the treatment of diabetics. But comparisons of our method with the old ones, working with great quantities of blood, show that it holds good also for the purpose of physiological and clinical study, so far as sugar is concerned.

Since Adler and I published our first article in November, 1912 (showing that with the aid of highly diluted solutions it was possible to get trustworthy and accurate sugar estimations from the analysis of a few drops of blood obtained by a simple needle-prick), as always happens, others have seized upon our idea, modifying one of the many old procedures, or even adapting new ones, to our method. But we claim that we were the first to lead the way. We cannot see that any of the methods since published are simpler, quicker, or more trustworthy than ours, and until we find a better one we shall stick to it.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF PNEUMONIA PRESENTING SOME UNUSUAL FEATURES.

By A. AINSLIE HUDSON, M.D. EDIN., F.R.C.S. EDIN.

THE following case may prove of some interest by reason of its infrequent features. Indeed, if physical signs mean anything, they meant in this case that the two forms of acute pneumonia were present at one and the same time in the same individual.

The patient, aged 62 years, came under my care with a history of a definite rigor and other symptoms suggestive of a chill. The physical signs were for the most part indefinite when I first saw the case, the first definite signs being those associated with a small patch of pleurisy at the left base. On the second day towards evening the temperature rose to 103·6° F., with pulse and respirations in close attendance, and there was some cyanosis. On the third morning the temperature had fallen to normal, likewise the pulse and respirations, and the cyanosis had for the most part disappeared, so that one was constrained to consider the case as a sharp attack of influenza or possibly only a simple chill with some respiratory symptoms. However, towards evening the temperature rose again to 100·5°, the sputum became rusty and very viscid, physical signs made their appearance in both lungs, and the patient's general condition became worse. On the fourth morning the temperature had again fallen to 99°, rising to 101° at night, the general condition remaining much the same in spite of the rapidly extending involvement of the lung tissue. On the fifth day the temperature was normal again, rising to 100·8° at night, the cyanosis increased, and there were periods of semi-delirium. On the sixth morning the pulse began to fail, coma set in, and the patient died suddenly at 8 o'clock, five and a half days from the onset of the disease.

The solidification of the left lung had begun on the third day, and by the fifth day the whole lung was more or less involved. While this process was going on in the left lung the right had begun to show isolated patches of catarrh, but by the end of the fifth day there was hardly a clear area to be found, although there was no consolidation to speak of. The pleurisy had only spread slightly and there was no effusion. Some emphysema was present towards the end. The tongue remained clean throughout. To summarise briefly, the pulse and temperature behaved more like in a case of out-and-out broncho-pneumonia, and one would have been inclined to consider the case as such had the catarrhal signs showed first, but they only appeared subsequently to the evidence of consolidation in the first lung, which eventually involved that organ from base to apex, whereas in the catarrhal lung there was no marked consolidation. The temperature on three mornings had been normal, and the pulse and respirations had greatly improved. The temperature never went above 101° except on the second evening when it rose to 103·6°, and there was no doubt about the consolidation of the left lung, which presented signs entirely absent in the other lung. The patient was put into a hospital and seen by three other practitioners who confirmed my opinion. The usual treatment was employed.

Llandrindod Wells.

A RECORD OF ANÆSTHETICS AND ITS STATISTICAL LESSON.

By D. J. MUNRO, M.B., B.S. LOND.,
ANÆSTHETIST TO THE LONDON THROAT HOSPITAL.

OUT of nearly 2000 administrations during the last two years notes were kept relating to complexion, speed of induction, and depth of anæsthesia in about 200 cases. This was done with no very definite object beyond a curiosity as to what results might emerge. Apparent variations in the tables (averaging an error of less than 3 per cent.) are due to differences in the anæsthetic agent given, the figures for nitrous oxide and ethyl chloride—though most used—being too small to be employed for statistics. Table I. suggests that fair subjects are somewhat more susceptible to the effects of anæsthetics than dark ones, not only with regard to the rapidity with which they can be put to sleep, but also in respect of the depth of anæsthesia resulting. Table II. sounds a warning against too rapid induction, since it indicates that rapid induction is much more likely to be followed by deep anæsthesia than slow induction; but this warning is qualified very considerably by Table III., which shows that almost all the cases of deep anæsthesia following rapid induction occurred when ether was

TABLE I.—*Complexion in Relation to Anæsthesia.*

	Induction.			Depth of anæsthesia.		
	Rapid.	Medium.	Slow.	Shallow.	Medium.	Deep
Fair (111)	79	—	32	44	34	33
Dark (96)	53	8	35	44	27	25

TABLE II.—*Speed of Induction in Relation to Depth of Anæsthesia.*

	Shallow.	Medium.	Deep.
Rapid induction	43	39	50
Slow (and medium) induction	47	20	8

the principal anæsthetic given, while with chloroform or C.E. mixture as the principal anæsthetic it was nearly always easy to maintain a light degree of anæsthesia, whether induction had been speedy or slow, and it may be legitimately deduced from this table that for difficult nose and throat operations, where it is of the highest importance to preserve the coughing or swallowing reflex, chloroform is undoubtedly the anæsthetic of choice, while for operations on the trunk or limbs, when deeper anæsthesia is either advantageous or of no particular moment, ether is to be preferred, especially by those who give anæsthetics comparatively seldom.

TABLE III.—*Relation of Speed of Induction to Depth of Anæsthesia under Three Principal Anæsthetic Agents.*

		Shallow.	Medium.	Deep.
Chloroform ...	Rapid	24	8	2
	Slow	21	9	—
C.E. mixture	Rapid	4	2	3
	Slow	5	1	—
Ether	Rapid	13	30	45
	Slow	22	10	8

Great Portland-street, W.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF DERMATOLOGY.

Exhibition of Cases.

A MEETING of this section was held on April 16th, Dr. J. J. PRINGLE, the President, being in the chair.

Dr. GEORGE PERNET showed a case of Double Primary Chancre of the Lips in a man. The patient was first seen on March 17th, suffering from a roseolar and papulo-squamous eruption on the body which had been preceded at an interval of five weeks by the sores on the lips. There were no lesions on the genitalia. Neosalvarsan (0·9 grm.) was injected intravenously on March 22nd, and this was followed by some diarrhœa, abdominal pain, and a toxic erythema on the hands and knees.—Sir MALCOLM MORRIS asked when the last Wassermann reaction had been tested.—The PRESIDENT inquired if there was a history of the patient having smoked another person's pipe, and if the toxic eruption was regarded as a "Herxheimer's reaction." In his experience multiple chancres of the lips were not very uncommon.—Dr. A. M. H. GRAY asked if the neosalvarsan was used in concentrated or in dilute solution, his experience being that the concentrated solution was not followed by severe reaction.—Dr. ARTHUR WHITFIELD regarded Herxheimer's reaction as a specific reaction of syphilitic tissue to salvarsan, but did not consider the case under discussion as an example of it.—Dr. F. PARKES WEBER asked if the fauces were involved in the erythema.—In reply to the PRESIDENT, Dr. H. MACCORMAC said he had not observed the Herxheimer reaction so frequently after neosalvarsan as after the old salvarsan, and Dr. GRAY said he had seen it more often after small than large doses.—Dr. PERNET said the Wassermann reaction had not been tested, the manner in which the disease was contracted had not been ascertained, and, as the patient was suffering from a syphilitic throat, it was impossible to say if the fauces were involved in the toxic erythema. He questioned the utility of retaining the term "Herxheimer's reaction" and doubted its specificity.

Dr. W. KNOWSLEY SIBLEY showed a woman, aged 35, suffering from Symmetrical Telangiectases of the Face, Mucous Membranes of the Mouth and Conjunctivæ, which had begun on the face six months previously. The patient had suffered from a similar attack six years ago and was then under the care of Dr. H. G. Adamson. Her sister was stated to have a similar condition affecting the abdomen.—Dr. ADAMSON said the patient had been shown by him six years ago, and the condition had not altered in any way.—The PRESIDENT interrogated the patient closely as to the disappearance of the lesions, and she was quite certain that this had occurred.—Sir MALCOLM MORRIS said he had seen spider nævi disappear spontaneously, and Dr. O. DUDLEY CORBETT had observed the same phenomenon after pregnancy.—Dr. PARKES WEBER said the spider nævi of very young children might disappear, and also those accompanying jaundice and liver disease in adults. Dr. Sibley's case came into the category of multiple telangiectases of the skin and mucous membranes with a tendency to bleeding which had been described by Sir William Osler and others. Referring to the presence of De Morgan's spots in the case, he agreed with the exhibitor that they were not specially associated with abdominal cancer.—Dr. MACCORMAC mentioned a case of Dr. Pasteur he had observed in which a large number of multiple telangiectases occurred in a patient suffering from gastric ulcer, and which had completely disappeared.—Dr. WHITFIELD discussed the varieties of nævi with reference to the case exhibited: a nævus in the continental sense of the word was a congenital anomaly of the skin, but so-called "spider nævi" often followed the bites of flies and mosquitoes and were minute traumatic aneurysms. The type associated with cancer were not true nævi. He regarded the case as a nævus.—Dr. GRAY remarked that stellate nævi were sometimes associated with cirrhosis of the liver, and inquired if Dr. Sibley had investigated the case from this point of view.—Dr. J. M. H. MACLEOD remembered a patient in whom typical telangiectatic lesions accompanied gastric ulcer; he looked upon the case under discussion as a congenital spider nævus.

Dr. SIBLEY also showed a woman, aged 27, who presented small Punctate Hæmorrhages of 13 weeks' duration, scattered over the chest, back, and shoulders, and hæmorrhages in the mouth. The patient also had multiple furunculosis and pyorrhœa alveolaris.

Dr. G. NORMAN MEACHEN brought forward a girl, aged 15, with persistent Erythema of the Legs of 2½ years' duration accompanied by severe pain, which was increased by the dependent position and was unrelieved by salicylates. There was also passive congestion of the hands. Her heart sounds were normal.—Dr. PARKES WEBER thought the erythema was of the type seen in Bazin's disease.—Dr. ADAMSON said the erythema of that condition was of the "livedo" type, but the present case was diffuse.—Dr. WHITFIELD did not consider the cyanosis of Bazin's disease was a sufficiently important factor upon which to found a diagnosis in the absence of nodose lesions.—The PRESIDENT asked if there was any tuberculous taint in the patient or in her family; his general appreciation of the case agreed with Dr. Whitfield's. He remembered two similar cases which had recovered after puberty.

SECTION OF OTOLOGY.

Exhibition of Specimens and Cases.

A MEETING of this section was held on April 17th, Mr. RICHARD LAKE, the President, being in the chair.

Mr. G. H. L. WHALE exhibited the specimen of a Temporo-sphenoidal Abscess from a fatal case in a girl, aged 8 years, who had had otorrhœa for three weeks, and was taken to hospital on the second day after the onset of drowsiness. In the left meatus were fœtid pus and a polypus. Mastoid signs were absent, but there were marked ptosis and slight dimness of the edge of the optic disc. On the opposite side there were paresis of the orbicularis oris and marked dimming of the edge of the optic disc. These signs on the right side soon disappeared. The temperature and knee-jerks were normal, and there was no head retraction. The labyrinthine caloric responses were normal but sluggish. The cerebro-spinal fluid was neutral and non-reducing. At the radical mastoid operation a little pus was found in the antrum, but no fistulæ. On incision of the dura there was immediate pulsation and the formation of a hernia. The temporo-sphenoidal lobe was explored in all directions, but no pus was found. On the fourteenth day the temperature commenced to rise, and on the seventeenth had reached 104° F., but with no symptom except projectile vomiting. The cerebro-spinal fluid was under pressure, and there was a considerable increase of lymphocytes, and some polymorphonuclears were found.

Vomiting now ceased, but the temperature became subnormal and drowsiness increased. A second operation was performed on the twenty-fourth day, when about 2 dr. of offensive pus was evacuated from the temporo-sphenoidal lobe. A diphtheroid organism was recovered in pure culture. The drowsiness passed into coma and death occurred on the twenty-eighth day, after half an ounce of pus had been evacuated. At the necropsy the lateral sinus was found to be natural, but a large gangrenous abscess occupied the whole length of the under surface of the temporo-sphenoidal lobe—3½ inches.

Dr. DAN MCKENZIE showed a woman, aged 41, *illustrating* the Association of Nerve Deafness and Anæmia. A complicating feature was practically universal pyorrhœa alveolaris. He deferred judgment as to a causal connexion until he had observed whether the two conditions improved *pari passu*.

Mr. E. D. D. DAVIS exhibited an interesting case of Tuberculosis of the Mastoid in a male child aged 11 months. The patient was taken to hospital with an abscess of the superficial parotid glands, enlarged posterior auricular and upper deep cervical glands on the left side, left otorrhœa, and left facial paralysis. The parotid abscess was opened and curetted, and the enlarged cervical glands removed. Four months later a radical mastoid operation was performed, and more caseating cervical glands were removed. As the mastoid was still suppurating 12 months later the region was opened up, and the large sequestrum exhibited was removed from behind the lateral sinus. The disease was now arrested.—Dr. W. JOBSON HORNE contended that so-called primary tuberculosis of the ear was essentially a bone tuberculosis, starting in the mastoid process itself, not in the ear proper. In this remark he did not include cases of secondary invasion. In similar cases he had noticed a tendency to overlook the ear disease owing to the enlargement of the glands, so that the mastoid had been dealt with only subsequently. If the glands were left for a time it might be unnecessary to deal with them. The absence of pain was also apt to lead one away from the real source of the trouble.—Dr. J. DUNDAS GRANT pointed out that the course of events referred to by Dr. Horne applied specially to young children, in whom there was often the separation of a comparatively large sequestrum. This should be the objective of the surgeon rather than the performance of a radical mastoid operation in these young subjects.—Dr. W. A. MILLIGAN suggested inquiry into the source of the milk supplied to the child. He agreed with Dr. Grant that a set operation in children with this condition was not often called for. He differed from Dr. Horne as to primary tuberculosis of the ear being essentially a bone disease; he (the speaker), from the cases he had followed up, believed that the disease first attacked the mucous membrane, but bone involvement soon followed. He agreed that in operating it was advisable to leave the glands for a time, because he believed them to constitute a first line of defence. If it was clear that the basis of the inflammation was tubercle, the glands could be removed later.—Mr. WHALE described a case in which leaving the enlarged glands to be dealt with later proved to be wrong, for the result of doing the bone operation first was that the glands broke down before the operation wound healed, and the patient had a very bad neck.

Dr. G. F. STEBBING and Mr. G. J. JENKINS showed a postmortem specimen of Malignant Disease of the Ear which had become very extensive, involving the lower part of the mastoid, and extending downwards to the level of the thyroid cartilage, backwards to the posterior border of the sternomastoid muscle, and forwards to the angle of the jaw. A soft, readily bleeding polypus was showing at the orifice of the right external auditory meatus. The growth involved the middle fossa of the skull.

Mr. JENKINS exhibited, and demonstrated by means of the epidiascope, some beautiful serial microscopical sections of the left temporal bone of a female aged 59. There were ankylosis of stapes and other changes in the region of the foramen ovale—otosclerosis. He also showed microscopical sections of mastoid, labyrinth, and middle-ear tract of temporal bone of a young adult male, who was very ill with phthisis, and was also suffering from deafness, otorrhœa, and facial paralysis. The preparations showed the presence of pus in the middle-ear tract, with mastoiditis and labyrinthitis.

MEDICAL SOCIETY OF LONDON.

Cerebro-spinal Syphilis.

A MEETING of this society was held on April 27th, Sir DAVID FERRIER, the President, being in the chair.

Dr. PURVES STEWART read a paper on the Diagnosis and Treatment of Cerebro-spinal Syphilis, including Tabes and General Paralysis. He spoke of the importance of the early diagnosis of the condition, emphasising the fact that a pre-clinical stage occurred. Organic changes preceded the earliest clinical symptom. The clinical stage was relatively late. It was during the pre-clinical stage that treatment was most likely to be effective. Fortunately, however, the disease might be recognised in this stage by examination of the cerebro-spinal fluid and of the blood. He then referred to the methods of examination of these fluids. The modern neurologist was no longer satisfied with the absence of clinical signs and symptoms indicating gross focal disease in the nervous system, even when the Wassermann reaction in the blood was negative. To assure himself that the central nervous system has escaped he examined the cerebro-spinal fluid. There were three distinct kinds of lesions: (1) gummata, rising in non-nervous tissues, and compressing or invading the brain or spinal cord, or diffuse gummatous infiltrations; (2) syphilitic endarteritis, frequently culminating in thrombosis; and (3) parenchymatous nervous diseases, characterised by a primary decay and degeneration of various nerve tracts and nerve cells, produced by the direct action of the syphilitic toxin. Examples of the last group were certain primary forms of optic atrophy, a considerable part of the lesions of tabes and general paralysis, Erb's syphilitic paraplegia and certain forms of organic nervous disease occurring in the children of syphilitic parents. Gummata might often be removed by medicinal means, and if the nerve structures had not undergone destruction recovery might be complete. In syphilitic vascular diseases the lesions in the arterial wall might yield to treatment, but if thrombosis had occurred and an area of softening resulted the damage must necessarily remain. Lastly, with regard to the primarily degenerative diseases, such as tabes and general paralysis, these had generally been uninfluenced or only slightly alleviated by antisyphilitic treatment. The present day treatment by a combination of mercury with salvarsan or neosalvarsan was applicable to cerebro-spinal syphilis if certain precautions were borne in mind. It was safer to give repeated doses of not more than 0·03 grm. salvarsan, for it was less likely to be followed by nerve relapses. Patients with renal disease or marked cardio-vascular disease were unsuited for this treatment. Dr. Stewart then gave examples of cases in which cerebro-spinal syphilis of the gummatous and vascular forms had been treated by the new methods. He then dealt with the treatment of parenchymatous nervous syphilis, pointing out the several reasons which rendered it singularly resistant to treatment. In order to reach and destroy the organisms to which it was due remedies must enter the cerebro-spinal fluid. This might be effected by administering salvarsanised blood serum intrathecally or by the direct injection of neosalvarsan into the cerebro-spinal fluid. Within the last six months he had treated 25 cases of parenchymatous nervous syphilis, including 13 of tabes and 9 of general paralysis, by one of these methods. Composite tables of (1) 11 cases of tabes and (2) 7 cases of general paralysis were exhibited and other *detailed tables* of individual cases. The composite tables showed generally a great decrease in the lymphocytosis of the cerebro-spinal fluid, whilst the Wassermann reaction of the blood and cerebro-spinal fluid tended to diminish or disappear. Enesol had proved useful in the treatment of the lightning pains of tabes, and had the advantage of being suitable for simple hypodermic injection. Acting on the known beneficial influence of pyrexia on general paralysis, he had treated this disease by inducing artificial pyrexia by means of large intramuscular injections of sodium nucleinate. Of 15 general paralytics thus treated by Donath, three were able to resume their ordinary work, six were improved, five were unchanged, and one died of apoplexy during the treatment. His own cases had provided a moderate amount of encouragement, for as far as he had been able to judge a more or less prolonged remission occurred in the clinical symptoms accompanied by a diminution in the intensity of the lymphocytosis of the cerebro-spinal fluid in a considerable proportion of cases. He knew of no case, however, in which a cure had resulted. Urotropin was amongst the drugs which had proved useful as accessories in the treatment of general paralysis. He then related some of the results obtained in general paralysis by combined intravenous and intrathecal treatment, either with salvarsanised serum or with neosalvarsan. Other methods besides that of lumbar puncture might be employed to introduce remedies into the cerebro-spinal fluid. Thus this might be done by cranial puncture or through the orbit by penetrating the sphenoidal fissure with a hollow needle, or remedies might be injected directly into the ventricles of the brain by the callosal puncture of Anton and Bramann. When comparing intraspinal with intracranial administration it must be borne in mind that a long series of treatments was necessary, and it must be considered whether it was justifiable to submit a patient to the risks of repeated cranial operations unless these could be shown to yield results materially better than those obtained by intraspinal injections. In every one of the cases of general paralysis he had treated by the latter method the lymphocytosis of the cerebro-spinal fluid had diminished. In three of them the Wassermann reaction disappeared from the blood. In the cerebro-spinal fluid the Wassermann reaction usually became less marked, but in only one did it disappear. Before coming to definite conclusions numerous and prolonged observations over a large series of cases were necessary. Improvement in the condition of the cerebro-spinal fluid was a useful index, but we must remember that in general paralysis, at least, the cell count in the fluid might go down without any improvement in the mental symptoms. It was therefore important to select only those cases of general paralysis which were in the early or toxic stage of the disease, before the cortex had become profoundly degenerated. The earlier the disease was recognised the better were the prospects of improvement. Advanced cases were unsuitable. The most thorough method of attacking general paralysis would be to administer remedies concurrently by all three routes—intravenously, intraspinally, and intracranially, and it might be that in the future this combination would be adopted. It was too early to claim that we possessed a cure for tabes or general paralysis, but we could do a good deal towards arresting both diseases. Whether such arrest was permanent or not, time alone would show.

Mr. C. A. BALLANCE said he thought that in ordinary cases of syphilis the combined method of intramuscular injections of mercury and intravenous injections of salvarsan was the best form of treatment. In 83 so treated of which he had knowledge 80 developed no secondary symptoms. If this procedure were adopted one would not see cerebro-spinal syphilis so often. A simple method of obtaining a rise of temperature was by the injection of Coley's fluid, and possibly this might be of use in cerebro-spinal syphilis if a rise of temperature was desirable. The arachnoid membrane very definitely separated the subdural space from the subarachnoid, as was shown by clinical instances as well as by the work of Key and Retzius. It, therefore, seemed proper to inject salvarsanised serum or salvarsan into the subarachnoid space and not into the subdural. He did not consider it more dangerous to inject them into the intracranial subarachnoid space than into the spinal. The method he had adopted was to make an opening into the skull immediately in front of the bregma, and pass down a fine cannula 3 inches long through the anterior part of the corpus callosum into the anterior cornu of the lateral ventricle. The guide was the falx. The diameter of the cannula was 1 mm. A stilette ran through the cannula and, projecting slightly beyond it, protected the nervous tissue from serious damage. He had used from 30 to 60 c.c. of salvarsan solution, preceded and followed by a little normal saline. He could not speak of the beneficial effects of the method, but no complications had occurred in the 5 cases so treated, and it seemed a satisfactory way of introducing salvarsan and salvarsanised serum.

Dr. F. E. BATTEN did not think that parenchymatous syphilis was generally uninfluenced by treatment in early cases; and in recent years he had thought antisyphilitic treatment useful in early tabes and general paralysis. He had treated two cases of general paralysis which had resisted ordinary remedies by sodium nucleinate without improvement. The Wassermann reaction and cell content of the cerebro-spinal fluid had remained unaltered. He had used undiluted salvarsanised serum in one other which had not been benefited by mercury, but also without good effect. He spoke of the danger of injecting either salvarsan or neosalvarsan intrathecally.

Dr. ROBERT ARMSTRONG-JONES said he had given up mercury in the late stages of general paralysis. Pneumonia frequently occurred in general paralytics, but they were very rarely indeed improved by the resulting rise of temperature, in this way contrasting with the subjects of certain other forms of lunacy. Almost complete recovery might be seen in patients who appeared to have definite parenchymatous degeneration without treatment. The use of a thorium hydroxide cap had been followed by marked improvement, and in two cases by apparent recovery. He had experienced little benefit by the use of neosalvarsan, and regarded lumbar puncture as a dangerous procedure. There were 60 cases on record in which the operation of piercing the frontal bone had been performed, but it seemed to him a most difficult operation. In 330 cases of general paralysis he had found that the average duration from admission until death was one year and four months.

Dr. GORDON J. LANE, speaking of the treatment by nucleinate of soda, said that it led to a decided improvement and an increase in the red blood corpuscles and a leucocytosis chiefly of the large lymphocytes.

The PRESIDENT complimented Dr. Stewart on his paper, and especially on the critical manner in which he had stated his conclusions. He was a little disappointed in the results of the intrathecal method of treatment. It could not yet be said that any case was on record in which parenchymatous syphilis was cured by it. The only hope lay in the treatment of very early cases. In the one case in which he had seen neosalvarsan tried the result was disastrous, all the symptoms being intensified.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.

A CLINICAL meeting of this society was held on April 3rd, Dr. T. WARDROP GRIFFITH, the *President*, being in the chair.

Dr. O. W. VINING showed: 1. A case of Left-sided Hemianopia (partial) in a man with a history of convulsive attacks, preceded by auræ of flashing lights. A provisional diagnosis had been made of a tumour involving the right occipital cortex. 2. A case of Paralysis Agitans in a woman aged 56. The patient began to lose the use of the right arm eight months ago; the tremor was noticed in November, 1913, and since then the condition had rapidly developed.

The PRESIDENT showed: 1. A case of probable Intracranial Tumour in a boy aged 5. The sixth cranial nerve of the left side was involved and there was right hemiplegia. Optic neuritis was marked in the left eye, and commencing in the right. 2. A case of Progressive Muscular Atrophy in a man aged 46. The disease began eight months ago with weakness of the right hand. Ulnar deviation was well marked and bulbar signs were present. The reflexes were increased, proving involvement of the upper motor neurons. Treatment by strychnine injections was being carried out.

Dr. G. W. WATSON and Mr. ALEXANDER D. SHARP showed a woman with Mitral Stenosis and Paralysis of the Left Vocal Cord. The patient came under observation with hæmoptysis, as a case of suspected phthisis. There was no clinical evidence of phthisis, but undoubted signs of mitral stenosis. There had been complaint of huskiness for some time, and laryngeal examination showed a complete paralysis of the left vocal cord. In addition there was impaired sensation on the left side of the tongue and on the left anterior faucial pillar. The patient had to be careful in the act of swallowing as she was apt to "choke."

Mr. R. LAWFORD KNAGGS showed: 1. A man with an Œsophageal Fistula traversing the right pleura. The case had been exhibited at the last clinical meeting and the passage of swallowed milk through the fistula demonstrated. There was a three years' history of intermitting pleural suppuration. Gastrostomy was performed and the patient was fed by the stomach till recently. He was now taking solid food, and apparently nothing came through the fistula. 2. A case of Excision of Tuberculous Wrist in a man. When treatment by trypsin injections was commenced some six months ago the arm looked hopeless, and the treatment was given a chance before amputation was definitely decided on. Improvement speedily set in and had progressed steadily.

Mr. J. F. Dobson showed a case of Diffuse Papillomata of the Bladder treated by suprapubic cystotomy, and subsequently by implantation of both ureters into the colon. The patient was perfectly comfortable and able to retain urine for five hours. The suprapubic wound was healed and nothing escaped from the bladder.

Cases were also exhibited by Mr. W. Thompson, Mr. J. A. Coupland, Mr. H. Secker Walker, and Dr. A. L. Whitehead.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Obstetrics.

Congenital Icterus.—The Relation between the Mechanism and Management of the Third Stage of Labour.—Exhibition of Specimens.

A meeting of this section was held on April 3rd, Dr. M. J. Gibson, the President, being in the chair.

Mr. Spencer Sheill read a paper on Congenital Icterus. —Dr. E. Hastings Tweedy said that he had seen a great many cases of jaundice in infants, some of which had terminated fatally, and he had seen a good many post-mortem examinations on these cases, and was surprised at the number of defective ducts found. He was particularly interested in the suggestion that these cases should be subjected to surgical interference. He had not heard it suggested before. Infants bore abdominal section badly, and this was more particularly true of jaundiced infants. He inquired if there were any statistics of successful operations in these infantile illnesses. He mentioned that infants were frequently starved for want of water, and suggested that they did not get enough fluid in the early days after birth. He thought that jaundice arose from want of sufficient fluid, and that this was particularly the case in premature children. He pointed out that children were kept in a hot atmosphere and required a good deal of water. He wondered if the insufficiency of water would account for the viscosity of the bile. —Dr. Gibbon FitzGibbon asked whether at the operation on the gall-bladder it was possible to make out if it was an obstructive jaundice; also what was the condition of the liver? Was there any enlargement or anything which would suggest a syphilitic condition?—Dr. Spencer Sheill, replying to the remarks, said on examination the liver appeared in every way normal. There was no discolouration or enlargement, and it was not unduly hard or soft. He recognised that everybody was against laparotomy in infants, as they were in nearly 90 per cent. fatal. The literature on the subject was very scanty, but a few men who had operated said that operation gives bad results unless distinct obstruction was found in the duct. In his case he did not think the gall-bladder was so distended as to indicate obstruction, and the surgeon reported that the ducts were patent. He considered septic cord cases quite distinct. He was very particular about the prevention of over-clothing of infants, thereby sweating them, and not making up for it by water taken. In replying to a question from Dr. Bethel Solomons, he said that the parents refused any interference in the way of a Wassermann test, and from the history no information of any value could be elicited.

In the absence of Dr. J. R. Freeland, Dr. Tweedy read his paper, entitled the Relation Existing between the Mechanism and the Management of the Third Stage of Labour: a report of 2000 cases from the Rotunda Hospital. —The paper was not discussed.

Dr. Bethel Solomons exhibited a Uterus with Cervical Myomata removed from a patient 37 years old, who had been married 11 years. In her first three years of married life she had two healthy babies who are still alive. Two years later she had an eight months' stillborn child; two and a half years later a nearly full-term stillborn child. In January, 1911, examination under an anæsthetic revealed an enlarged uterus with lacerated cervix and rectocele. Dr. Solomons performed curettage, trachelorrhaphy, and colpoperineorrhaphy. The curettings were found to be glandular endometritis. The patient enjoyed good health for about six months, when she became pregnant again, and was treated with potassium iodide and mercury during the pregnancy. At six months she was delivered of a macerated fœtus. This was examined by Professor P. T. O'Sullivan, who reported that there was no trace of the spirochæta pallida. A year ago menorrhagia and metrorrhagia started. These symptoms became aggravated in the last six months, and severe backache troubled her during the last two months. Dr. Solomons found a uterus in normal position with two large myomata, one growing from the back and the other from the side of the cervix. It might be asked why he did not perform myomectomy, which appeared from the specimen might have proved easier. He performed hysterectomy for the following reasons: (1) The age of the patient; (2) her fear of having more macerated babies; and (3) the fear of malignant degeneration having commenced. Dr. A. Stokes, who examined the specimen, reported as follows: "Endometrium, glandular endometritis. Myoma, simple, with early mucoid degeneration. Cervix normal." It was difficult to account for the frequent stillborn babies. Syphilis, endometritis, and tumours are generally regarded as the most common predisposing factors. There was evidently no syphilis. The endometritis might have accounted for the first two, but this was cured and could not have accounted for the last. The tumours were not present until two years after the birth of the first two, and until one year after the birth of the last stillborn child.

Dr. Tweedy showed a specimen of Myoma, recently removed, which had undergone mucoid degeneration.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this society was held on April 17th, Dr. A. K. Chalmers, the President, being in the chair.—A paper was read by Dr. B. A. Peters, lecturer on infectious diseases, Bristol University, on the Elimination of Cross Infection in Fever Hospitals, in which he pointed out that, although surgery had long since abandoned the idea of the air being an appreciable factor in the conveyance of infection to a wound, medicine still regarded it as being the principal medium in the carriage of the common infectious diseases of children. At the Bristol fever hospital all patients were kept in bed for a fortnight after admission. During that time any secondary infection which might be incubating would have developed, and if the case were a doubtful one a definite diagnosis could be made. Each patient was provided with a separate towel, face-flannel, piece of soap, comb, and throat-brush, which were kept in a locker beside the bed. All eating utensils were boiled after each meal, and other utensils were cleansed and disinfected after use. The nurses wore rubber gloves lined with canvas when closely handling a patient, which were immersed in perchloride of mercury solution before going on to the next patient. These methods had been quite successful in preventing the spread of scarlet fever, diphtheria, whooping-cough, rubella, or mumps when accidentally introduced into a ward not intended for their reception. Previous to the introduction of this system in 1911 about 2·5 per cent. of the patients contracted a second disease while in hospital, the only available means for limiting the number of secondary cases after the removal of the infecting patient being to cease admissions to the infected ward until the secondary infection became extinct for want of further susceptible patients. In the first year after the introduction of the new system only two patients contracted measles and one chicken-pox. The next step was to keep the windows of the acute wards open all the year round, which procedure was completely successful in preventing the spread of secondary infection in those wards in spite of 13 invasions of chicken-pox. One important result of aseptic nursing was a marked diminution of late septic complications, including especially rhinitis. During the past two years the minimum detention period in the Bristol fever hospital had been reduced to one calendar month in the case of scarlet fever, desquamation being ignored.—Dr. Robert Milne maintained that by swabbing the tonsils and pharynx with 10 per cent. carbolic acid every two hours for 24 hours, and rubbing eucalyptus oil over the patient until the tenth day of the disease, cross infection was completely prevented.—Dr. G. S. Buchanan pointed out the importance of taking into consideration the limitations of all experiments in the infectivity of disease, for each infectious disease must have its own natural history, and infectivity was greater at one time than it was at another. He considered it highly probable that a reduction in the number of septic cases would result from the extreme care taken in regard to secondary infection.—Mr. E. H. T. Nash, referring to the success attending Dr. Milne's own cases, pointed out that it was possible for him to begin to treat the cases occurring in the Barnardo Homes much earlier than a medical officer of health could begin treatment in an isolation hospital.—Dr. Meredith Young insisted upon the importance of getting cases into hospital early and of avoiding overcrowding. It was important also to recognise that otorrhœa and rhinitis were definitely communicable. He did not believe that infection was in the skin. Children were sent out of the Stockport hospital when peeling, but secondary infection rarely resulted.—Dr. G. F. Buchan maintained that Dr. Milne's treatment was no treatment at all, yet his results appeared to be the same as those of Dr. Peters, who practised strict asepsis with abundant fresh air.—Mr. T. W. N. Barlow said that he had tried Dr. Milne's treatment thoroughly for four years, but he got return cases and cross infections as frequently as ever.—The President referred to the enormous demand which aseptic treatment made on the nursing staff, and spoke of the great value of the use of gloves. He pointed to the possibility of there being some change in the organism of scarlet fever which was producing lessening virulence of infection.

GUY'S HOSPITAL: LECTURES ON INDUSTRIAL DISEASES.—The following is the syllabus of the six lectures on Industrial Medicine to be delivered at the Medical School of Guy's Hospital by Dr. Frank Shufflebotham during May and June:—Lecture I., May 8th: The Symptoms and Diagnosis of Lead Poisoning. Lecture II., May 15th: The Post-mortem Appearances associated with Lead Poisoning. Lecture III., May 22nd: Miners' Nystagmus, with a demonstration on living cases. Lecture IV., May 29th: Industrial Fibroid Lung. Lecture V., June 5th: Anthrax. Lecture VI., June 12th: The Medical Aspect of the Workmen's Compensation Act. The lectures will be given on Friday afternoons at 4 P.M. in the pathological theatre.

VICTORIA HOSPITAL, BURNLEY.—A proposal to increase the number of beds in the Victoria Hospital, Burnley, has prompted Dr. John Brown, now of South Africa, to write an interesting letter which appeared in the *Burnley Express* on April 25th. Dr. Brown, who at one time resided in Burnley, identified himself with many movements in that town which had for their object the betterment of the poor, and among these movements was the building of the Victoria Hospital, which for the past 28 years has ministered to the medical needs of the town and district. The Victoria Hospital adopted the circular ward system, and so successful has this system proved, that the "Victoria Hospital wards," writes Dr. Brown, "are an example to the whole world as to the best manner of heating and ventilating, and in providing the largest possible floor space in the least expensive manner"; and he suggests an additional storey to the present building as the best means of providing space for new beds. That the board of management have a difficult financial problem to consider is also recognised by Dr. Brown, when he says: "In the present unprecedented deplorable state of the cotton trade in Lancashire, with its very gloomy outlook for the future, your hospital extension must be conducted in the cheapest possible manner." Dr. Brown discusses the financial aspect of the question, and argues that an additional storey, for which the building is structurally suitable, would be better in every respect than the erection of new detached buildings. The letter, which is virtually a plea for, and an appreciation of, the circular system of hospital wards, will be read with interest by everyone concerned with the building of hospitals, and should receive the careful attention of the board of management of the Victoria Hospital, considering the personality of its writer.

Reviews and Notices of Books.

Theorie und Praxis der Inneren Medizin.

Von Dr. E. KINDBORG. Band III. With 71 illustrations. Berlin: S. Karger. 1914. Pp. xiv. + 752. Price 13 marks.

WE welcome the appearance of the third and last volume of Dr. Kindborg's text-book of internal medicine, which is designed for the use of practitioners and students of medicine. The diseases of the kidneys, blood, and nervous system are considered at full length in the greater part of the volume; the last 100 pages are devoted to the general infections and the chief acute and chronic poisonings, both receiving rather short shrift, as though for lack of space. The author's style is good, and his writing makes easy reading. The text is not overburdened with facts and figures, percentages and proportions, correlations between physical signs and post-mortem observations, and it does not contain a vast amount of detail in the sections devoted to treatment. The book is clearly not meant for the student who has examinations to pass, nor is it a bedside manual, if such an expression may be allowed, nor the sort of book to refer to when an obscure case has to be diagnosed. Dr. Kindborg writes spaciously, viewing the disorders he describes from a philosophical and physiological standpoint, dealing in general considerations rather than in the particulars of disease; he is at pains to show how physiological conditions may pass on into pathological, and gives impressionist pictures rather than detailed presentments throughout. Matters are brought rather more to a focus in the tables scattered throughout the text, but these, too, are lacking in the definiteness and dogma that one is accustomed to find in medical text-books.

Without doubt there are many medical men who will read Dr. Kindborg's volumes with pleasure and profit, particularly physicians of a contemplative rather than an active or operative cast of mind. To the pure practising physician it will not appeal to warmly, in spite of its many excellencies.

Practical Sanitation.

A Handbook for Health Officers. By FLETCHER GARDNER, M.D., Captain, Medical Corps, Indiana National Guard, and J. P. SIMONDS, B.A., M.D., Professor of Preventive Medicine, University of Texas. London: Henry Kimpton. 1914. Pp. 403. Price 18*s.* net.

THE authors state that their object has been to provide within the covers of a single moderately priced volume a plain, non-technical exposition of the duties of the health officer, and to provide him with a safe way of meeting any emergency which may arise. The work deals first with individual diseases and groups of diseases under the heading of "Epidemiology," next with various questions of general sanitation and sanitary organisation, and concludes with a brief summary of some principal laboratory methods. The volume is well illustrated and clearly printed, though curiously heavy for its size.

On the whole the authors have succeeded creditably in the task which they imposed upon themselves. The successive chapters are full of well-ordered information authoritatively or even didactically stated, and the information given is generally of the kind most needed for rapid reference by those who wish to know the outstanding facts of different epidemiological and public health matters. For sanitary work in this country the ground is already largely covered by more than one well-known English text-book, which have the advantage of dealing with English administrative conditions; but there are various matters, such as the chapters on rat destruction and the schedule for sanitary surveys of cities, on which this book will be found a useful addition to English libraries of public health, while it should be particularly serviceable to medical men practising in the colonies or abroad and away from general and special text-books of public health.

A few criticisms may be called for. The need for "a sanitary survey of the source" of a water-supply is mentioned, but by no means sufficiently insisted upon; a health officer often needs no support whatever from the laboratory work, on which much stress is here laid, to condemn a water to which polluting matters obviously can gain access. The absence of any sufficient account of the common forms of food poisoning seems a serious omission. The statements made on the matter of incubation periods might have been more explicit: thus the incubation of enteric fever is given vaguely as "one to two or more weeks"; and that from measles as "from 7 to 18 days, oftenest 14," without specifying whether the 14 refers to the initial symptoms or to the occurrence of the rash. The maximum incubation period of whooping-cough is generally held to be longer than ten days, and an obvious error has crept into the table on p. 81 which makes the incubation of scarlet fever "usually 14 days." The statement that the rash of small-pox usually makes its appearance on the fourth day of illness is contrary to general experience; exceptionally the rash may be delayed as long as this, but the rule is certainly the second or at most the third day.

A Treatise on the Diseases of Women, for Students and Practitioners

By PALMER FINDLEY, B.S., M.D., Professor of Gynæcology, College of Medicine, State University of Nebraska. London: Baillière, Tindall, and Cox. 1914. Pp. 954. Price 30*s.* net.

THIS book has grown out of the author's "Diagnosis of Diseases of Women." Much that was contained in the former work has been revised, the subjects have been rearranged, and more than an equal amount of text and illustrations has been added for the purpose of making a complete text-book on the subject of the diseases of women. The result is a bulky volume of some 950 pages and 632 engravings, with 38 plates in colours and monochrome.

A feature of the work is the large amount of space devoted to non-operative methods of treatment, such as douches, baths, exercise, massage, diet, dress, and tampons. Dr. Findley thinks that the non-operative methods of treatment of diseases of women have not received their due share of consideration in text-books and in practice. A great deal of this information is extremely useful; it is, however, a pity that the author should have included an account of pelvic massage, more particularly as this therapeutic measure finds little favour in America, while the mode of treatment, we imagined, had to a large extent been given up, even abroad, where at one time, as the author says, it was much practised. The date upon the title-page of this work is 1914, and it is therefore disappointing to find so little said as to the treatment of cases of fibromyomata by X rays.

Dr. Findley is not very enthusiastic on the merits of the extended abdominal operation for cancer of the cervix. At the same time, no doubt unwittingly, he misrepresents the present views of Wertheim. This operator does not attempt to remove the glands unless they are enlarged, and so far from the statement being true that in every case in which the removed glands were found the seat of metastasis there was recurrence, Wertheim has published no less than 14 cases in which the glands were involved at the time of operation and in which the patients were alive and well at the end of five years; and so long ago as 1911, in the record of his first 500 cases, he pointed out that the removal of all the glands is generally not possible and usually not necessary, for even at that date he had five patients, in whom the glands were involved, alive and free from recurrence five years after the operation. It is a pity that the operation of vaginal hysterectomy combined with bisection of the uterus should be illustrated in the section on carcinoma of the uterus, precisely the condition in which this method is unjustifiable.

We must not be thought from these criticisms to be of the opinion that this book is not a useful one. It contains a great deal of information, but there is a want of arrangement and an amount of repetition which detract from its usefulness, and which it would be easy to correct in any future edition. Personally, we are of opinion that a very complete account of the diseases peculiar to women could be given in a book of much less than nearly 1000 pages without anything of importance being omitted, and it is disappointing to find so much that is of value hidden among a large amount of information often of little moment. Dr. Findley's book on the "Diagnosis of Diseases of Women" was of such merit that we are disappointed to find this much more important work of less than equal worth. There are a very large number of mistakes in the spelling of proper names, such as Priestly, Schaffer, Fraub, Prochowick, Granger and Stewart, for Grainger Stewart, Leipmann, and many others. Many of the illustrations are good, and the index is a full one.

Practical Pathology, including Morbid Anatomy and Post-mortem Technique.

By JAMES MILLER, M.D. Edin., F.R.C.P. Edin., Lecturer on Pathology and Bacteriology, School of Medicine of the Royal Colleges, Edinburgh; Pathologist, Royal Victoria Hospital, Edinburgh. With 112 illustrations. London: A. and C. Black. 1914. Pp. 444. Price 7*s.* 6*d.*

THIS is essentially a student's book, and one that we can cordially recommend.

The early chapters are concerned with the equipment of the pathologist and the method of removing the various organs, &c., for systematic examination; these, together with the last chapter on necropsies conducted from the medico-legal point of view (of somewhat limited scope, since the procedure adopted in Scotland is alone dealt with adequately), and an appendix on microscopical and bacteriological methods, comprise the strictly practical portions of the volume. Ten other chapters are devoted to diseases of the various organs and structures, and one to a consideration of tumours in general. In this section of the work all the common pathological conditions are included. Each organ is taken in turn; the diseases likely to affect it are indicated, often in tabular form, the lesions are clearly described as to their naked-eye appearances, and, finally, a synopsis of the associated microscopical changes is given. All the descriptions are arranged in an orderly manner, and although brief are sufficiently comprehensive, and there is a refreshing absence of those minute details which render many of the manuals of similar scope so perplexing and so unsuited to all but the expert pathologist.

Following the illustration of the value of bacteriological investigations quoted on the second page of the book in connexion with the case of woolsorter's disease, we hoped to find this important matter insisted upon at every stage of the post-mortem examination, and the possible but often unsuspected infections noted in connexion with each organ, and we were correspondingly disappointed to find these matters relegated to an appendix in which they lose much of their effectiveness.

Some tables of weights and sizes of normal organs and structures might well have been included, as also some details of the methods and possibilities of extended inquiry when only restricted post-mortem examinations can be obtained. These shortcomings, however, are not sufficient to detract from the merits of the work.

Grundzüge für die Ernährung von Zuckerkranken nebst praktischen Anweisungen für die Diabetes Küche (nach weiland Dr. Gilbert's Diabetes Küche).

Von Professor Dr. ALBERT ALBU. Halle a.S.: Carl Marhold. Pp. 163. Price 4 marks.

ALTHOUGH based upon a book by Dr. Gilbert, giving directions for preparing and cooking food for diabetics, this book has a larger scope, and treats of the diet in this disease, both from the scientific and practical points of view.

It consists of five parts, the first of which is devoted to the principles concerned in the ordering of diets for diabetic patients. Diets are given in detail for the working out of the tolerance of the patient for carbohydrate and for the increase of his power in this respect, illustrative cases being quoted. Then special diets, such as the oatmeal, rice, potato, and vegetarian diets, are described and discussed.

The second part consists of tables of food materials, including those strictly forbidden, those allowed in definite quantities, and those permitted without stint. In the third part a careful description is given of special foods for diabetics. The difficulty of preparing a bread substitute at once palatable and of a character to satisfy the craving of the patients for bread is specially emphasised. The various meals, flours, cakes, and other preparations designed for the special use of diabetics are referred to, and the names and addresses of the makers are usually given. The fourth part contains some general observations upon prophylaxis and prognosis in diabetes.

The fifth part comprises nearly two-thirds of the book, and consists of directions for the preparation and cooking of dishes for *diabetic patients.* Instructions are given in detail for the making of hors d'œuvres, soups, and entrées, for the choice and cooking of fish and meat dishes, for the preparation of sauces, vegetables, edible fungi, jellies, salads, sweets, ices, and drinks. In every instance the directions given are explicit and sufficient.

The book is small and inexpensive, and it is systematic and easy of reference. It supplies a distinct want, and we can cordially commend it to our readers as both interesting and useful.

Kurzer Leitfaden der Psychiatrie.

Von Dr. Ph. JOLLY. Bonn: A. Marcus and E. Weber. 1914. Pp. 240. Price 4 marks.

To abstract satisfactorily psychiatrical conceptions is extraordinarily difficult, and the compendia and handbooks which result from attempts in this direction are very apt to stereotype in the mind of the student, even if he understands them at all, notions of insanity which he will be puzzled to coördinate with the cases he may meet in practice. Such works nevertheless have a value for examination purposes, and may be used to supplement and amplify lecture notes, while they may further serve the busy practitioner in good stead in the labelling of groups of symptoms. In the book before us we have a short recapitulation of general and special psychiatry in which almost everything seems to have been touched upon and with as much lucidity as space has permitted. The grouping of symptoms follows the current vogue, and would appear to be based upon the classification of Kraepelin.

The work is, we should think, quite likely to be of use to students and practitioners of German-speaking countries.

LIBRARY TABLE.

The Practitioner's Practical Prescriber. By D. M. MACDONALD, M.D. Aberd., Medical Officer of Health, Leven, Fife. London: Henry Frowde. 1913. Pp. 198. Price 5*s.*—This book is intended as a pocket formulary containing numerous hints and suggestions in regard to symptomatic treatment. In the first part diseases are considered in alphabetical order, and the treatment of each malady is briefly described, while the procedures recommended are trustworthy. For closer study naturally the larger text-books should be consulted. Diet tables, receipts for preparing invalid foods, and a short description of spas and climates suitable for certain affections are included. The few lines on "Tuberculin in Daily Practice" are to be regretted, and it would have been better to omit them altogether. Considerable experience is necessary for the proper administration of this remedy, and the suggestions here given are valueless. The book will be found useful for reference by the general practitioner.

The Transactions of the British Proctological Society for the Year 1913, with a List of Officers, &c. Edited by W. S. HANDLEY. London: Published for the Society by H. K. Lewis. 1914. Pp. 30. Price 2*s.* 6*d.* net.—This is perhaps the most exiguous volume of transactions ever published by any society. The prefatory note, however, explains the reason. The society was formed on Dec. 11th, 1912, and in July, 1913, it accepted the invitation of the Royal Society of Medicine to become a subsection of its Surgical Section. From that date on, therefore, the Proceedings of the society are continued in the Transactions of the Royal Society of Medicine. The present Transactions are of the same *format* and type, so that they will form one volume with their continuation from the Transactions of the Royal Society of Medicine. They contain the presidential address of Mr. Swinford Edwards, and papers on Four Cases of

Strangulated Hernia after Abdomino-Perineal Excision of Rectum, by C. Gordon Watson; X Ray Enemata in Diagnosis of Strictures of the Large Intestine, by Hamilton Drummond; Combined Excision of Carcinoma of Rectum Five Weeks after Operation, by W. Sampson Handley; Case of Kraske's Excision of Rectum followed by Two Ovariotomies, by Swinford Edwards; Secondary Growth in the Perianal Skin and Cellular Tissues Three Years after the Abdomino-Perineal Operation, by W. Ernest Miles; Adeno-Carcinomatous Tumour Primary in the Perianal Skin, by W. Ernest Miles; and a Case of Columnar-celled Carcinoma Arising in Track of a Fistula in Ano, by C. Gordon Watson.

Modern Problems of Biology. Lectures delivered at the University of Jena, December, 1912. By CHARLES SEDGWICK MINOT, LL.D., D.Sc., Director of the Anatomical Laboratories, Harvard Medical School. With 53 illustrations. Philadelphia: P. Blakiston's Son and Co. 1913. Pp. 124. Price $1.25 net.—These lectures, six in all, were written and published in German. In reviewing the German version in THE LANCET of May 24th, 1913, p. 1461, we stated that the author presented a very readable, instructive, and critical account of the subject, and we most heartily welcome the appearance in English of Dr. Minot's views on "immortality," death, sex, life, and the like, as set forth in these interesting lectures.

Les Nouveaux Horizons de la Science: La Matière Vivante, sa Chimie, sa Morphologie. Par H. GUILLEMINOT, Chef des Travaux de Physique Biologique à la Faculté de Médecine, Paris. Paris: G. Steinheil. 1914. Pp. 430. Price 6 francs.—It would appear that this is the third volume of the author's exposition of "The New Horizons of Science." Volumes I. and II. we have not seen. More than one-half of the text is taken up with a general and readable account of elementary and leading facts in organic chemistry, thermodynamics and other physical problems, catalysis and various chemical reactions. Book II. gives a similar account of the forms of living matter. Little is said about the functional aspects of the question. There does not appear to us to be anything very new or striking in the exposition of "The New Horizons of Science," at least to medical readers.

JOURNALS AND MAGAZINES.

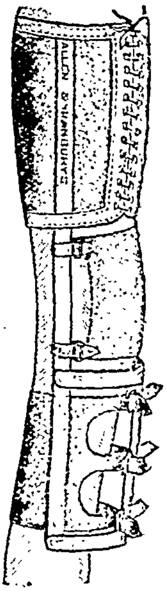
The Interstate Medical Journal. Special Tuberculosis Number. Vol. XXI. March, 1914. No. 3. St. Louis: The International Medical Journal Company. Subscription 10*s.* per annum, post free.—This is the first of two special numbers of the journal to be devoted to tuberculosis. The range of subject considered is so wide, and the specialisation of knowledge so minute, that no reader could fail to be impressed by the obvious gain of ground in the present day attack on the disease, though many will share the opinion openly expressed by several contributors that the optimistic statements of some British officials and politicians, which are fashionable at the moment, are erroneous and indiscreet. The articles fall chiefly under the headings of surgical treatment and chemiotherapy, though other aspects of the subject are reviewed. Professor Tuffier, of Paris, has a contribution indicating the value of the production of artificial pneumothorax for the immobilisation of excavated lung. The principle of artificial pneumothorax has been ascribed to Potain (1888), but Carson, of Liverpool, had advanced it in 1821, and it had been tentatively adopted by the late Mr. R. W. Parker, in London, years before that date. The technique has changed from the original injection of nitrogen or sterile air to operation by free opening and packing with fat grafts, Beck's bismuth paste, vaseline, and other materials. Kreuscher has been carrying out in J. B. Murphy's clinic a large series of injections of the pleural cavity with nitrogen, and the results have been very gratifying. The paper by Murphy and Kreuscher dealing with their technique is important and convincing. A short article by Carl Beck, of Chicago, on the bismuth paste treatment of sinuses can be strongly commended. The process is so simple that its use could be widely extended in ordinary practice. The value in "surgical" tuberculosis of sea air and sea water baths has long been recognised. Begun at Margate a century ago, the system of such marine hospitals spread in Italy in the "sixties." Only recently has it become apparent that sunlight is an important factor in these cures, and "heliotherapy," the continued use of direct sunlight on the naked body, is finding an increasing vogue for tuberculous joints and bones. It is obviously limited in geographical extent, as yet chiefly to the higher Swiss Alps and the shores of the Adriatic. Excellent results are secured at Leysin, above the Rhone Valley, in the sanatoria controlled by Dr. Rollier, and on the Lido, where efforts are being steadily pushed to lessen the appalling mass of tuberculous joints, which strikes every observant surgeon who visits Venice. It is noticeable in this review of American practice how little space is devoted to tuberculin, clearly because its employment is assumed. In the opinion of Dr. E. E. Myers, of New York, the value of the Piorkowski turtle tuberculin has been maintained on the ground of the slight reaction which it produces. An interesting note on the effects of infinitesimal doses of pure tuberculin ("endotin") in advanced cases comes from the pen of Dr. M. Solis Cohen, of Philadelphia. In all these cases the reagent was given by the mouth. Difficult as it is to award the palm to any one article of those before us, perhaps it should crown the essay emanating from the Sprague Institute of Chicago, inspired by Dr. H. Gideon Wells. The work of Ehrlich and his lieutenants has been so decisive that attempts to follow their lead must be made in the case of tubercle. But there is a basal difference in the discovery of a synthetic purifying poison in the three infections of syphilis, malaria, and tubercle, in that the two former are, at least in their early stages, infections of the blood and fluid tissues, whereas the tubercle bacillus tends very early to be shut off in the "tubercle" itself. Experimental work is complicated by two factors, one the non-vascularity of the tubercle, the other the impermeable structure of the tubercle bacillus itself, for it contains a large proportion of waxy and fatty material. Dr. Wells has therefore planned and carried out a preliminary and systematic investigation into the method of absorption by tuberculous tissues of various bodies, notably the iodine compounds, while lines of study are being followed by Miss Sherman and others in the dyes which affect fatty bodies. Suggested elements which are likely to provide effectively remedial salts are copper and gold. The quinine compounds, especially ethyl-hydrocuprein, employed by Morgenroth, one of Professor Ehrlich's assistants, have given good curative and better prophylactic effects in tuberculous mice, but the scope of employment as applied to human subjects has been scanty and disappointing, while in three instances out of 23 a severe but transient amblyopia has followed the injections. There are several curious articles on the psychic changes wrought by absorption of tuberculous products, of which the most remarkable is a short study of the mental attributes of Francis Thompson, the unfortunate author of "The City of Dreadful Night," attributes which contrast strongly with the phrase first used by a great American writer years ago, the "tubercular virtues."

Jahreskurse für Aerztliche Fortbildung. Munich: Lehmann. Subscription price, 18 marks.—The issue for February includes the following. Professor Hoffmann writes a review of recent study on the pulse, the effect of variations in age, respiration, and pathological states, and the various means of obtaining records, including, besides the older and well-known instruments, the sphygmobolometer of Sahli, a figure of which is given. This consists of a mercury manometer, an air manometer, and a rubber ball, all capable of inflation by a syringe, and by its means the volume of the pulse as well as the blood pressure can be measured. (The instrument is made by Buchi and Son, Berne.) The value of pulse records in diagnosis and treatment is also considered. The same writer furnishes an article on digitalis therapy, with some discussion of the numerous preparations of the drug now on the market. The indications and contraindications are also mentioned.—Professor Staehelin writes on the various forms of cough and their diagnostic significance, pointing out how the character of the cough may be a guide to the diagnosis of its cause. He then proceeds to discuss the treatment by expectorants, sedatives, and other drugs. A general review follows, giving a few lines to each of the numerous publications of the past year or two in Germany dealing with diseases of circulation and respiration.—The March number opens with a discussion of the significance of ulceration and bleeding in the alimentary canal associated with diseases of the heart and arteries, by Professor Fleiner. Simple or malignant endocarditis, arterio-sclerosis, or syphilitic aortitis may all be causes of bowel hæmorrhage by giving rise to embolism or thrombosis, and illustrative cases are described in which gastric or duodenal ulceration was due to this.—Professor Jacoby gives some account of Abderhalden's methods of blood examination for the diagnosis of pregnancy, and Professor Schade describes the application of the methods of physico-chemical analysis to the blood serum; in particular the measurement of the quantity of free H or OH ions by electrical and other methods, which is of value, for instance, in the study of acidosis. The viscosity of the blood may also be measured by the apparatus figured and described; it is raised by work, venosity, and inflammatory processes, and falls in anæmia.—Professor Erich Meyer writes on the anæmias in general and pernicious anæmia in particular, passing in review the blood-picture and pathology and the newer methods of treatment, such as the salvarsan preparations, thorium rays, X rays, and other therapeutic agents.

The Military Surgeon. Published monthly by the Association of Military Surgeons of the U.S.A. Editor: S. O. STANTON, Brigadier-General. Chicago. Price 1*s.* 6*d.* per copy; 15*s.* per annum.—The first article of the April number is a warm appreciation by Dr. L. Webster Fox of the operation of Lieutenant-Colonel R. H. Elliot, I.M.S., for chronic glaucoma (THE LANCET, March 21st, p. 808). Dr. Fox in his own operating-room in Philadelphia had had eight cases operated upon by Colonel Elliot during that officer's recent visit to the United States. Dr. Fox expresses the opinion that at the International Medical Congress last August, in the section of ophthalmology, the two men most conspicuous were Professor Lagrange, of Bordeaux, and Colonel Elliot.—Captain Louis H. Schultz had a curious experience once when in charge of a sanatorium. He discharged for misconduct a patient with advanced phthisis (much sputum, many bacilli), but the man turned up again in a few days, this time as a visitor and in the uniform of the United States army. Such a recruit is a great danger to a regiment, so Dr. Schultz proposes to send all recruits for two weeks to a quarantine station for minute examination (X ray examination of chest, Wassermann test, blood counts, &c.), and for observation in case he is incubating an infectious disease. He notes that cases of early phthisis generally show deficient expansion, thus bearing witness to the sagacity of the British Army Medical Department which lays stress on just this measurement.—Captain Schmitter, in charge of a leper hospital at Manila, gives reasons for his belief that leprosy may be a symbiosis of the bacillus lepræ with the treponemata of syphilis or yaws.—Lieutenant W. B. Meister tells of a new danger to the United States army—cocainism. The pure crystals are taken as snuff; about $\frac{1}{8}$ grain eight times repeated produces the desired "dream." A patient becomes facile, loses reliability, promptness, and punctuality, is unfit for sustained exertion, and falls out even from a short practice march. There is a sign; the nares are apt to be blanched immediately after a dose, but congested and swollen later. Treatment is of no lasting avail. This drug habit is assuredly causing much trouble in North America.—Lieutenant-Colonel Jacob Frank, of Chicago, Surgeon-General of the Illinois National Guard, recommends a new first aid for wounds of the abdomen, as the outcome of interesting observations in civil practice, and many experiments on dogs. He desires that no penetrating wound of the abdomen shall be treated by putting the first field dressing over it, to dam back the intestinal leakage and force it to infect the whole peritoneal cavity. On the contrary, he wishes everyone taught to push a little of the first-aid packets gauze into the wound with a stick (a match for example) to serve as a drain and so give the peritoneum a chance to remain clean. An important paper all should read.—There is an editorial on the work of the United States Public Health Service, giving it deserved credit for awakening a sanitary conscience in the various States, and asking for it stronger financial support so that it can increase its usefulness. We observe that a surgeon has been detailed to give two lectures on tuberculosis to the Farmers' Conference at Savannah, Georgia, at the request of the Georgia State Agricultural College.

New Inventions.

AN EXTENSOR KNEE SPLINT.



I HAVE described elsewhere[1] an apparatus for the reduction of flexural deformities at the knee-joint when actual bony ankylosis is not present. After the reduction of such deformities or in the course of the disease which tends to produce them a knee splint with a slight extensor action is required. The illustration here reproduced shows such an apparatus. I have used it chiefly in some period of the treatment of cases of tuberculous knee. It consists of a leather sheath which is laced on to the thigh; from this two lateral steel struts extend directly downward to a level just above the ankle. These two side steels are united across the front of the leg by two U-shaped arches. The vertices of the arches are united by a metal bridge, and over this is buckled an elastic sling which passes behind the leg. In accordance with the tension on the elastic sling the extensor action at the knee-joint can be modified. A soft leather cap passes from the side irons across the front of the knee to take the backward pull. The splint is kept in place by means of a strap attached to a pelvic band or passing over the opposite shoulder. The apparatus can also be applied as an integral part of a hip-splint. The thigh piece should fit with accuracy, and care must be taken that the knee-cap bears evenly over the patella.

The apparatus has been made for me by Messrs. Allen and Hanburys, Wigmore-street, London, W.

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[1] Proceedings of the Royal Society of Medicine, Surgical Section, January, 1914, p. 113.

AFTER-CARE ASSOCIATION.—The annual report of the council of this association for the year 1913 shows that applications on behalf of 377 persons were received, of whom 228 were women and 149 men. Of the total number of cases 106 were from the London county asylums, 197 from other county and borough asylums, 18 from mental hospitals and licensed houses, and 56 from various institutions or from private sources. Of these, 119 had been assisted in various ways during previous years and 258 were first applications. The important work of assisting poor persons discharged recovered from asylums for the insane is now being extended by helping cases discharged on trial. During the past year 11 such cases have been satisfactorily dealt with, but the extension of work considerably adds to the financial burdens of an association which is doing good work and which therefore deserves support and encouragement. It is the only charity of its kind in the United Kingdom, and cases are assisted from all parts of the country. Although, owing to legacies, the total receipts have increased, the annual subscriptions and donations have decreased, and new contributions are urgently needed. An annual subscription of 5*s.* constitutes the subscriber an ordinary member, while a single gift of £5 makes a life member. The address of the Association is Church House, Dean's-yard, Westminster, S.W., and the bankers are the Union of London and Smith's Banks Victoria-street branch), Westminster.

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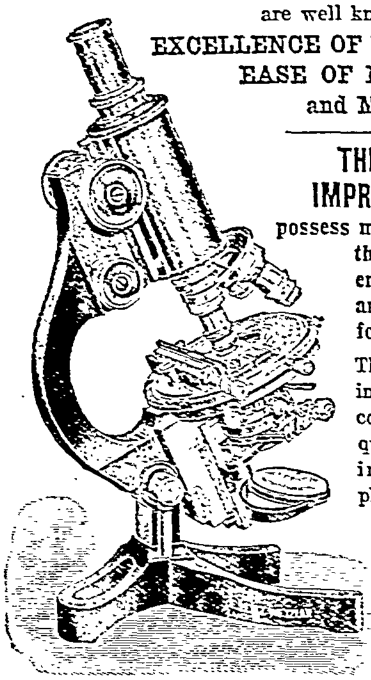

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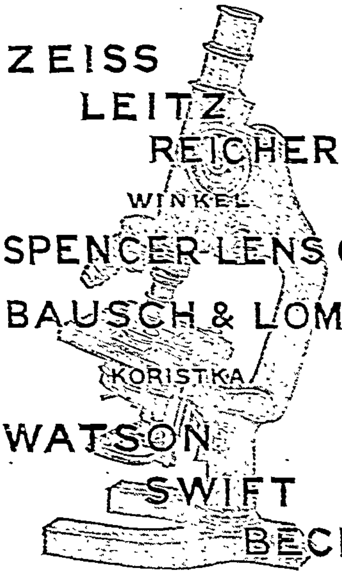

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Reform of the Public Health Service.

ONE of the most urgent matters which must engage the attention of Mr. HERBERT SAMUEL as President of the Local Government Board is the question of reforms in the administration of the Public Health laws. The administrative machinery was designed, much of it, 50 years ago, and it can hardly be said to have been really overhauled in any effective manner. The Local Government Board with its limited and ineffectual compulsory powers is the central public health authority, and it is still left to local sanitary authorities to decide whether or not the various Public Health and Housing Acts shall be carried out. It is true that the creation of county councils in 1888 brought into existence an authority with executive powers which could be used in case of default by the district councils, but these powers have been only rarely exercised. County Councils undertake public health duties specifically given to them with excellent results, but they are rightly reluctant to coerce other authorities in matters for which the county has no primary responsibility. While the administrative machinery has remained unaltered for half a century, the claims upon it have been increased to so great an extent that it is quite right to inquire whether the time has not arrived when suitable modifications and adjustments should be made in order to enable it to fulfil the requirements of the present day.

If the position of the medical officer of health to-day is compared with that of 50 years ago it will be recognised that his work and responsibilities have been very considerably enlarged. The Royal Sanitary Commission suggested in 1871 that the principal duties of a medical officer of health should be to study and report to the central office as well as to his own local authority, and this with dispatch, all things relating to considerable changes in the health of his district, and to collect from certain sources material which might be combined with his own observations in general reports on the health of the district, together with his recommendations. It was evidently intended by the Commissioners that the medical officer of health should be essentially an advisory officer and that he should have few executive duties; indeed, it was recommended by them that he should obtain at the offices of the local authority assistance in the clerical work entailed in making his reports and statistical returns. It is expected, however, to-day that the medical officer of health should be the executive head of a public health department, and he has not only to advise what steps should be taken to carry out the Public Health Acts, but he is responsible for the taking of those steps. These executive duties have very considerably altered the position of the medical officer of health in relation to the local authority. As an advisory officer and nothing more he made general recommendations as to water-supplies, drainage schemes, the adoption of by-laws or regulations, and similar matters, and his recommendations were addressed to the authority as a body. But as an executive officer he has to deal with individuals who may be property owners, dairymen, butchers, or other tradesmen. These again are frequently members of the local authority, and they resent having to carry out the requirements of an official whom they look upon as their servant, and who holds office only as long as he receives their support. This being so, it is of the utmost importance that the medical officer of health should not be dependent upon the members of local authorities for his continuance in office, or solely dependent on them to get the increase of salary which is necessary if the new executive duties are to be carried out.

The Royal Commission to which reference has already been made was quite alive to the necessity for securing the independence of the medical officer of health, even though his duties were to be mainly advisory, for it made the definite recommendation that in order that medical officers of health might be able to discharge their duties without fear of personal loss they should not be removable from office by any local authority, except with the sanction of the central authority. This recommendation has been endorsed over and over again by other Commissions and Government Committees. In the first volume of the Land Inquiry Committee, which was issued last year, it is stated that one of the consequences of the insecurity of tenure of medical officers of health in rural districts is that they are often afraid of offending district councillors and the better-class inhabitants who are the owners of property. In justice to medical officers of health it should be said that they frequently take the indicated risk, but it is not fair that they should be asked to do so. The very precise statement is made by the Land Inquiry Committee that the Housing Acts will not be properly enforced until medical officers of health obtain a greater security of tenure. The committee makes a similar reference in the more recently issued second volume which relates to urban districts, and recommends that except in cases of gross misconduct a local authority should be obliged to obtain the sanction of the Local Government Board before dismissing a medical officer of health or sanitary inspector, and that the payment of adequate salaries to those officers, in accordance with a schedule to be provided by the central authority, should be made a statutory obligation upon local authorities. When the Housing and Town Planning Bill, 1909, was before Parliament opportunity was taken to obtain for county medical officers of health security of tenure of office, subject to approval by the Local Government Board, and as there is a probability of a Government Bill with respect to housing in rural districts being introduced in the present session it is to be hoped that advantage will be taken of this measure to give a similar security to all medical officers of health, and to prevent them from being starved by inches as the result of Government departments continually multiplying their duties without increasing the pay of their office.

Art and Medicine.

THE artist of all sorts—painter, sculptor, engraver, and jeweller—has portrayed medical events in the manner dictated by his respective calling and has done so from very early times, for some of our most ancient discoveries in sculpture and pottery have borne representations of various pathological conditions. Mr. HASTINGS GILFORD, in one of his recent Hunterian lectures delivered before the Royal College of Surgeons of England,[1] called attention to prehistoric drawings of the human figure displaying various physiological and pathological conditions; and one of these outline sketches from the rock sculptures in the Dordogne was at least 15,000 to 20,000 years old in the opinion of experts. There is one remarkably different result for us of to-day from the labours of the artist, contrasted with the result derived from the writings of numerous authors who have described medical events in general literature. It is this. The artificers have very usually shed definite light on medicine, while the chroniclers, poets, and dramatists, though dealing freely with medical topics, have not been as distinctly informatory. Written descriptions of diseases occurring in general literature in great measure leave doubtful diagnoses for the reader to choose between; pictorial representations have often been equivalent to accurate naming of the conditions. Historians have touched upon epidemics in accounting for the social and political conditions of the nations in whom they are concerned, but as often as not it remains a matter of doubtful inference from their words under what particular pest the people were supposed to be abiding. Malaria appears to have been described in classic Greek literature, and in the Bible there are accounts of some epidemics the nature of which we can identify. But there are other pestilences which conform equally to any of two or three diseases, and leave the searcher for accuracy considerably puzzled. The epidemic to appear in most obvious guise upon the stage of history is plague, but it is quite likely that many chroniclers have confused leprosy with it and with syphilis. What, again, was the English Sweat? Although the great Caius wrote a "Boke or Conseill against the disease commonly called the Sweate or Sweatyng Sicknesse," we do not obtain a description from which a diagnosis can be made for certain, and with some doubt decide to think that this mysterious illness was influenza.[2]

Of course, medicine has a very definite literature of its own, in which it has been for many generations the mission and pleasure of learned men to describe the origins, course, and therapeutics of disease. Of this learning enshrined for the information of scientific men generally, or of practitioners of medicine in particular, much is splendidly written, nor do such books lack what for purpose of definition has been described as the essential principle of literature—namely, universal appeal. All are interested in their teachings, though expert intervention is required to transmute the theories into practice. The most authoritative of these books belong to the class which DE QUINCEY called "the literature of knowledge" as distinguished from "the literature of power," for each of them must remain upon trial for ever: "Let its teaching be even partially refuted," said DE QUINCEY, "let it be expanded, nay, even let the teaching be placed in a better order, and instantly it is superseded." In the literature of medicine proper there are word pictures of disease every whit as accurate as brush, pencil, or chisel could make them, but these descriptions cannot be detached from the treatises in which they occur, and the significance of the symptoms detailed has altered and keeps altering with our progress in pathological learning, until the value of the words employed grows less and less. The great SYDENHAM omitted to mention sore-throat as a symptom of scarlet fever; other descriptions, laying more stress upon inflammation of the pharynx or larynx, were possibly accounts of diphtheria, whether called scarlet fever, "confluent measles" or "putrid sore-throat." The artist seldom produces similar confusion: in such diseases and deformities as he represents he usually gives the salient features in such a way that no one can fail to diagnose the condition intended. RUBENS saw a girl in a hysterical paroxysm, and once and for all has revealed to us what was the real meaning of the cases of demoniac possession which were a marked feature of mediæval life. Nothing that ever can happen in the development of medicine will alter the truth told in the famous picture of St. Ignatius's miracle, while we know from the portraits of dwarfs, in which VELASQUEZ revelled, the types of infantilism which were prevalent in the seventeenth century. Dr. PAUL RICHER in his excellent book, "L'Art et la Médecine," gives many reproductions of pictures and sculpture showing how faithful artists have been in their delineation of such diseases as leprosy, syphilis, plague, and rickets. Historians have described these conditions with pains, and medical literature has referred to them with particularity, but in the written accounts stress is so easily laid upon other than essential things that for the purposes of diagnosis the artist generally gives us the larger help.

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[1] THE LANCET, March 7th, 1914, p. 663.

[2] W. H. Hamer: The Milroy Lectures on Epidemic Disease in England, THE LANCET, March 3rd, 1906.

There is a pictorial art associated with medicine; the allusion is to the illustrations, often beautiful as well as accurate, which accompany treatises on anatomy, physiology, and medicine, and to the charts, maps, and pictorial diagrams intended to be hung in lecture halls for the instruction of students and the assistance of teachers. To this category of artistic productions belong many admirable albums illustrating surface lesions, many adroit wax models, and some large oil paintings of strictly pathological conditions. We reproduced recently in the columns of THE LANCET[1] some famous panels of this sort by JACQUES GAUTIER D'AGOTY. The anatomical exactness was here accompanied with beautiful drawing and painting. But the help in the recognition of symptoms that medicine has received from bygone art will not be continued to our successors in the same way. Photography and its mechanical reproductions, colour printing, and the cinematograph have entirely removed such paintings from the sphere of practical utility; while the pathological subject is in the nature of things not likely to be the pre-eminent favourite with great artists that it was in the Middle Ages. To the old masters the Bible and the lives of the saints were the source of inspiration, and representations of pestilences, martyrdoms, and miraculous healings were the ever-recurring themes. To-day the pathological subject is left severely alone. Future generations will learn nothing of disease and nothing of the practice of medicine from the exhibition of the Royal Academy of Arts which is opened to the public this week, and which contains a more than usually interesting number of paintings and sculptured work. Medicine is mainly represented by portraits of medical men, and even here the distinctive marks of their calling are generally absent. A strong and simple portrait of Sir WILLIAM TURNER, by Sir JAMES GUTHRIE, renders the Principal of Edinburgh University in robes with orders on, and the late Sir HUBERT HERKOMER depicts Sir LAUDER BRUNTON very adroitly and sympathetically in something approaching fancy dress: but Professor WILLIAM BULLOCH is shown by Sir LUKE FILDES'S careful and academic brush in the clothes of the man in the street. Sir WILLIAM RICHMOND paints a masterly head of Dr. J. S. HARVEY, where the Rembrandtesque treatment suggests no medical trappings, and Mr. COPNALL'S successful portrait of Dr. H. BRIGGS might be that of any cultivated man. These pictures have no particular message in regard to medicine similar to that which the numerous pictures of soldiers, ecclesiastics, and officials, appropriately garbed, may have for a future generation; or rather they may be considered to give the true message that medical priestcraft has no longer any existence.

Annotations.

"Ne quid nimis."

THE STATUS OF MENTAL NURSES.

THE spectacular character of the vast advances in surgery during the past half century could not fail to lead to a general recognition of them. The less spectacular but also very great advance in medical science is, if less generally, also realised. And with the realisation of this progress has naturally come about also a comprehension of the importance of the part played by nursing in the relief of suffering, and consequently an appreciation of the necessity for adequate training for nurses, and of what is due in the way of enhanced status and remuneration for the exacting but beneficent duties of the nurse. There is one division of medicine, however, in which the progress made is taken too much as a matter of course by a people who can hardly remember the conditions previous to the reorganisation of our therapeutics. We refer to the changed conceptions of mental disorders and the changed methods of dealing with them that are the consequence thereof. It is now so fully recognised that these disorders are as truly diseases as any whose seat of origin in the physical organism is clearly recognisable, that we do not realise that the insane were once confined in strait waistcoats, in dark cells bedded only with straw, flogged to subdue maniacal excitement, and subjected to the tender mercies of "keepers" often drawn from the dregs of the people. And even yet the public mind is not fully awake to the fact that the nursing of the insane on modern lines requires in the nurses a very high degree of all the personal qualifications and technical training that we have come to regard as indispensable in the general medical and surgical nurse. It is gratifying to learn, therefore, that the Nursing Conference held this week in London set apart a special sitting to discuss the status and work of mental nurses, which have hitherto received very inadequate recognition. In an impressive address Dr. Robert Armstrong-Jones, resident physician to the London County Asylum, Claybury, estimates that there are some 140,000 mentally afflicted persons in England and Wales alone, and that in caring for them some 20,000 persons are engaged, whose duties are the most difficult, as well as the most responsible and trying, that any man or woman may be called on to perform. These duties are often carried on in out-of-the-way and little-known places, and the qualities demanded by them are self-discipline and tact of the highest conceivable degree. The mental nurse, while requiring special education, must have a thoroughly efficient training in general sick nursing also. This will be at once evident when it is realised that last year 14,000 persons died in the asylums of England and Wales from causes representing nearly all the ordinary diseases and conditions met with in general hospitals and private practice—tuberculosis, diseases of all the internal organs and the nervous system, and special conditions connected with the puerperium and lactation, with senility and the climacteric. The mental nurse may have to prepare for, and assist at, major operations, to nurse typhoid or scarlet fever patients, and to watch the effect and record the result of long-continued administration of special remedies. Moreover, special difficulties occur in consequence of the great liability to bedsores of the bedridden insane, and Dr. Armstrong-Jones rightly says that it is a triumphant testimony to good nursing that at the Claybury Asylum, with an average resident population of 2500 insane persons, there is not now a single case of bedsore, nor has there been one for over a year in the male wards or for several years in the female wards. Dr. Armstrong-Jones commends the scheme of instruction for mental nurses, due to the initiative of the Medico-Psychological Association, which grants a certificate on satisfactory examination after a three years' course of training; this is so far appreciated that most asylum authorities grant a special monetary allowance to its holders. The effort for good training has received every encouragement from the Lunacy Commissioners. Dr. Armstrong-Jones strongly supports the claim for the registration of these certificate holders, which has been previously urged by a Select Committee of the House of Commons, the General Medical Council, and the British Medical Association, and he mentions that it is due to the efforts of Sir William J. Collins, while in Parliament, that workers in asylums are now provided for in their old age. The London County Council, too, has recently raised the rate of remuneration, and most asylum authorities have realised the importance of granting their nurses adequate leave and rest. As the result of his observations in foreign asylums Dr. Armstrong-Jones eulogises the work of religious orders as involving a very lofty ideal, for, he says, if behind the unobtrusive devotion to practical ideal there is a strong force of religious feeling, a driving power exists which cannot be rivalled. The reorganised St. Katharine's Royal Hospital, also, is commencing a crusade of preventive work by the appointment of health visitors, and he very properly expresses the hope that the prevention of mental diseases will be included in the scope of its work by the appointment of asylum nurses.

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[1] THE LANCET, Feb. 21st, 1914, p. 557.

WORK AS A THERAPEUTIC AGENT.

THE therapeutic use of rest has long been insisted upon in certain acute conditions; the equal value of work, properly adjusted and carefully supervised, in other classes of disease has received less attention. To be sure, graduated labour in tuberculosis has had consideration, and the value of occupation has been generally recognised in mental disturbance. We all know that there is nothing like work, particularly physical exertion, to overcome the "blues" or to distract the mind during great trouble, but there is room for a more general study of the systematic organisation of work as a therapeutic measure for the mentally unsound. From an interesting article in a recent number of *La Semana Medica*[1] on Work as a Therapeutic Means in the Treatment of Mental Diseases, by Dr. Fernando Gorriti, physician to the Colonia Nacional de Alienados, an asylum for the insane, we learn that work, carefully regulated in accordance with the needs of the individual patient, is used as a means of treatment in a large proportion of the cases admitted. The great majority of the patients in the Colonia are drafted into that institution from the vast Hospicio de las Mercedes in Buenos Aires, whose director, Professor Cabred, who is also the founder, organiser, and director of the Colonia, periodically transfers thither such of the patients in the Hospicio as he considers likely to derive therapeutic benefit from systematised work. On arrival at the Colonia the patient's case is carefully considered afresh, his present condition is investigated, and due weight is given to the notes of his case sent on with him from the Hospicio. The work of selection is thus continued, special care being taken to ascertain whether the patient suffers from any delusion likely to make him dangerous to others or to himself, in which case he is drafted to one of the sections in which patients are under constant observation, to be placed there under appropriate medical treatment until fit for work, or, in the opposite event, to remain there indefinitely. Should the patient be considered fit for work, and should it appear from the notes of his case that before his illness he followed some definite occupation—*e.g.*, that of a carpenter, cobbler, tailor, plumber, mason, or what not—he is put to work at it under expert direction. Should he have had no occupation he is, as a rule, put to outdoor work of some kind, such as farming, gardening, care of poultry, cattle, pigs, or sheep. The patients are constantly visited by the physician while at work so that he may note their general progress and regulate the hours of work (which in no case exceed seven per diem) in accordance with individual requirements. Dr. Gorriti speaks in the highest terms of the results of this systematised work in the treatment of insane patients. He enumerates some of the chief benefits of the method as follows: 1. A diminution of agitation and motor excitability with a corresponding improvement in the patients' sleep, which becomes quiet and restful and longer in duration. 2. A postponement in chronic cases or a complete escape from the onset of a condition of total dementia. This Dr. Gorriti ascribes to the beneficial action of the slight intellectual exercise involved in the occupation followed. 3. A return of the power to work, the importance of which, especially when there is added to it a practised acquaintance with some definite occupation, can hardly be over-estimated in the case of patients sufficiently recovered to leave the asylum or return to active life.

HOAXING AN EDITOR.

ONE of the Berlin daily papers which is antagonistic to scientific medicine and advocates the so-called "natural" methods of treatment, Christian science, antivaccination, and other unorthodox procedures, has lately been the object of an unkind practical joke. A correspondent wrote to the editor to say that at the last Congress of Internal Medicine one of the greatest medical authorities—His Excellency Privy Councillor Professor Dr. von Rutan—had read a paper which caused a very great sensation owing to the fact that the celebrated professor had stated that modern medicine was a humbug, and that all the great discoveries had been made by laymen, such as Pastor Kneipp and Priessnitz, and that he had decided for the future to take no part in the fraudulent pretensions of allopathic medicine to which he had hitherto adhered. The editor of the journal remarked that he had no intention of expressing a decided opinion in reference to a matter regarding which the medical profession was not unanimous, although the views of a man in such a position as His Excellency Professor Dr. Rutan deserved careful consideration. He only wished to draw attention to the fact that presumably the medical organs had conspired together to exclude any report of that important address which was not found in any medical journal, and that this had been obviously done by order or on behalf of the president of the congress. A kind of terrorism, he said, existed to-day in scientific medicine, and by a common agreement the opinions of opponents of allopathic treatment were never mentioned in the medical journals, a procedure which was a public scandal. This editorial effusion caused much amusement in medical circles, because the journal had always been hostile to the medical profession, and the editor was invited by some journalists to read the name of the celebrated professor backwards, when it appeared that the name Rutan was merely an inversion of the word "Natur."

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[1] La Semana Medica, Buenos Aires, Feb. 12th, 1914.

THE SPREAD OF TUBERCULOSIS VIEWED FROM THE LABORATORY AND FROM THE EPIDEMIOLOGICAL STANDPOINTS.

AN interesting comparison between conclusions drawn from laboratory evidence and others based on an epidemiological examination of families in regard to the spread of tuberculosis is made in the United States Public Health Reports for Feb. 20th. In April, 1913, Dr. E. R. Baldwin, of Saranac Lake, New York, a pioneer station of the scientific study of tuberculosis, as the result of an analytical study of the experimental work done on immunity and the susceptibility of a once-infected animal to superinfection or reinfection, laid down, as "reasonably sure conclusions," that most adults have received some tuberculosis infection, thus acquiring a variable degree of specific allergy. It would follow that during ordinary health the tissues would repel tubercle bacilli partly by this aid; that reinfection is mostly autogenous superinfection and is due to disease, overstrain, trauma, or lowered vitality; and that consequently adults are very little endangered by close contact with open tuberculosis, and not at all by ordinary association. "Childhood," he said, "is the time of infection, youth the time of superinfection and that from the extension of the primary disease." Dr. Baldwin's purpose was to allay a grossly exaggerated phthisiophobia by contrasting the relatively slight danger of infection in adult life as compared with that in childhood. On the other hand, a study of the spread of tuberculosis in families, by Herbert G. Lampson, made in Minneapolis under the supervision of a committee, was published in December, 1913, as a bulletin of the University of Minneapolis. Lampson examined with the tuberculin test 173 individuals in 33 families containing open cases of pulmonary tuberculosis. Of these 124 showed evidence of infection, 41 no evidence, 8 were doubtful. Of the doubtful cases one has since been declared tuberculous, and one has had a pulmonary hæmorrhage. Deducting the 23 centre cases yet living from the 124 infected, 101 individuals, or 67 per cent., were presumably infected from the 33 centre cases. In four families with latent centre cases, out of 22 individuals examined 8 showed tuberculous infection, 3 were suspicious—deducting the 4 centre cases, an infection of 22 per cent. of individuals exposed. In three families with healed centre cases, of 12 individuals examined 6 were infected, or, deducting the 3 centre cases, 33 per cent. In ten families "classed as containing non-tuberculous centre cases," out of 56 individuals examined 1 showed tuberculous infection and 2 were suspicious —1·7 per cent. of all individuals in the household. In five control families containing no suspected cases of tuberculosis, out of 24 individuals examined, 1, or 4·1 per cent., showed evidence of infection. To sum up, a comparative test was thus made in 40 tuberculous families representing 207 individuals, of whom 138, or 66⅔ per cent., showed tuberculosis, and 15 non-tuberculous families representing 80 individuals, of whom 2 showed tuberculosis and 2 were suspicious—i.e., 2½ per cent. Of the 40 families 10, containing 54 individuals, showed tuberculosis in every individual. From these data Lampson concludes that the spread of infection in families having open cases of tuberculosis is greater than is generally believed; that in families where no case of tuberculosis has been found evidence of tuberculous infection was only 2½ per cent., and that the spread of infection is not so great in families with merely latent infection, or with healed cases, as in those with open cases. While, therefore, agreeing with Dr. Baldwin that phthisiophobia is to be strongly deprecated, it would seem as though epidemiological evidence must so far prevail as to resist very strongly any slackening of vigilance against the spread of infection from one human being to another.

THE INSANITARY CONDITION OF DARTMOUTH.

A STRONG indictment of the sanitary condition and management of this historical and picturesque Devonshire town appears in a recently issued report to the Local Government Board by Dr. F. St. George Mivart.[1] Its older houses, which at first sight seem externally to be of a substantial character and reasonably habitable, appear on closer examination often to be built with their backs against the earth, badly lit and ventilated, and with abundant dilapidations. They have long fallen out of fashion and have become subdivided into tenements made without any regard to the requirements of healthy dwellings. Even on bright sunny days the gloom of many of these places is described as oppressive; in the winter it must often be impossible for inmates to carry on any sort of work without artificial light. Inner rooms are partitioned off and used for sleeping which have only borrowed light, and windows are often fixed shut. All kinds of dilapidation and neglect were observed in the condition of the common stairways, passages, and yards. The occupants are described as dirty and careless in habits; on the other hand, as Dr. Mivart observes, it is difficult to see how they could be otherwise in such surroundings. The town water-supply comes from a number of different local sources, some of which are open to considerable suspicion of pollution, and the waterworks management and such methods of filtration as are employed were found quite unreliable. House refuse when collected is dumped, pending removal, in a stoneyard adjoining the quay, where the ground is fouled, attracting swarms of flies. Most of the bakehouses were found in a disgraceful condition, and from the facts stated in the inspector's report his conclusion that their state constitutes a scandal appears fully justified. The milk-supply is obtained from insanitary cowsheds.

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[1] Reports on Public Health and Medical Subjects, New Series, No. 92. London: Wyman and Sons, Fetter-lane; Edinburgh: H.M. Stationery Office; Dublin: E. Ponsonby. Price 4d.

and the institution represented as an isolation hospital "seems of little value in its present fragmentary condition." The town council, which is responsible for these and many other glaring defects, resolved in September last that "the council do not concur in the observations of the medical officer of health that the housing conditions of certain areas are insanitary," and their sanitary policy, if it can be so called, is apparently one of resistance to all proposals for efficient execution of the ordinary duties of a sanitary authority under the Public Health and Housing Acts. On a vacancy which occurred over a year ago in the office of inspector of nuisances applicants were invited by an advertisement requiring them to state the salary required. Some 108 replies were received, many being from men with experience of the duties or with certificates of sanitary knowledge obtained from the Royal Sanitary Institute. The appointment, however, was given to a local builder and member of the council, stated to possess no sanitary certificate or special qualifications. While we believe that complaints against local authorities in sanitary matters are often made without much discrimination, and that frequently these authorities and their health officers are given too little credit for what they accomplish, there unfortunately seems no room for doubt in this case. It may be hoped that the incompetence described in this report is quite exceptional in its degree, and that the Local Government Board will not be content until it has been removed. We note that Dr. Mivart's investigations resulted originally from the action of the Admiralty, which is naturally concerned with the health of the inmates of the Royal Naval College which is situated in the borough. It may be expected that the Admiralty will exercise effective pressure to obtain comprehensive reforms.

THE VALUE OF COLLOID SULPHUR IN CHRONIC RHEUMATISM.

Professor A. Robin in a clinical lecture reported in the *Gazzetta degli Ospedali* of April 12th relates two cases of chronic arthritis deformans in which an extraordinary amount of benefit was obtained from the administration of colloid sulphur. Examination of many cases of chronic articular rheumatism revealed a number of discordant facts, but some characteristics common to all. They all suffered from some form of disordered digestion, especially gastric, with lactic acid fermentation. The digestion of albuminoid substances was the most defective, the elimination of lime and magnesia sensibly increased. A diminution in the elimination of phosphoric acid and an increase in the urinary chlorides were also noticed. The blood, with a reduced hæmoglobin index, contained a somewhat excessive quantity of chlorides, showing that there was a certain degree of retention. Treatment directed to these conditions produced temporary improvement, but never resulted in cure. Sulphur was at one time largely given as a remedy in chronic rheumatic conditions, and its efficacy is proved by the beneficial use of the mineral waters of Aix-les-Bains, Luchon, and Cauterets. The administration of free sulphur has, however, fallen into comparative disuse owing to its insolubility and the size of the granules which render its absorption difficult and uncertain. Maillard had the happy inspiration to resort to colloidal sulphur which is endowed with all the properties of colloidal bodies; a tablespoonful of this substance, about 15 grammes, contains 0·20 gramme of sulphur, about as much as is contained in a litre of the old preparations. It has been shown, moreover, that colloid sulphur is entirely and rapidly absorbed by the digestive tract and undergoes all the transformations by which the element is able to pass into the tissues. Its elimination by the urine is effected by one-half or two-thirds under the form of sulphates, the other half or third under the form of sulphur-containing bodies the result of its organic combinations. Colloidal sulphur may be given at the commencement in doses of two teaspoonfuls daily increasing to two tablespoonfuls; this amount should not be exceeded for fear of provoking diarrhœa.

A STUDY OF A MAN.

Mr. Morley Roberts, in "Time and Thomas Waring: A Study of a Man," has revealed with great skill the feelings of a sensitive patient suffering from excessive shock after a heroic colectomy. His hero, a genius, passionate and soured, a mixture of Pharisee and sinner, passes through a phase of agony during recovery from general anæsthetisation which assuredly has fallen to the lot of very few even in these days of major operations. So vividly is the process of return from insensibility described that we become convinced that here is the record of a personal experience. Just as the human embryo passes in utero from the cell to something fish-like, thence to something ape-like, and so to man, the consciousness of Thomas Waring passes during a very short lapse of time through all the phases of the existence of life upon this planet. As he emerges from the depths of insensibility he is in the monad stage, "a point, a point of strange fire, a live speck; something infinitely small in which was concentrated immortal, unmeasured, and infinite suffering." After what seems the process of æons the living speck becomes many specks, each advancing in agony. In other words, the cells in Waring's brain begin to interact, the enduring agony of pain extends. And at last, after what has seemed the whole life of the universe, the summation of all previous existence, the human reason emerges, and he becomes conscious of the presence of another human being in the room. This is his nurse, whose arm he grips so savagely as to bruise it. Then follows another spell of oblivion, and only very gradually Waring regains his powers of thought. But for days he has a strange metallic taste in his mouth, and conceives of the universe as a mechanism of metal. His sense of the values of things has been revolutionised. Nothing matters at all, and from having been a hard man, living a double life, he becomes the kind of philosopher who believes only in kindness. There can be no doubt that when the hero of this remarkable book first approached the operating-table there was a great weight upon his mind, which was besides morbidly awake—he was a famous journalist—to every kind of impression and to the thought of possible death. Consequently, after an operation lasting two hours his poor body suffers a fierce shock, which is followed by strange ethical results. Mr. Morley Roberts has presented an exceptional case in a skilful manner. He has, moreover, dedicated his book to his many medical friends, and though he represents his professional characters as talking together in a strangely unprofessional manner, his dedicatees will be more inclined to chuckle than to grumble at this. In the famous preface to "The Doctor's Dilemma" the medical profession is manhandled, but in the novel before us it is criticised by a sympathetic admirer. The severest judges of the book will probably be found among that army of martyrs who have been themselves operated upon. The average man who has undergone appendicectomy or an operation for piles has probably during anæsthesia and recovery therefrom had experiences quite different from those recorded for Thomas Waring. In such matters individual experiences vary through an enormous range.

HYDATID CYST OF THE BRAIN.

Hydatid cyst of the brain is sufficiently uncommon to render all cases worth notice. In the *Australian Medical Journal* of Jan. 17th Dr. T. F. Ryan has reported two cases which present many features of interest. A girl, aged 6½ years, was seen in June, 1911, with a history of gradual loss of power in the right hand and arm during the previous three weeks. Examination showed some weakness of the right hand and arm. There was no muscular wasting or loss of sensibility. Observation over several days revealed the fact that at times the right radial artery ceased to beat at the wrist for periods of several hours. The brachial artery could always be felt to pulsate normally. A skiagram of the right shoulder showed nothing abnormal. The tendon reflexes in the right arm were normal and the plantar reflexes were flexor. There was some tendency to incoördination of the movements of the arm. The fundi were normal, but there was a little indefinite nystagmus. During 1912 the patient was seen on a few occasions when it was evident that the whole of the right side was becoming involved. There was some contraction of the flexors of the elbow, wrist, and fingers, and weakness of the leg, mainly in the extensors, with paralytic equino-varus. Paresis of the right side of the face was present, and the tongue was deviated to the right. On the right side the tendon reflexes were exaggerated and the plantar response was extensor. In December weakness became manifest in the left arm and leg, and speech became difficult and hesitating. Examination showed right hemiplegia affecting face, arm, and leg with flexor contracture. The left arm was weak and ataxic. All the tendon reflexes were extremely active. Except for a small patch of anæsthesia over the right shin sensibility was normal. There was double optic neuritis, slight in the right eye, well marked in the left. Percussion of the head gave "a peculiar high tympanitic note" in the left fronto-parietal region. A lateral skiagram of the head showed thinning of the skull in the fronto-parietal region; an antero-posterior skiagram, thinning in the left fronto-parietal region and the outer circumference of a cyst. On Jan. 31st, 1913, an osteoplastic flap was turned down over the left Rolandic area. The skull here was very thin, in some places less than 2 mm. in thickness. The dura mater showed no tendency to bulge and no pulsation, and the flap was replaced. On Feb. 5th the second stage was performed. On removing the bone flap and incising the dura mater a large hydatid cyst presented and was removed. It occupied a large part of the left cerebral hemisphere, its greatest convexity being in the Rolandic area. The bone was not replaced, but the soft tissues were sutured and a small rubber drain was inserted from which serous fluid flowed for a few days. On April 23rd the optic neuritis disappeared and speech became almost normal. There was still some contraction of the flexors of the right arm and some weakness of the right leg with foot-drop. In January, 1914, she could walk well and use her right arm very well. It is noteworthy that at no time was there any headache or vomiting. In the second case the patient, a farmer aged 43 years, had not such a fortunate experience. He was in perfect health until October, 1910, when he fell to the ground whilst ploughing and was carried home unconscious. After 15 minutes he vomited and recovered consciousness. Next morning he resumed work and remained well for six weeks. He then complained of violent headache, which continued for six weeks, until Dr. Ryan saw him for the first time. His mental and physical condition was good, and there was no paralysis or abnormal reflex. There was double optic neuritis. That night he slept well for five hours, and then called out to the nurse who found him unconscious and breathing stertorously. He died in about an hour. The necropsy showed a hydatid cyst of the size of an orange near the left fissure of Rolando.

IS THE REFLEX THE FUNCTIONAL NERVE-UNIT?

IT is not an infrequent phenomenon that in the advance of some branch of science there is evolved an outstanding tenet which later work appears to support, and upon which, as a basis, real advance is made, but which itself is finally uprooted by the very observations which it has stimulated. It appears as if a fate of this kind may befall the long-accepted view that the reflex arc constitutes the basal functional nerve-unit. The reflex, as we know it in its simplest form, is made up of a centripetal or afferent process, whose activity is reflected through the grey matter of the cord into an efferent, effector, or centrifugal mechanism. A reflex which has received very full attention is that of the step, the normal act of progression. In such an act the afferent stimulus was held to be received from the peripheral tegumentary receptors, added to which, as Sherrington showed, are also the stimuli from muscles and joints, the propioceptive receptors. Such stimuli were held to evoke the necessary efferent movements, actions characterised by their rhythmic alternation of opposing forces, and the underlying basis of which was the graded antagonistic opposition of muscle groups, flexion being aided by simultaneous inhibition of extension, and *vice versâ*. Rhythmic progression is conditioned by an equal balance of two antagonistic central activities. Are these activities of fundamentally peripheral origin? If we accept the true reflex mechanism as being responsible for them we are bound to admit that they are. Against this view, however, Dr. Graham Brown, in the current issue of the *Journal of Physiology* (1914, Vol. XLVIII., p. 18) reviews, on the basis of much experimental work of his own and others, the evidence which opposes this idea, and himself advances suggestions which, in brief, allocate to the efferent nerve-units and not the reflex arc the fundamental functional nerve-unit. He has shown, firstly, that the act of progression can occur after all afferent channels, exteroceptive or propioceptive, have been abolished by deep narcosis and section of nerves. This demonstrates independence from the afferent system. Now it has been shown that rhythmic phenomena are conditioned during the balance of equal and antagonistic opposite activities in the antagonistic "half centres"—i.e., the two efferent neurons to antagonistic muscles. It is conceivable, therefore, that, even in the absence of peripheral stimuli, the factors of fatigue and "rebound" in such centres may explain the rhythm. But Dr. Brown's experiments have shown that with the degree of narcosis he employed both these factors were eliminated. He suggests that the activation of the half centres may be fundamentally conditioned by a stimulus equivalent to the blood stimulus in respiration. Such stimuli may be slight in degree; but it is known that stimulus is most effective when there is a close approximation to an equal and opposite activation of the half centres, so that slight changes would be sufficient. So far, the reasoning is certainly in favour of the truth of the writer's contention. There is next to be asked, however, Of what value are the peripheral stimuli? Do they count for nothing? It is suggested, and here certain facts of evolution enter into the argument, that the spinal reflexes which excite progression are in the nature of distortions of the "beat" of the fundamental rhythm. The fundamental rhythm, being, as the experiments showed, the last to be abolished, is essentially of more primitive and fundamental origin. Originally it was possibly conditioned by circumstances closely allied to the more elemental blood stimuli with its asphyxial changes and in the mechanisms of which afferent organised channels played no part. It was the later organisation which added higher complexity. The reflex was grafted on, as it were, to the fundamental rhythm. Such an addition is represented by the normal reflexes of progression; and this now dominates, by distortion of the original beat, the original rhythm. But it remains a superimposition. It is not, in essence, the fundamental nervous mechanism. We see in this paper a carefully reasoned case against the currently accepted view, and one which must meet with a measure of acceptance until further evidence is forthcoming.

THE RELATION BETWEEN DEFECTIVE AND PROLIFIC STOCKS.

THE paper by Mr. M. Greenwood, jun., and Mr. G. Udny Yule on the Determination of Size of Family and of the Distribution of Characters in Order of Birth from Samples taken through Members of the Sibships[1] is one of considerable importance in that it impugns on statistical grounds statements made on high statistical authority, which if true would give serious cause for alarm. These statements are, first, that defective stocks are more prolific than the normal; and, secondly, that the earlier-born members of a family are more liable to exhibit defects than the later born. The significance of the latter view rests on the fact that the decline in the average size of the family, which has indubitably taken place in recent years, means that the proportion of first- and second-born has increased. Both circumstances would thus lead to an increasing prevalence of defect. Mr. Greenwood and Mr. Yule express their criticisms in a mathematical form, but the principles on which their reasoning is based are quite easily intelligible to persons without mathematical training and appear obvious when pointed out. Bulletins No. 10A and 10B of the Eugenics Record Office (Cold Spring Harbour, Long Island, New York) contain the report of the "Committee to Study and to Report on the Best Practical Means of Cutting Off the Defective Germ Plasm in the American Population." No. 10A describes the scope of the committee's work and No. 10B the "Legal, Legislative, and Adminstrative Aspects of Sterilisation." The latter contains a valuable summary of the sterilisation laws which have been passed in 12 States of the American Union, and of the Bills introduced in other State legislatures which did not become law, but were either thrown out or vetoed by the governor or revoked by referendum. The result of all this legislative activity has been very meagre. In only three States have any sterilisation operations been performed under the statutes—namely, about 300 in Indiana, 268 in California, and 7 in Connecticut. At the present time no operations of this kind are being performed as the constitutional nature of the laws is in question. But although they are dormant it would be premature to conclude that they are dead.

"LOCALISED" TUBERCULOSIS IN THE PIG.

A REPORT made to the Local Government Board by Dr. A. Eastwood and Dr. F. Griffith,[1] which has been issued recently, gives the results of a valuable series of observations on the distribution of visible tuberculous lesions and of tubercle bacilli in a considerable series of pigs selected at the slaughter-house as examples of minor degrees of pig tuberculosis. The term "localised" tuberculosis is often loosely used in meat inspection, but in the sense in which it is used in this report it signifies disease which as a result of naked-eye examination is apparently confined to the lymphatic glands in relation to the alimentary tract. It is clear that among the ordinary pigs which come to the slaughter-house tuberculosis which is actually localised in this way is much less common than tuberculosis which is more or less widely disseminated. Thus at the Brighton abattoir, from which a large part of the material was obtained, 24,144 pigs were examined during the period of selection, of which 209 were reported by the meat inspector to be affected by general tuberculosis, 393 had slightly disseminated tuberculosis, while localised tuberculosis was present in only 59. The pig, as the work of the Royal Commission on human and animal tuberculosis showed, is susceptible to infection with various bacilli of mammalian type (including bovine and human) and with avian bacilli. By far the most common source of its natural infection is the bovine, derived from tuberculous milk or from the tuberculous fæcal discharges of cattle; but avian infection may also arise from ingestion of the excreta of fowls affected by the disease, while in one or two of the series here reported on the bacilli were found to be of the eugonic type, of low virulence for rabbits, indicating a human source of infection. Avian infection in the pig appears to have much smaller tendency to dissemination—when judged by the presence of naked-eye tuberculous lesions—than bovine infection. As a rule, though not invariably, when infection was due to avian bacilli the affected glands were either not enlarged or only slightly so; and they contained gritty or calcareous nodules which were easily shelled out of the surrounding tissue, leaving behind smooth fibrous-walled cavities. With bovine infection, on the other hand, a greater degree of local gland affection was apparent, and when closer examination was made in the laboratory of lungs, liver, spleen, and certain other tissues of the pigs which had been classified in the slaughter-house as examples of "localised" tuberculosis, naked-eye evidence of dissemination was frequently found. Of the 59 pigs above referred to, for example, the disease was ascertained by this special examination to be strictly localised only in 24. In regard to the presence of tubercle bacilli in apparently normal organs and tissues, it was noteworthy—and reassuring in view of the comparative harmlessness of the avian bacillus to man—that the bacilli were readily found in tissues presenting no naked-eye lesions when avian infection was in question, but very seldom in the case of bovine infection. The interesting observations in this report will have special interest for those medical officers who are consulted in connexion with meat inspection. The Royal Commission of 1896 went so far as to recommend that the whole carcass of the pig should be regarded as unfit for food if tuberculosis was present in any degree, and their finding receives some support as a result of these investigations. In practice, however, the recommendation has often been considered too drastic to be generally acted upon, and various modified standards of condemnation have been adopted instead. It may be concluded from the report that where partial condemnation is practised it is important that the examination of the carcass and its organs at the slaughter-house should be thorough, so that the extent to which the animal is affected can be accurately gauged. It should be added that the large amount of pathological work which Dr. Eastwood and Dr. Griffith have undertaken for this report is very fully reported and tabulated. In one or two instances the examination of the tuberculous lesions of the pig demonstrated the coexistence of mammalian and avian bacilli, or of different kinds of mammalian bacilli, in the same animal.

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[1] Journal of the Royal Statistical Society, vol. lxxvii., Part 2, January, 1914.

[1] Reports to the Local Government Board on Public Health and Medical Subjects. New Series. No. 91. Price 3s.

THE ELECTRICAL TREATMENT OF MILK.

WE have received a copy of the report of the city bacteriologist of Liverpool (Professor J. M. Beattie), which presents the details of the experimental inquiry and apparatus involved in the electrical treatment of milk. The results show the complete destruction of disease-producing bacteria, while the chemical constitution of the milk remains unimpaired and the taste is not altered, so that the milk from this point of view may be described according to this report as "raw milk." The conclusions reached are so momentous that we propose to deal with the report in greater detail in a future issue.

THE HISTORICAL MEDICAL MUSEUM.

THE Historical Medical Museum, which was founded by Mr. Henry S. Wellcome in connexion with the Seventeenth International Congress of Medicine, will be reopened on May 28th as a permanent institution in London. It will be known in future as the "Wellcome Historical Medical Museum" and will be open daily from 10 A.M. to 6 P.M., closing at 1 P.M. on Saturday; entrance 54A, Wigmore-street, Cavendish-square, W. Members of the medical and kindred professions will be admitted on presenting their visiting cards. Since closing last October the collections in the museum have been considerably augmented and entirely rearranged. Many objects of importance and interest have been added, which it is hoped will increase the usefulness of the museum to those interested in the history of medicine.

THE INTERNATIONAL SURGICAL ASSOCIATION.

(FROM OUR OWN CORRESPONDENT.)

THE Fourth Congress of the International Surgical Association was held at the Hotel Astor, New York, from April 13th to April 16th inclusive.

The Association meets triennially, and hitherto the meetings have taken place in Brussels; but as Professor A. Depage, of Brussels, President of the Fourth Congress, explained in his opening address, the Association was delighted to accept an invitation to hold a meeting in America, having a high esteem for their American colleagues and for American ideas of peace and civilisation throughout the whole world.

About 100 foreign members attended the meeting, many of them accompanied by their wives, and an almost equal number of members from the United States were present. Moreover, as the annual meeting of the American Surgical Association, which also was held in the Hotel Astor, only terminated its sessions on April 11th, there was a large number of surgeons both from the United States and Canada present at most of the society's meetings. New York and Chicago were well represented; the same may be said of Montreal and Toronto, the visitors from these cities, with Dr. Hamilton Russell, of Melbourne, standing for British surgery in the unavoidable absence of members of the society from the British Isles.

The Opening Meeting.

The opening general meeting, at which many ladies were present, took place at 11.30 A.M., in the grand ballroom of the Hotel Astor. The attendance was large, and of the foreign members Germans were in the majority. In the unavoidable absence of the PRESIDENT of the United States, owing to stress of national affairs, Surgeon-General WILLIAM C. GORGAS presided. and welcomed the Association.

Dr. WILLIAM J. MAYO, of Rochester, Minnesota, president of the American Surgical Association, welcomed the foreign members in the name of that organisation. He was particularly gratified, he said, that the first meeting of the society held outside Brussels should be held in New York. The American medical profession owed a deep debt of gratitude to Europe, for American medicine and surgery started from the shoulders of Europe. He had been asked frequently, whether he thought that Americans had developed their own type of surgery, and he had always answered No. For nearly a century they had depended upon Europe and the British Isles; although there had been and were good surgeons in America, the origin of their knowledge and skill was Europe. He concluded by hoping that the members would go to all the big cities of the United States, for he felt certain that surgeons throughout the country would take the greatest pleasure in showing them all there was to be seen.

In the absence of Professor M. CHARLES WILLEMS, of Ghent, the President of the International Surgical Association, Dr. J. P. HOGUET, of New York, Secretary of the Congress, read his address in French and English. This consisted of a welcome to the members of the Association, a hearty expression of thanks to their American hosts, and an affirmation of the important place in surgery now taken by the Association. He closed by referring to the loss which the society had experienced in the death of the late lamented Dr. Lucas-Championnière, who presided over the Congress with so much dignity and tact in 1911.

Dr. L. L. MACARTHUR, of Chicago, chairman of the American Committee, who spoke next, made feeling references to the loss sustained by surgery in the death of Dr. Roswell Park, the great Buffalo surgeon having had much to do with the early organisation of the society. It was sad that having worked so hard for the success of the movement, he should not have lived to witness the first meeting in his native country.

Professor A. DEPAGE then delivered his presidential address. After expressing his pleasure in accepting the invitation of American surgeons, he paid a special tribute to the contributions made by America to military surgery. He pointed out how the time had passed when the art of war was but a manifestation of exalted personal courage; it had now called science to its aid in every department, including those of military surgery and sanitation. American medical writers, such as Borden and O'Reilly, had rightly laid stress on the responsibility entailed by the practice of military surgery and on the need for thorough medical organisation of armies. Precautions which would have sufficed in former times were inadequate at the present day. Professor Depage insisted on the necessity for development of the international understanding in the matter of ambulance services. Red Cross organisations had already done much, but the responsibility of the surgeon increased with the dangers of the present time. The Balkan war had emphasised the lesson taught by the war in Manchuria—viz., that the fate of the wounded depended more than anything upon the aid given at the front of the battle, since while an engagement lasted the exposed ground was inaccessible to the ambulance men. Every combatant should carry with him, side by side with his cartridges, the articles necessary for a first dressing. Various countries had already adopted this solution of the difficulty, but a uniform first-aid outfit was desirable, and, above all things, the sanitary education of the soldier must be improved; he must be made to realise the dangers of infection by earth, dust, and water, and the elementary principles of asepsis. But although immediate aid was most efficacious on the battlefield, this help should be limited to precautionary measures. Serious operations, such as amputations and extraction of bullets, should be reserved for hospitals of the second line, provided with experienced surgeons and with civil consultant surgeons attached on regular duty. During recent wars surgeons had been filled with astonishment at the comparative harmlessness of the modern gun; but the so-called "efficacy of the shrapnel" was too horrible, and the Imperial Surgical Society at Constantinople in December, 1912, expressed the fervent wish that the use of shrapnel might be abolished on the same grounds as the explosive bullet. The President concluded his address with a moving plea for universal peace.

On the afternoon of April 13th papers were read and discussions took place on the

Technique of Amputations.

The first paper was read by Dr. WITZEL, of Düsseldorf, and dealt with amputation of the arm and forearm. Dr. Witzel gave as his conclusion that the indications for an amputation could only be pronounced upon by those in touch with all the modern resources for the preservation of wounded, diseased, and deformed limbs. While the aseptic treatment of open wounds, contusions, and fractures allowed the postponement of amputation in time of war as well as in ordinary practice, the processes of suture, resection, anastomosis, and transplantation of the blood-vessels led to the preservation of parts of limbs wounded or affected by arteriosclerosis. Bier's method of prophylactic hyperæmia, together with small carefully made incisions in the suppurating parts, would preserve limbs when septicæmia and pyæmia would have otherwise demanded amputation. Modern operative orthopædics by means of osteotomy and musculotendinous transplantations could restore their powers to useless limbs. Dr. Witzel reminded his hearers next that in cases of simple tumours and in myeloid sarcoma excision followed by transplantation was more than ever justified. In malignant tumours radiotherapy and chemotherapy were giving great promise.

Amputation of itself, he said, can never endanger life, and should procure for the patient a useful and painless stump, the following being his generalisations.

(*a*) The danger of the actual operation is decreased by an increase of the resisting powers of the subject, whether it is a case of emergency or not; there should be complete arrest of hæmorrhage in accidents; the heart action must be strengthened by drugs, saline infusions, inhalation of oxygen, application of heat, and respiratory exercises. Esmarch's tourniquet and preservation of warmth during the operation all play their part. The choice of the anæsthetic is also an important factor. General anæsthesia is preferable on account of the psychic effect resulting from amputation, Hackenbruch's process is suitable for minor operations, Braun's endoneural anæsthesia for bigger removals, always with addition of narcotics and with strict attention to discipline in the working of the operating theatre; Bier's rachi-anæsthesia will rarely be indicated.

(*b*) After the operation life will be preserved mainly by simple and thorough asepsis, the carrying out of which depends as much on the choice of the site of amputation as in the technique itself. The possibility of operating in a clean manner permits the use of more complicated methods. The section of tissues should be clean; in order not to injure their vitality it is necessary to work with "gentleness, heat, and moisture." For this end the use of antiseptics must be avoided, and there must be a strict arrest of hæmorrhage. Cardiac tonics and respiratory exercise prevent thrombo-embolism.

(*c*) To obtain a painless and serviceable stump clean section is necessary well above the nerve stumps; the production of neuritis by fixation of the nerve roots on the surface of the divided bones must be avoided. Protective occlusion of the medullary canal by the processes of Bier, Wilms, Ritter, or Bunge also prevents this accident. Methodical movement of the soft tissues by massage and early utilisation of the stump in temporary artificial limbs serve the same purpose. For a good utilisation of the stump as a lever for future apparatus regard must be taken of the unequal retraction of the muscles and tendons, while the suture of neighbouring muscles in opposing groups between themselves helps to maintain functional equilibrium.

Dr. P. VON KUZMIK, of Budapest, contributed a paper on Amputation of the Hand. He considered that before proceeding to amputate the hand or even a finger the surgeon is in duty bound to try every physical method of treatment—heliotherapy, Roentgen rays, Bier's hyperæmia, thermotherapy, and immobilisation. For amputation of hand or fingers, all the modern methods have given good results and all operators ought to be as conservative as possible.

Dr. J. F. BINNIE, of Kansas City, read a paper on Amputations of the Leg. No particular improvement has been made in the methods of amputation below the ankle-joint. Amputations through the leg (below the knee) seem all to be equally safe no matter at what level they are performed. If a good weight-bearing stump is secured, then the more of the leg that is retained below the knee the more useful will it be to the patient. The improvements in amputations of the leg are all in the direction of better weight-bearing stumps and the designs of artificial limbs must in the future adapt themselves to these improvements. Hirsch and Bunge's aperiosteal treatment of the bony stump in any amputation and osteoplastic amputations under particularly favourable circumstances are, he said, "very valuable means towards obtaining ideal weight-bearing stumps. Free transplantation of a fragment of bone to the end of the divided tibia may replace the more difficult and complicated osteoplastic methods of Bier and others."

Dr. M. DURAND, of Lyons, read a paper on Amputations of the Leg and Foot. He summed up his conclusions as follows:—

I. *Amputation of toes.*—One of the three middle toes may be amputated (*a*) by disarticulation of the second phalanx, (*b*) by metatarso-phalangeal disarticulation, and (*c*) by amputation in continuity of the first phalanx. These operations do not alter the functions of the foot. The conditions apply to the little toe, and no other operation is recommended. Total disarticulation of the great toe, especially if carried out by the subperiosteal method, gives an excellent result. Simultaneous disarticulation of the five toes makes but slight difference to the walk.

II. *Amputation of the metatarsal bones.*—Amputation of one of the four last metatarsal bones, in continuity or by disarticulation, presents but small difficulty. The disarticulation of the first metatarsus is a little more serious from the functional point of view, but has not the disadvantages ascribed to it, the subperiosteal method being particularly favourable. More than two metatarsal bones must not be amputated, keeping the others. Transmetatarsal and tarso-metatarsal amputations give generally excellent functional results.

III. *Amputations and disarticulations of the anterior tarsus* which do not suppress it entirely must be recommended; their results are very similar to those of Lisfranc's disarticulation. But Chopart's disarticulation is an unreliable operation; it should be reserved for exceptional conditions.

IV. *Amputations of the posterior tarsus.*—Ricard's operation and sub-astragaloid disarticulation are both excellent and have practically the same value. The osteoplastic amputations of the posterior tarsus (those associated with the names of Sédillot, Pirogoff, Pasquier-Lefort) are useful, and the tibio-tarsal disarticulation (Syme or Jules Roux), carried out according to Ollier's subperiosteal method, gives a supple and enduring stump; it leaves such good functional results that it may be considered equal to the greater part of the more conservative operations of the posterior tarsus.

V. *Supra-malleolar amputations.*—Amputations of the lower third of the leg, employing in the stump solid skin tissues obtained from the heel, sometimes permit the direct resting of the stump on any necessary artificial limb; the length of the leg lever and the power of the muscles which they preserve give a usefulness here very similar to that which follows tibio-tarsal disarticulations.

VI., VII., and VIII. *Amputations of the middle third of the leg* require modification, and *amputations of the leg above the middle part* should be performed only when the extent of the injuries does not permit a lesser sacrifice. Larrey's intracondylar amputation appears preferable to the disarticulation of the knee.

IX. Amputations of the leg and foot owe their gravity solely to the affection which necessitates their performance, and to the general condition of the patient. The progress of surgical technique and of asepsis has done away with the primitive formation of stumps, enabling a more correct adaptation of the stumps to the suitable apparatus. Manufacture of this has considerably improved, and the need for amputations of the middle and lower third of the leg has to a large extent disappeared.

Dr. E. RANZI, of Vienna, read a paper on Amputations below the Knee, in which he supported Bunge's methods, while pointing out that in every amputation it is of importance that the patient should take walking exercise and have massage, as well as put his weight on the artificial limb as soon as possible.

Among those who took part in the discussion were Dr. DEPAGE, of Brussels; Dr. STEINTHAL, of Stuttgart; Dr. MORESTIN, of Paris; Dr. FRANKE, of Braunschweig; Dr. LORTHIOIR, of Brussels; Dr. ZAHRADMKY, of Heneky-Brod; Dr. LAMBOTTE, of Antwerp; and Dr. RITTER, of Posen.

(*To be continued.*)

THE
PREVALENCE OF PNEUMONIA AMONG THE NATIVE LABOURERS ON THE RAND.

THE fact that the mortality among the native labourers on the Rand was excessive has long been notorious, and it has formed the subject of official inquiry from time to time. The last annual report of Dr. Charles Porter, medical officer of health for the municipality of Johannesburg, shows that the chief cause of this high mortality is pneumonia.

In 1911 a special report was prepared by Mr. G. D. Maynard, at the request of Dr. Porter, on the incidence of this disease in the workers in the mines, but it was found that no comparison of one mine with another could properly be made without due consideration being given in each case to such factors as territorial origin of the native workers, diet, nature of housing, depth of the mine, and general sanitary conditions. Sir Almroth E. Wright, who visited Johannesburg for the purpose of ascertaining if the prophylactic inoculation of a pneumococcal vaccine might serve to protect the African natives on the Rand from the ravages of pneumonia, presented a report which was published in THE LANCET.[1] More recently the mine owners in 1913 invited Surgeon-General Gorgas, of the United States Army Medical Corps, whose successful work in lowering the mortality of certain diseases in Cuba and in the Panama Canal Zone is so well known, to make an investigation on the spot and advise as to the best means of preventing the present heavy loss of human life on the Rand. His report, we understand, has not yet been published.

Report on Results of Inquiry.

Meanwhile a very valuable further contribution to the literature of the subject has been recently supplied by Mr. Maynard, now statistician and clinician to the South African Institute for Medical Research, in the form of a memoir issued by that institute.[2] This investigator has the advantage of possessing a wide local knowledge of the circumstances of labour on the Rand, since he was formerly assistant medical officer to the Witwatersrand Native Labour Association. He brings also to his aid in attempting to solve some of the problems the application of the highly technical mathematical methods now employed by modern statisticians. He defines the pneumonia which is met with on the Rand as meaning the disease clinically known as lobar pneumonia when bacteriologically associated with the pneumococcus of Fraenkel. The majority of the "tropical natives" brought to labour in the mines are obtained from the Portuguese districts of Quilimane, Mozambique, Tete, and Portuguese Nyasaland; they are recruited at their kraals and then marched in gangs from rest-camp to rest-camp down to the coast, where at one or other of the ports they embark for Lorenzo Marques, the voyage lasting for several days. After landing they entrain there for the Transvaal, stopping for a few days for medical examination at the low veld station of the company at Ressano Garcia. If found healthy they are passed on to the association's compound at Johannesburg, and remain there under close medical supervision for a further period of at least three weeks. At the end of this time they are again medically examined, and if regarded as fit for work they are allotted to one or other of the mines. It is a fact worth noting that it is during this period of their stay at the Native Labour Association's compound, and before they have begun to work in the mines, that many of the cases of pneumonia are reported, and there is no doubt that the greatest incidence of the disease occurs immediately on the arrival of the natives on the Rand, and that it decreases as the length of their residence increases.

Johannesburg is situated at an altitude of 6000 feet, and therefore climatic conditions are likely to be different there from those to which some at least of the natives have been hitherto accustomed. It appears that pneumonia is most prevalent on the Rand during the cold season, and that second and even third or more attacks are by no means uncommon. A fatal termination is most frequently noted about the fourth day of the illness. Mr. Maynard comes to the conclusion that both the pneumonia attack-rate and the death-rate among "tropical natives" are influenced by the country of origin from which the labourer has come, and the highest attack-rates are found in those persons having the poorest physique. Pneumococcal meningitis as a complication of pneumonia seems to be more common among the "tropical natives" than among Europeans. There is, he thinks, no evidence that pneumonia spreads from case to case. The prophylactic inoculation of a pneumococcal vaccine when employed immediately on the arrival of the natives on the Rand appears to reduce the incidence of the disease for a limited period, but the experimental treatment of cases with a pneumococcal vaccine did not favourably affect the fatality of the disease.

Bacteriological Questions.

Mr. Maynard, in concluding his report, admits that his investigation has not succeeded in throwing much new light on the problem of the causes which lead to the attack of newly arrived native labourers by pneumonia; further inquiries are therefore necessary before any satisfactory pronouncement can be made. He has, however, recently begun the examination of the nasal and throat secretions of a small number of "East Coast" natives after their arrival on the Rand, in order to determine whether the pneumococcus is present at that time; and although the series of examinations is not yet completed, it appears that it is not uncommon to find the organism in the natives' nasopharynx within a few hours of their arrival in the compound at Johannesburg. It will consequently be advisable to find out if the pneumococcus exists in the nasal passages of these natives when they are at home in their kraals, and, if not, at what point of their journey to the Rand they become infected.

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[1] THE LANCET, Dec. 14th (p. 1633) and 21st (p. 1701), 1912; Jan. 3rd (p. 1) and 10th (p. 87), 1914.

[2] An Inquiry into the Etiology, Manifestations, and Prevention of Pneumonia amongst the Natives on the Rand, Recruited from Tropical Areas, by G. D. Maynard, F.R.C.S. Memoir No. 1, published by the South African Institute for Medical Research, Johannesburg, November, 1913, pp. 123, with maps and charts. Price 5s.

Mr. Maynard regards it as being of practical importance to discover whether change of climate is accompanied by the appearance of the pneumococcus in a previously uninfected nasopharynx, or whether there is no increase in the rate of such infections owing to change of locality. It is possible that some other conditions, such as lowered resistance brought about by change of climate, may be factors in the morbid process that occurs in the natives. It is difficult to obtain trustworthy information from native sources, but it appears to be likely that pneumonia occurs among the people at home in their villages. A suggestion is made that there may be several strains or varieties of the pneumococcus possessing different properties and qualities of virulence, and that perhaps one strain affords no immunity to the attacks of another strain. Arrangements, we learn, are being made at the South African Institute to carry out further inquiries on the lines above indicated, including the examination of the natives under ordinary conditions at their own kraals, as well as at the various resting camps and compounds situated on the routes usually followed to reach the Rand.

Further Investigations.

It is worth mentioning in conclusion that when, in 1912, the Union Government of South Africa appointed a Commission, of which Dr. Porter is a member, to investigate the subject of tuberculosis, an instruction was given that they should also "inquire into and take evidence for the purpose of ascertaining the extent and causes of the mortality of natives employed in the Witwatersrand mines, and their susceptibility to pneumonia, with special reference to those coming from tropical areas, and to make recommendations thereon." This Commission has not yet presented its report, but we presume it will not long be delayed. It is hoped that with this and Surgeon-General Gorgas's report, supplemented by the further investigations of the South African Institute already referred to, most of the doubts and difficulties concerning this disease in the Rand district will be cleared away. Surgeon-General Gorgas's report is fully dealt with this week by our Special Correspondent on the spot.

REPORT OF THE TROPICAL DISEASES RESEARCH FUND.[1]

SINCE the Tropical Diseases Research Fund was established about ten years ago the advisory committee has effected a large amount of valuable work, but it is somewhat humiliating to a colonising nation like ours to find that the British Government does not give anything like adequate support to the scientific researches which have done so much already to reduce the excessive sickness and mortality rates recorded in many of our colonies and protectorates. The present income of the fund is unable to meet in a proper manner the pressing requirements of tropical research, the total receipts being only £3445, of which the British Government contributes £1000 and India £500, while the Dominion and Colonial Governments give £1945.

The Expenditure of the Fund.

The expenditure for 1913 amounted to £3600—that is, £155 more than the income—the excess having to be met, as in some previous years, by drawing upon a balance accumulated in the past. It is obvious that something should be done to place the finances on a sounder basis. The committee strongly urge the extreme desirability of having the income increased in view of the many directions in which important researches might be instituted for the benefit of our tropical colonies and dependencies if only sufficient means were permanently available. In allocating the grants, and looking at the unsatisfactory position of the finances, it was carefully considered whether a reduction could be made in the amounts voted to the Schools of Tropical Medicine in London and Liverpool; but on certain representations being made it was decided to give £1200 to each of them, £750 to the University of London, and £450 to the University of Cambridge. The grant to the London School was expended in paying the salaries and maintaining the laboratories of the teachers and investigators of helminthology, protozoology, and entomology. The Liverpool School employed their grant to defray the cost of special researches in their laboratories on trypanosomiasis, general parasitology, helminthology, and entomology, as well as in carrying out some investigations on malaria. The sum given to the University of London was used as before in paying the salary of the professor of protozoology, and the grant to the University of Cambridge was employed partly to support a research studentship in medical entomology, partly in helping to pay the salary of an assistant in the Quick Laboratory and also that of a helminthologist, and partly in assisting to defray the general expenses of that laboratory. It is worth noting that the sum given to the University of Cambridge in 1913 was larger by £100 than in the previous year; in the opinion of the committee this increase was amply justified by the importance and extent of the research work carried on in the Quick Laboratory by Professor Nuttall and his assistants.

The Work of the Advisory Committee.

The committee was consulted during the year on a variety of matters by the Secretary of State, among other things being the important question of the measures to be taken to safeguard India and our Eastern colonies against the danger of the introduction of yellow fever after the opening of the Panama Ship Canal. To their report the committee have appended a number of returns received from certain colonies and protectorates in accordance with a request contained in the circular despatch dated Dec. 20th, 1910; these give statistical and other information respecting mosquito-borne diseases, including malaria, blackwater fever, yellow fever, filariasis, and dengue, and contain also a brief account of the antimalarial measures adopted in each colony or protectorate. The committee, it appears, attach much importance to the regular receipt and careful preparation of these returns, and they call special attention to the excellence of those received from South Nigeria and the Straits Settlements. In the appendices affixed to the committee's report are reports of the London and Liverpool Schools of Tropical Medicine, the report of the Professor of Protozoology in the University of London, and the report on the work carried on in the Quick Laboratory at Cambridge. Appended also are a number of reports on laboratory and field work from some colonies. So far as considerations of space permit, we make a short reference to most of these reports.

The Report of the Professor of Protozoology in the University of London.

Professor Minchin among other work continued his investigations, in conjunction with Dr. J. D. Thomson, on trypanosoma lewisi. He has had to modify his former opinion as to the way in which the rat received its infection, having formerly held that the trypanosomes were regurgitated from the infected flea's stomach through the proboscis, and then entered the rat by inoculation of the skin. His experiments, however, have failed to support this view, and he now admits that the opinion expressed by Nöller and by Wenyon is likely to be the correct one—namely, that the trypanosomes pass out of the flea in the fæces and the rat becomes infected by licking the fæces off its skin. Professor Minchin's work, we regret to learn, was somewhat hindered for a time by the state of his health. Various researches were conducted in his laboratories by other investigators under his supervision. His assistant, Dr. H. M. Woodcock, made two special researches—the first on a remarkable parasite of the goat and other ruminants and certain flagellates which develop in goat dung, the second being on the possible transmissive agent or agents of the blood parasites of common British birds.

The Work Done at the Quick Laboratory, Cambridge.

No fewer than 23 scientific papers were published during the year by workers in the Quick Laboratory. These papers dealt with pathogenic protozoa and the diseases caused by them, the structure and biology of ticks, and observations on the biology of insects. Professor Nuttall states that probably the most interesting results obtained in 1913 were those relating to the conditions influencing the transmission of East Coast fever, the reproduction of Canadian "tick paralysis" in a dog in Cambridge by means of a single imported tick, and the observations of parthenogenesis and variability in ticks under experimental conditions.

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[1] Report of the Advisory Committee of the Tropical Diseases Research Fund for the Year 1913. Presented to both *Houses of Parliament* by command of His Majesty. London: His Majesty's Stationery Office. 1914. *Pp.* 239. *Price* 2*s.* 4*d.*

Research Work at the London School of Tropical Medicine.

For six months Dr. R. T. Leiper, the helminthologist, was in West Africa investigating the carrier of filaria loa, the causal agent of "Calabar swelling." On his return he was engaged with Surgeon Atkinson, R.N., in examining the collection of entozoa, made by the Scott Antarctic Expedition, containing trematoda, cestoda, acanthocephala, and nematoda. Dr. C. M. Wenyon, the protozoologist, conducted researches on leishmaniasis from South American skin lesions, on trypanosoma lewisi, and on T. rhodesiense, the two latter in conjunction with Dr. H. M. Hänschell. Later in the year Dr. Wenyon went to Malta to carry out observations on Oriental sore and sandflies, and also to study human and canine kala-azar. The entomologist, Lieutenant-Colonel A. Alcock, furnishes routine reports, and, among other work, observations and experiments were carried out to elucidate or confirm the life-history of the human flea, the cat flea, the blue flesh-fly, and the bed-bug.

Research Work at the Liverpool School of Tropical Medicine.

Professor J. W. W. Stephens and Dr. H. B. Fantham made a series of further measurements of trypanosoma rhodesiense and T. gambiense, and Professor Stephens with Dr. B. Blacklock studied the morphology of two strains of T. brucei, one from Uganda and the other from Zululand. Some observations on external myiasis in a monkey were carried out by Dr. Blacklock and Mr. H. F. Carter. Professor Warrington Yorke and Dr. Wakelin Barrett made some experiments in hæmoglobinæmia and on the relationship of hæmoglobin to bile pigments. An examination of the efficacy of stibium trioxide (trixidin) as a remedy for trypanosomiasis was carried out by Professor Yorke and Dr. Blacklock, and the same investigators also studied the trypanosomes causing dourine (mal de coït), and dealt with the classification and identification of the more important mammalian trypanosomes. Dr. H. B. Fantham investigated the spirochætes affecting the vascular and respiratory systems of man, the various pathogenic trypanosomes of man and transport animals, and various parasites of birds, fish, and insects; he also continued his researches on the "bee disease." Dr. D. Thomson visited Panama and British Guiana to make observation of the sanitation of these places, and since then he has been engaged with Dr. J. G. Thomson in the cultivation of malarial parasites *in vitro.* Dr. Fantham in 1912, at the invitation of the Anglo-Egyptian Government, visited Khartoum and brought back with him much valuable material.

Laboratory and Field Work in the Colonies.

British Guiana.—Investigations were made by Dr. K. S. Wise and Dr. E. P. Minett on (1) aspergillar mycosis, (2) septicæmia and filaria bancrofti, (3) epidermophyton cruris, and (4) epidemic dropsy. Interesting facts are given as to this last-named disease, which broke out among the carriers of an expedition into the interior. The occurrence of this malady was attributed to the long-continued use of dried and tinned foods, leading to a deficiency of certain substances essential for maintaining health.

Ceylon.—Dr. A. Castellani carried out researches on (1) a new intestinal protozoal parasite causing dysenteric symptoms; (2) peculiar bodies found in a case of tropical splenomegaly with fever; (3) cases of pseudo-diphtheria due to fungi; (4) the plurality of species of the so-called thrush fungus; and (5) typhoid-paratyphoid vaccination with mixed vaccines.

Fiji.—The treatment of yaws and syphilis by salvarsan is discussed by Mr. P. T. Harper, who regards the use of this in yaws as economical since it shortens greatly the patient's stay in hospital. Mr. A. E. Ireland reports on the examination of certain specimens of rice in some of which the pericarp and in some also the subpericarpal layers had been removed wholly or in part in the process of milling, Siam rice being the most denuded. There had been, however, no beri-beri following the long-continued use of such rice, this being probably accounted for by the fact that dhal is invariably eaten with the rice.

Hong-Kong.—An investigation of the mosquitoes of this colony was carried out, special search being made for stegomyia fasciata, but practically this species is absent, S. scutellaris being the predominating species. As, however, S. fasciata exists in Japanese ports as well as in the Philippines and Singapore, with which Hong-Kong is in communication by shipping, there is a possibility of its importation.

Jamaica.—Dr. H. H. Scott made a number of investigations on enteric fever, ankylostomiasis, dysentery, and "vomiting sickness," details of which are given. As regards the last-named disease, he puts forward evidence to disprove its relationship with yellow fever; on bacteriological grounds he shows that some of the reported cases were suffering from cerebro-spinal fever. Dr. W. D. Neish contributes a report on the tabanidæ of Jamaica, and gives notes on malaria and ankylostomiasis.

Leeward Islands.—The medical officers of St. Kitts report on the treatment of yaws by salvarsan, the average stay in hospital being reduced by it to 21 days. One case of filariasis was also treated by salvarsan, and has progressed favourably since he received two injections.

Malay States.—In the Institute for Medical Research, of which Dr. H. Fraser is director, attempts were made to cultivate the leprosy bacillus but without success, though the technique, described by those who claim to have succeeded, was carefully followed.[2] Dr. W. Fletcher continued his researches on blackwater fever, and Dr. A. T. Stanton made investigation into the anopheles mosquitoes of Malaya and their larvæ; he also inquired into the changes which occur in certain characters of these larvæ in the course of their growth. Mr. J. D. Gimlette reports on beri-beri in Kelantan, and we gather that he holds the view that rice "acts only as a vehicle" of the poison and not as a "causative agent" of the disease.

Sierra Leone.—Among the reports furnished are several on the splenic index in some of the districts. Dr. J. W. Collett investigated the subject of dried vaccine lymph; he prefers a lanolated calf lymph. Dr. J. Y. Wood gives notes on 257 cases of goitre collected in the Koinadugu district in a period of six months.

Trinidad.—Dr. F. L. de Verteuil reports on cases in the leper hospital, and states that he finds nastin valuable in instances where there is no ulceration, especially when it is combined with antileprol; but to be successful the treatment must be continued for two years or more, whereas most patients give up the remedy after a few months' trial.

Windward Islands.—Some 245 cases of yaws were treated with salvarsan, of which 229 were discharged from the hospital as cured; 12 cases, or 5 per cent., had a relapse within three months, but it is probable they had not received a sufficient dose of the drug. It appears that the natives apply eagerly for the treatment, and if there had been a regular and adequate supply of salvarsan available the number of cases treated would have far exceeded the number stated above.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the thirty-first meeting of the Royal Commission on Venereal Diseases evidence was given by Mr. F. Richardson Cross, one of the representatives before the Commission of the Royal College of Surgeons of England. Mr. Cross dealt principally with the effects of venereal diseases upon the eye. He described the serious results which venereal diseases produced in this connexion, and expressed the opinion that a large proportion of the cases of blindness were due to these diseases. He was not able to give complete statistics on this point, but he gave as an example an examination conducted at a blind school which showed that blindness was due to ophthalmia neonatorum in 47 cases out of 102. He also referred to the results of an investigation at a French institution which suggested that out of 625 cases of blindness 325 were traceable to venereal disease. Mr. Cross considered that the importance of venereal diseases was only realised by a very limited number of people, and he thought that the medical profession ought to instruct the public. It should be pointed out that any of these forms of disease were not local things which would pass off, but that the individual might be stamped for life with it, and that it might go down to his or her posterity. It was necessary that the knowledge should be spread very tactfully, but it ought to be done.

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[2] THE LANCET, Sept. 27th, 1913, p. 913.

Mr. Cross alluded to the importance of early diagnosis and energetic and satisfactory treatment of these diseases, and urged that some assistance should be given by the State. He did not think that the Insurance Act touched this matter at all. The doctor under the Insurance Act could not be expected to make a scientific investigation, and neither he nor the chemist could afford the expense of injections of salvarsan. Laboratories in which tests could be made for purposes of diagnosis should be subsidised and developed, and grants should also be made to assist treatment by hospitals. He was not in favour of special hospitals for venereal diseases, but thought that persons suffering from them should be treated among the ordinary patients as far as possible. It ought to be made easy for people to get thorough treatment for these diseases, and it would be an advantage if evening clinics could be established to deal with them.

At the thirty-second meeting Dr. C. T. Parsons, medical superintendent of the Fulham Poor-law Infirmary, gave evidence. Dr. Parsons described the treatment he had adopted, which followed the lines of that used at the Rochester-row Hospital. Salvarsan or neosalvarsan had been used at the Fulham Infirmary since April, 1911. The experience had been that most lesions healed very rapidly under its influence. The results had been most striking in cases of acquired syphilis, and had been less successful in the case of congenital syphilis, while only temporary relief of symptoms had been obtained in the case of para-syphilitic conditions. On the whole neosalvarsan had been found to be better tolerated but less efficacious than salvarsan. No bad results of a serious character had followed the injections. The only difficulty in carrying out the treatment had been in inducing patients to submit to it and to remain until it was completed. A few patients refused to have any injection after the first, and some insisted upon taking their discharge directly the lesions had healed.

Dr. Parsons said that one of the greatest needs of the Poor-law infirmary in connexion with the treatment of venereal diseases was the provision of facilities for bacteriological examinations and the carrying out of Wassermann tests.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 9467 births and 5259 deaths were registered during the week ended Saturday, April 25th. The annual rate of mortality in these towns, which had declined from 16·5 to 14·9 per 1000 in the four preceding weeks, rose to 15·1 per 1000 in the week under review. Among the several towns the death-rate ranged from 4·7 in Eastbourne, 4·9 in Swindon, 6·9 in Ilford, 7·3 in Edmonton, and 7·5 in Reading, to 21·1 in Plymouth and in Dudley, 21·8 in Great Yarmouth, 23·1 in Dewsbury, and 23·5 in Stoke-on-Trent.

The 5259 deaths from all causes were 67 in excess of the number in the previous week, and included 445 which were referred to the principal epidemic diseases, against 433 and 438 in the two preceding weeks. Of these 445 deaths, 166 resulted from whooping-cough, 140 from measles, 66 from infantile diarrhœal diseases, 40 from diphtheria, 23 from scarlet fever, and 10 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·3, against 1·2 and 1·3 per 1000 in the two preceding weeks. The deaths attributed to whooping-cough, which had been 172, 150, and 117 in the three preceding weeks, rose to 166 last week, and caused the highest annual death-rates of 1·3 in Leicester, 1·4 in Sheffield, 1·6 in Rotherham, 1·7 in Tynemouth and in Swansea, 1·9 in Cardiff, and 2·1 in Middlesbrough. The deaths referred to measles, which had been 137, 134, and 153 in the three preceding weeks, fell to 140 last week; the highest death-rates from this cause were 1·7 in Sheffield, 1·8 in Merthyr Tydfil, 1·9 in Burnley, 2·0 in Leicester, and 3·0 in Dudley. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 77, 54, and 61 in the three preceding weeks, further rose to 66 last week, of which 18 were registered in London, 4 in Birmingham, 4 in Liverpool, 4 in Manchester, and 3 each in Stockport, Birkenhead, Middlesbrough, and Newcastle-on-Tyne. The deaths attributed to diphtheria, which had been 51, 44, and 50 in the three preceding weeks, declined to 40 last week, and included 10 in London, 3 in Coventry, and 2 each in Portsmouth, Stoke-on-Trent, Birmingham, Leicester, Liverpool, and Salford. The deaths referred to scarlet fever, which had increased from 33 to 40 in the four preceding weeks, fell to 23 last week; 5 deaths were recorded in London, 4 in Birmingham, and 2 each in Manchester, Salford, and Sheffield. The fatal cases of enteric fever, which had been 12, 12, and 17 in the three preceding weeks, declined to 10 last week, of which 2 occurred in London.

The number of scarlet fever patients under treatment in the London Fever and the Metropolitan Asylums Hospitals, which had been 3182, 3068, and 2992 at the end of the three preceding weeks, had further declined to 2886 on Saturday last; 305 new cases were admitted during the week, against 399, 306, and 289 in the three preceding weeks. These hospitals also contained on Saturday last 1141 cases of diphtheria, 356 of whooping-cough, 101 of measles, and 57 of enteric fever, but not one of small-pox. The 1248 deaths from all causes in London were 7 fewer than the number in the previous week, and corresponded to an annual death-rate of 14·4 per 1000. The deaths referred to diseases of the respiratory system, which had been 280, 219, and 263 in the three preceding weeks, fell to 258, and were 71 below the number registered in the corresponding week of last year.

Of the 5259 deaths from all causes in the 97 towns, 193 resulted from various forms of violence, and 408 were the subject of coroners' inquests, while 1527 occurred in public institutions. The causes of 35, or 0·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and in its 14 suburban districts, in Manchester, Bristol, Hull, Nottingham, Salford, and in 55 other smaller towns. Of the 35 uncertified causes of death, 8 were recorded in Birmingham, 3 in Gateshead, and 2 each in Stoke-on-Trent, Liverpool, Bootle, and Blackburn.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1359 births and 702 deaths were registered during the week ended Saturday, April 18th. The annual rate of mortality in these towns, which had been 16·5, 18·6, and 16·5 per 1000 in the three preceding weeks, further declined to 16·0 per 1000 in the week under notice, against an average rate of 18·2 in the 13 weeks of last quarter. Among the several towns the death-rate ranged from 8·8 in Motherwell, 11·8 in Leith, and 12·1 in Dundee, to 19·0 in Kirkcaldy, 21·8 in Coatbridge, and 22·0 in Ayr.

The 702 deaths from all causes were 25 fewer than the number in the previous week, and included 55 which were referred to the principal epidemic diseases, against 81 and 65 in the two preceding weeks. Of these 55 deaths, 20 resulted from measles, 13 from infantile diarrhœal diseases, 11 from whooping-cough, 7 from scarlet fever, and 4 from diphtheria, but not one from enteric fever or from small-pox. The mean annual death-rate from these diseases was equal to 1·3 per 1000, and coincided with the rate recorded in the 97 large English towns during the same week. The deaths attributed to measles, which had been 34, 37, and 31 in the three preceding weeks, further fell to 20, and comprised 15 in Glasgow, 3 in Ayr, and 2 in Edinburgh. The deaths of infants (under 2 years) referred to diarrhœa and enteritis, which had been 14, 14, and 5 in the three preceding weeks, rose to 13, of which 6 were recorded in Glasgow, 2 in Dundee, and 2 in Aberdeen. The fatal cases of whooping-cough, which had been 11, 15, and 12 in the three preceding weeks, were 11, and included 5 in Glasgow and 3 in Coatbridge. The 7 deaths attributed to scarlet fever, of which 5 occurred in Glasgow, were slightly below the weekly average in the preceding quarter. The fatal cases of diphtheria, which had been 9, 9, and 7 in the three preceding weeks, further declined to 4, and comprised 2 in Glasgow, 1 in Edinburgh, and 1 in Aberdeen.

The deaths referred to diseases of the respiratory system, which had been 111, 166, and 137 in the three preceding weeks, further fell to 120 in the week under notice; and 29 deaths resulted from various forms of violence, against 33 and 28 in the two preceding weeks.

In the 16 largest Scotch towns 1236 births and 741 deaths were registered during the week ended Saturday, April 25th. The annual rate of mortality in these towns, which had been 18·6, 16·5, and 16·0 per 1000 in the three preceding weeks, rose to 16·9 per 1000 in the week under review. Among the several towns the death-rate ranged from 7·7 in Perth, 7·8 in Falkirk, and 12·6 in Motherwell, to 21·6 in Hamilton, 21·9 in Aberdeen, and 23·6 in Ayr.

The 741 deaths from all causes were 39 in excess of the number in the previous week, and included 71 which were referred to the principal epidemic diseases, against numbers decreasing from 81 to 55 in the three preceding weeks. Of these 71 deaths, 29 resulted from measles, 18 from infantile diarrhœal diseases, 9 from whooping-cough, 9 from diphtheria, 4 from scarlet fever, and 2 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·6, against 1·3 per 1000 in the 97 large English towns. The deaths attributed to measles, which had been 37, 31, and 20 in the three preceding weeks, rose to 29 last week, of which 20 occurred in Glasgow, 3 in Edinburgh, and 3 in Hamilton. The deaths of infants (under 2 years) referred to diarrhœa and enteritis, which had been 14, 5, and 13 in the three preceding weeks, further rose to 18, and included 10 in Glasgow and 2 in Kilmarnock. The fatal cases of whooping-cough, which had been 15, 12, and 11 in the three preceding weeks, further declined to 9, and comprised 8 in Glasgow and 1 in Coatbridge. The deaths attributed to diphtheria, which had been 9, 7, and 4 in the three preceding weeks, rose to 9 last week, of which 4 occurred in Glasgow, 2 in Edinburgh, and 2 in Kilmarnock. The deaths referred to scarlet fever, which had been 4, 6, and 7 in the three preceding weeks, fell to 4 last week, of which 2 were registered in Glasgow. The 2 fatal cases of enteric fever were recorded in Glasgow.

The deaths referred to diseases of the respiratory system, which had been 166, 137, and 120 in the three preceding weeks, rose to 130 in the week under review; and 31 deaths resulted from various forms of violence, against 28 and 29 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 673 births and 584 deaths were registered during the week ended Saturday, April 25th. The annual rate of mortality in these towns, which had been 21·7, 20·3, and 22·5 per 1000 in the three preceding weeks, rose to 25·3 per 1000 in the week under notice, against corresponding rates of 15·1 and 16·9 in the English and Scotch towns respectively. The death-rate was equal to 27·9 in Dublin (against 16·9 in Glasgow and 14·4 in London), 23·4 in Belfast, 33·3 in Cork, 16·5 in Londonderry, 28·4 in Limerick, and 24·7 in Waterford, while in the 21 smaller towns the mean rate was 22·2 per 1000.

The 584 deaths from all causes were 65 in excess of the number in the previous week, and included 69 which were referred to the principal epidemic diseases, against numbers increasing from 48 to 75 in the three preceding weeks. Of these 69 deaths, 37 resulted from measles, 12 from whooping-cough, 7 from scarlet fever, 7 from infantile diarrhœal diseases, 3 from diphtheria, and 3 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 3·0, against corresponding rates of 1·3 and 1·6 per 1000 in the English and Scotch towns respectively. The deaths attributed to measles, which had been 26, 37, and 42 in the three preceding weeks, fell to 37 last week, of which 35 occurred in Dublin. The deaths referred to whooping-cough, which had been 10, 9, and 14 in the three preceding weeks, fell to 12, and included 8 in Belfast and 2 in Dublin. The 7 fatal cases of scarlet fever, of which 6 were registered in Belfast, were 2 in excess of the average in the four preceding weeks. The deaths of infants (under 2 years), attributed to diarrhœa and enteritis, which had been 6, 8, and 10 in the three preceding weeks, declined to 7, and included 3 in Dublin and 2 in Belfast. The 3 deaths referred to diphtheria, which were all recorded in Dublin, were equal to the average number in the four preceding weeks. The 3 fatal cases of enteric fever occurred in Cork. Lisburn, and Ballymena.

The deaths referred to diseases of the respiratory system, which had been 118, 102, and 115 in the three preceding weeks, fell to 112 in the week under notice. Of the 584 deaths from all causes, 192, or 33 per cent., occurred in public institutions and 10 resulted from various forms of violence. The causes of 23, or 3·9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes last week did not exceed 0·7 per cent.

VITAL STATISTICS OF LONDON DURING MARCH, 1914.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the ten diseases specified in the table was equal to an annual rate of 7·4 per 1000 of the population, estimated at 4,516,612 persons in the middle of the year; in the three preceding months the rates were 9·0, 8·3, and 8·5 per 1000 respectively. The lowest rates in the month were recorded in Chelsea, the City of Westminster, St. Marylebone, Holborn, Finsbury, Shoreditch, and Stepney; and the highest rates in Hammersmith, Fulham, Hampstead, Southwark, Greenwich, and Woolwich. Scarlet fever was less prevalent than it had been in the preceding month; the greatest proportional prevalence of this disease was recorded in Hammersmith, Fulham, Southwark, Lambeth, Deptford, and Woolwich. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals, which had been 3810, 3543, and 3328 at the end of the three preceding months, had further declined to 3138 at the end of the month; the weekly admissions averaged 337, against 445, 400, and 379 in the three preceding months. The prevalence of diphtheria also showed a slight decrease as compared with that in the preceding month; this disease was proportionally most prevalent in Hampstead, Southwark, Battersea, Greenwich, Lewisham, and Woolwich. The Metropolitan Asylums Hospitals contained 1306 diphtheria patients at the end of the month, against 1099, 1092, and 1225 at the end of the three preceding months; the weekly admissions averaged 158, against 146, 153, and 166 in the three preceding months. The prevalence of enteric fever showed a very considerable decline as compared with that in other recent months; among the several metropolitan boroughs this disease was proportionally most prevalent in Fulham, Chelsea, the City of Westminster, Islington, Bethnal Green, Southwark, and Greenwich. There were 66 enteric fever patients under treatment in the Metropolitan Asylums Hospitals at the end of the month, against 51, 65, and 82 at the end of the three preceding months; the weekly admissions averaged 6, against 9, 14, and 15 in the three preceding months. Erysipelas was proportionally most prevalent in Hackney, Finsbury, Shoreditch, Bethnal Green, and Southwark. The 43 cases of puerperal fever notified during the month included 5 in Shoreditch, 5 in Wandsworth, 4 in Fulham, 4 in Islington, 4 in Lambeth, and 3 in St. Marylebone. Of the 10 cases of cerebro-spinal meningitis, 2 belonged to Poplar, and the 3 cases of poliomyelitis belonged respectively to Paddington, Islington, and Stepney.

The mortality statistics relate to the deaths of persons actually belonging to the several boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided; the death-rates for all causes are further corrected for variations in the sex- and age-constitution of the populations of the several boroughs. During the five weeks ending April 4th the deaths of 6591 London residents were registered, equal to an annual rate of 15·2 per 1000; in the three preceding months the rates had been 14·9, 18·4, and 14·8 per 1000 respectively. The death-rates for the month ranged from 10·1 in Lewisham, 10·7 in Wandsworth, 10·9 in Hampstead, 11·7 in Kensington, and 13·1 in Stoke Newington, to 18·0 in Finsbury, 18·1 in Bethnal Green, 18·4 in Poplar, 19·2 in Shoreditch and in Southwark, and 20·3 in the City of London. The 6591 deaths from all causes included 415 which were referred to the principal infectious diseases; of these, 79 resulted from measles, 33 from scarlet fever, 61 from diphtheria, 138 from whooping-cough, 12 from enteric fever, and 92 from diarrhœa and enteritis among children under two years of age. The lowest death-rates in the month from these infectious diseases were recorded in Paddington, Kensington, Stoke Newington, Battersea, and Lewisham; and the highest rates in St. Pancras, Bethnal Green, Poplar, Camberwell, Deptford, and Greenwich. The 79 fatal cases of measles were 310 fewer than the corrected average number in the corresponding period of the five preceding years; this disease was proportionally most fatal in Finsbury, Stepney, Bermondsey, Camberwell, Deptford, and Greenwich. The 33 deaths from scarlet fever were 12 in excess of the corrected average number; the greatest proportional mortality from this disease occurred in Kensington, St. Pancras, Islington, Poplar, Southwark, Lambeth, and Camberwell. The 61 fatal cases of diphtheria were 4 above the corrected average number; the highest death-rates from this disease were recorded in Hammersmith, Chelsea, Finsbury, Bethnal Green, Poplar, Bermondsey, and Woolwich. The 138 deaths from whooping-cough were 34 fewer than the corrected average number; this disease was proportionally most fatal in St. Marylebone, Hampstead, St. Pancras, Hackney, Shoreditch, Bethnal Green, Poplar, and Southwark. The 12 deaths from enteric fever were slightly in excess of the corrected average number, and included 2 in Islington, 2 in Poplar, and 2 in Greenwich. The mortality from diarrhœa and enteritis among children under two years of age was proportionally greatest in Hammersmith, St. Marylebone, Hackney, Bethnal Green, Poplar, Lambeth, and Camberwell. In conclusion, it may be stated that the aggregate mortality in London during the month under notice from the principal infectious diseases, excluding diarrhœa, was 41·3 per cent. below the average.

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING MARCH, 1914.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1914.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.									Deaths from all causes.	Death-rate per 1000 living.†
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Poliomyelitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Enteric fever.	Diarrhœa and enteritis (under 2 years).	Total.	Annual rate per 1000 persons living.		
LONDON...	4,516,612	—	1776	875	—	53	1	43	433	10	3	3194	7·4	—	79	33	61	138	12	92	415	1·0	6591	15·2
West Districts.																								
Paddington	142,055	—	51	31	—	—	1	1	15	—	1	100	7·3	—	—	—	2	3	—	—	5	0·4	196	14·3
Kensington	170,817	—	66	15	—	—	—	—	18	1	—	100	6·1	—	—	4	2	—	—	—	6	0·4	194	11·7
Hammersmith	124,750	—	84	12	—	2	—	—	14	—	—	112	9·4	—	—	1	3	2	—	4	10	0·8	168	13·8
Fulham	158,849	—	99	24	—	3	—	4	14	—	—	144	9·5	—	1	—	—	3	1	3	8	0·5	209	14·2
Chelsea	63,791	—	18	11	—	2	—	1	3	—	—	35	5·7	—	—	—	3	—	—	1	4	0·7	89	13·8
City of Westminster	152,346	—	39	12	—	6	—	2	11	—	—	70	4·8	—	—	1	1	4	1	3	10	0·7	200	14·4
North Districts.																								
St. Marylebone	112,892	—	26	5	—	2	—	3	6	—	—	42	3·9	—	—	—	—	6	—	5	11	1·0	189	17·8
Hampstead	86,731	—	27	54	—	—	—	1	6	—	—	88	10·6	—	—	—	1	6	—	2	9	1·1	86	10·9
St. Pancras	212,497	—	86	35	—	3	—	2	22	1	—	149	7·3	—	3	5	1	17	—	2	28	1·4	364	17·8
Islington	324,764	—	125	68	—	6	—	4	22	1	1	227	7·3	—	4	5	1	13	2	6	31	1·0	546	17·1
Stoke Newington	50,454	—	21	10	—	—	—	—	5	—	—	36	7·4	—	—	—	1	—	—	1	2	0·4	67	13·1
Hackney	223,724	—	52	51	—	2	—	1	37	—	—	143	6·7	—	1	1	4	14	—	7	27	1·3	316	14·8
Central Districts.																								
Holborn	45,861	—	19	1	—	—	—	—	3	—	—	23	5·2	—	2	—	—	1	—	1	4	0·9	77	17·6
Finsbury	83,212	—	21	11	—	—	—	1	12	—	—	45	5·6	—	6	—	2	2	—	—	10	1·3	145	18·0
City of London	17,129	—	7	3	—	—	—	—	1	—	—	11	6·7	—	—	—	—	1	—	—	1	0·6	32	20·3
East Districts.																								
Shoreditch	108,869	—	12	20	—	1	—	5	21	1	—	60	5·7	—	1	—	2	5	—	3	11	1·1	194	19·2
Bethnal Green	127,662	—	26	27	—	3	—	—	28	—	—	84	6·9	—	4	1	4	7	1	7	24	2·0	213	18·1
Stepney	273,265	—	67	39	—	4	—	2	24	—	1	137	5·2	—	11	1	1	9	—	5	27	1·0	407	16·2
Poplar	160,222	—	62	34	—	2	—	—	20	2	—	120	7·8	—	3	2	4	7	2	6	24	1·6	285	18·4
South Districts.																								
Southwark	186,941	—	126	43	—	4	—	2	28	1	—	204	11·4	—	3	2	4	8	—	5	22	1·2	342	19·2
Bermondsey	124,213	—	56	23	—	—	—	1	4	—	—	84	7·1	—	6	1	3	2	—	3	15	1·3	206	17·3
Lambeth	296,724	—	146	49	—	3	—	4	13	—	—	215.	7·6	—	1	4	3	6	1	10	25	0·9	467	16·1
Battersea	167,338	—	55	41	—	—	—	2	13	1	—	112	7·0	—	1	—	—	4	—	2	7	0·4	221	13·9
Wandsworth	338,993	—	136	58	—	3	—	5	19	—	—	221	6·8	—	2	1	6	4	—	3	16	0·5	348	10·7
Camberwell	262,020	—	106	56	—	—	—	1	29	1	—	193	7·7	—	10	3	5	8	—	8	34	1·4	400	15·7
Deptford	109,182	—	54	19	—	—	—	—	16	—	—	89	8·5	—	10	—	2	1	—	2	15	1·4	149	14·0
Greenwich	96,037	—	41	33	—	2	—	—	10	—	—	86	9·3	—	8	—	2	1	2	—	13	1·4	132	14·1
Lewisham...	172,433	—	67	43	—	3	—	1	10	—	—	124	7·5	—	—	1	1	2	1	1	6	0·4	171	10·1
Woolwich...	122,836	—	81	47	—	2	—	—	9	—	—	139	11·8	—	2	—	3	2	1	2	10	0·8	178	15·5
Port of London	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup. † The death-rates are corrected for variations in sex- and age-constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Surgeon-General: W. H. Norman to the *Vivid*, additional, for Plymouth Hospital. Fleet-Surgeons: J. McElwee to the *Egmont*, additional, for Malta Dockyard; and E. Cooper to the *Carnarron*. Staff-Surgeons: A. I. Sheldon to the *Philomel*, on recommissioning, for service under New Zealand Government; R. R. Horley to the *Psyche*, additional, and on recommissioning; and J. Bourdas to the *Hearty*. Surgeons: B. Taylor to the *Triumph*, additional, for Hong-Kong Hospital; and C. M. R. Thatcher to the *Dreadnought*.

ARMY MEDICAL SERVICE.

Colonel M. W. O'Keeffe, on completion of four years' service in his rank, is placed on the half-pay list (dated April 23rd, 1914).

Lieutenant-Colonel Charles C. Reilly, from the Royal Army Medical Corps, to be Colonel, vice M. W. O'Keeffe (dated April 23rd, 1914).

ROYAL ARMY MEDICAL CORPS.

Surgeon-General Sir A. T. Sloggett, C.B., C.M.G., has arrived home from India on transfer to the Home Establishment.

Colonel R. W. Ford, D.S.O., has been appointed Deputy Director of Medical Services to the Aldershot Command.

Brevet-Colonel F. Smith, D.S.O., has been selected for appointment as Medical Inspector of Recruits on the Headquarters Staff of the Irish Command. Brevet-Colonel S. Hickson has been transferred to the London District.

Lieutenant-Colonel R. J. Windle has been selected for the higher grade of his rank for promotion. Lieutenant-Colonel J. C. Connor has arrived home from India for duty in the Irish Command. Lieutenant-Colonel M. P. C. Holt, D.S.O., has been appointed to hold charge of the Cambridge Military Hospital at Aldershot. Lieutenant-Colonel W. Turner has been appointed Deputy Assistant Director of Medical Services to the Welsh Division. Lieutenant-Colonel G. H. Barefoot has taken over charge of Queen Alexandra's Military Hospital. Lieutenant-Colonel J. H. Daly has been appointed Senior Medical Officer of the North Irish Coast Defences. Lieutenant-Colonel H. D. Rowan has been appointed to hold charge of King George V. Military Hospital at Dublin.

Major H. P. W. Barrow has arrived home for duty from Jamaica. Major H. M. Nicholls has been appointed to the Scottish Command. Major M. H. G. Fell has joined at Aldershot. Major P. S. Lelean has taken up duty at the Royal Army Medical College as Assistant Professor of Military Hygiene and Sanitation. Major E. T. Inkson, V.C., has arrived home for duty from India. Major W. L. Baker has been appointed to the London District. Major R. B. Black has arrived home on leave of absence. Major M. O. Wilson has joined the Eastern Command. Major W. J. Taylor has arrived home for duty from the Sierra Leone Protectorate. Major M. Leckie has been appointed to the Southern Command. Major G. J. A. Ormsby has been appointed to the Dublin District. Major F. E. Gunter has been transferred from the Military Hospital at Tidworth to the Royal Military College at Sandhurst. Major G. Baillie has been placed under orders to officiate in charge of the Military Hospital at Ipswich. Major J. F. Martin has been transferred from the Royal Military College at Sandhurst to the Aldershot Command. Major A. C. Adderley has been appointed Company Officer to No. 22 Company of the Royal Army Medical Corps at Wynberg, Cape Colony.

Captain W. C. Nimmo has been appointed Specialist in Midwifery and Diseases of Women and Children, and placed in charge of Military Families Hospital at Aldershot. Captain S. Field has arrived home for duty from Jamaica. Captain A. G. Wells has been appointed to the Scottish Command. Captain G. H. J. Brown has been appointed in charge of the Military Hospital at Aberdeen. Captain C. Bramhall has taken up duty as Adjutant of the Royal Army Medical Corps School of Instruction at Manchester. Captain D. Ahern has joined at Dublin. Captain O. R. McEwen has arrived home for duty from India. Captain R. M. Davies has been appointed to hold medical charge of the Detention Barracks at Headquarters, Pretoria. Captain W. A. Spong has arrived home on leave of absence. Captain R. J. C. Thompson has been appointed to the Southern Command. Captain H. C. Hildreth has been appointed to hold charge of the Military Families Hospital at Fermoy. Captain T. S. Eves has been appointed Staff-Surgeon at Lucknow. Captain J. T. McEntire has been appointed to the Irish Command. Captain P. G. M. Elvery has joined at Cairo for a tour of duty on the staff of the Military Hospital. Captain H. S. Dickson has been selected for appointment as Embarkation Medical Officer at Gibraltar. Captain R. Gale has joined the Public Health Department in Egypt. Captain C. W. Holden has joined the London District. Captain W. E. C. Lunn has arrived home from Lahore Cantonment. Captain W. E. Marshall has been transferred from the Military Hospital at Cork to Kinsale. Captain M. G. Dill has been appointed to hold charge of the Military Hospital at Ayr. Captain J. C. L. Hingston has been appointed Specialist in Dermatology and Venereal Diseases to the Burma Division. Captain M. J. Williamson has been transferred from the Military Hospital at Potchefstroom to Wynberg. Captain J. H. Douglass has been appointed Specialist Sanitary Officer in Sierra Leone Protectorate. Captain C. M. Nichol has been transferred from the Military Hospital at Cairo to Alexandria. Captain F. Worthington has been appointed to Gravesend. Captain J. H. Duguid has been appointed Specialist in Otology to the Military Hospital at Secunderabad Cantonment. Captain A. Shepherd has been transferred from the Military Hospital at Rangoon to Shwebo Cantonment. Captain N. Low has taken up duty at Colchester on transfer from the Military Hospital at Golden Hill. Captain J. R. Lloyd has been appointed to hold charge of the Section Hospital at the Crater, Aden. Captain R. P. Lewis has been appointed Specialist in Physical Training to the Aldershot Command. Captain G. W. G. Hughes has been appointed Specialist in Ophthalmology to the Military Hospital at Plymouth. Captain A. T. Frost has been transferred from the Military Hospital at Calcutta to Lucknow Cantonment.

Lieutenant E. G. S. Cane has been appointed Specialist in the Prevention of Disease to the Bombay Brigade and placed in charge of the Bacteriological Research Laboratory at the Military Hospital, Colaba. Lieutenant C. J. H. Little has been appointed to the Military Hospital at Rawal Pindi Cantonment. Lieutenant H. J. S. Shields has been transferred from the London District to the Military Hospital at Caterham. Lieutenant R. C. Carlyle has embarked for Malta. Lieutenant G. F. Allison has been appointed Company Officer to No. 8 Company, Royal Army Medical Corps, at York. Lieutenant D. Reynolds has been appointed to hold charge of the Military Hospital at Attock Cantonment. Lieutenant E. P. A. Smith has joined at Lucknow Cantonment.

INDIAN MEDICAL SERVICE.

Colonel P. Hehir has been transferred from the Sixth (Poona) Division and appointed to officiate as Deputy Director of Medical Services at Army Headquarters, Simla.

Lieutenant-Colonel F. J. Dewes has been appointed Civil Surgeon at Myingyan. Lieutenant-Colonel C. MacTaggart, C.I.E., has been selected for appointment as Officiating Inspector-General of Civil Hospitals in the United Provinces of Agra and Oudh, *pro tem.* Lieutenant-Colonel S. E. Prall has arrived home on leave of absence from India. Lieutenant-Colonel E. Hudson has been appointed Superintendent of the Central Prison at Allahabad. Lieutenant-Colonel R. H. Castor has been appointed to the Civil Medical Department in Burma. Lieutenant-Colonel R. C. Macwatt has been appointed Civil Surgeon at Ajmer. Lieutenant-Colonel A. R. S. Anderson has joined at Dacca.

Major J. G. P. Murray, officiating civil surgeon at Cuttack, has been granted three months' leave of absence. Major G. Y. C. Hunter has been appointed to the Jail Department in Bihar. Major A. H. Moorhead has been appointed to hold substantive medical charge of the 16th Cavalry. Major W. F. Harvey has arrived home on leave of absence from India. Major T. H. Delany has been appointed Civil Surgeon at Saran.

Captain H. Watts, officiating civil surgeon at Betal, has been granted three months' leave of absence. Captain D. G. Rai has been appointed District Medical and Sanitary Officer at Arcot and Nellore. Captain F. A. F. Barnado has been appointed to officiate in the Civil Medical Department, Bengal Presidency. Captain A. K. Lauddie has joined the Jail Department in Ludhiana. Captain B. F. Steel has been granted two years' leave of absence home from India. Captain H. R. B. Gibson has arrived home on leave of absence from India. Captain R. M. Barron has been appointed to hold substantive medical charge of the 32nd Lancers. Captain J. McPherson has been appointed an Agency Surgeon under the Foreign Department of the Government of India. Captain F. C. Rogers has been appointed Sanitary Officer at Kurnool. Captain W. R. J. Scroggie has taken up duty in the Civil Medical Department of Madras Presidency. Captain J. H. Burgess has been appointed Surgeon to the Governor of Bengal. Captain J. W. Illius has taken up duty as District Medical and Sanitary Officer at Arcot. Captain H. H. G. Knapp has been appointed Superintendent of the Central Jail at Rangoon. Captain W. H. Odlum has been appointed to hold substantive medical charge of the 30th Lancers.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Captain Samuel M. Sloan resigns his commission (dated April 25th, 1914).

TERRITORIAL FORCE.

Royal Army Medical Corps.

3rd East Lancashire Field Ambulance, Royal Army Medical Corps: Arthur Morrell Johnson to be Lieutenant (dated March 16th, 1914).

3rd Lowland Field Ambulance, Royal Army Medical Corps: Robert Balfour Barnetson to be Lieutenant (dated April 29th, 1914).

For attachment to Units other than Medical Units.—Samuel Macfarlane Sloan (late Captain, Special Reserve, Royal Army Medical Corps), to be Captain (dated April 25th, 1914); and Harold Seddon to be Lieutenant (dated Feb. 1st, 1914).

Attached to Units other than Medical Units.—Lieutenant John Graham to be Captain (dated Nov. 7th, 1913). Captain William W. Jones to be Major (dated Dec. 1st, 1913). Lieutenant Charles H. Caldicott to be Captain (dated Jan. 22nd, 1914). Captain Walter R. N. Smithard to be Major (dated March 17th, 1914). Captain William S. Paterson resigns his commission (dated April 29th, 1914).

TERRITORIAL FORCE RESERVE.

Royal Army Medical Corps.

Major William Watkins Jones, from the list of Officers attached to Units other than Medical Units, to be Major (dated Dec. 1st, 1913).

ARCHIVES DE MÉDECINE ET DE PHARMACIE NAVALES.

In the February number Dr. Chastang, principal medical officer of the French squadron in China, discusses the question of venereal prophylaxis, and tells us that the incidence of these diseases in that squadron (137 cases per 1000 men per annum) is double that (63) observed in the fleet at home. This greater prevalence he ascribes to two causes—the vast number of prostitutes everywhere in Asia, and the relative dulness of the lives of the seamen. He gives information regarding the prevalence of venereal disease in Japan when he quotes figures showing that in 1911 48,105 public women were examined on 2,839,810 occasions, when 34,538 cases of gonorrhœa and its sequelæ were observed, 17,561 of soft chancre, and 3837 syphilitic manifestations (each woman examined some 59 times, and the relative prevalence of disease—gonorrhœa 62, soft sores 31, and syphilis 7 per cent.). Considering that to some extent the men are driven to associate with prostitutes for want of other amusements, Dr. Chastang recommends games to them—football, gymnastics, tennis—and tells us that one group of men in China ceased to develop cases of venereal disease when their officers incited them to play games. As to therapeutic prophylaxis, it was ordered in the French navy in 1909, but medical officers have not been busy to see it was carried out. Encouraged by their principal medical officer several French naval doctors in China have taken more hold of this question, besides they say they have found it well handled in the British and German ships lying alongside them. So now proper arrangements are made, the men who contract venereal disease, but have not reported their risk and taken the treatment, are punished, and we are given stories to read of the immediate decrease of cases, very similar to those that were so frequently being told from the United States Service a few years ago. Dr. Chastang is of opinion that venereal prophylaxis will always be successful if the ship's medical officer is convinced it is a good thing and determines it shall be used. Its success then in any ship might well be considered as a claim by her medical officer for his promotion. At the end of the number are reports of a great many cases of tropical fevers of uncertain origin, spoken of as three, four, seven, and ten day fevers, and one is struck by the great need there is for adding a blood count, at least a differential leucocyte count, to every clinical report on a tropical or any other fever. We have heard that in South-Eastern Europe women are definitely assigned by the War Office to some of the supply services on mobilisation, but what is the French Admiralty doing (p. 157) issuing orders about "Rest for women before childbed." Perhaps of course it is to apply only in the dockyards, not in the service afloat.

NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund, held on April 21st, the Medical Director-General of the Navy in the chair, the sum of £40 was distributed among the several applicants.

ROYAL INSTITUTION.—On Tuesday next, May 5th, at 3 o'clock, Professor W. Bateson will deliver the first of two lectures at the R[illegible] (1) Double [illegible]oyal Institution on [illegible]ry. Flowers and (2) the Present State of Evolutionary Theory. The Friday evening discourse on May 8th will be delivered by Professor Karl Pearson on Albinism in Men and Dogs, and on May 15th by Professor Frederick Keeble on Plant Animals: a Study in Symbiosis.

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

LIVERPOOL.

Tropical Medicine.

WITH a view to carrying on research work in its various branches the School of Tropical Medicine intends to establish a permanent laboratory on the West Coast of Africa. The colony of Sierra Leone has been selected for this purpose. It possesses special advantages for such work, as there is ample material for the study of tropical diseases, and being one of the nearest tropical colonies to England, is accessible more rapidly and cheaply than any other suitable place in the tropics. It is hoped that the laboratory will act as a base from which expeditions may be despatched from time to time to other regions of tropical Africa.

St. Helens Hospital.

The annual meeting of the St. Helens Hospital was held on April 23rd. The Mayor (Sir David Gamble), who presided, referred appreciatively to the work of their first and late President, Colonel W. W. Pilkington. It was unanimously agreed to ask Mr. Richard Austin Pilkington to succeed his father as President. The forty-first yearly report stated that the income for the year amounted to £5919, and the expenditure to £5145. The 1*d.* a week subscription showed a gratifying increase; £4515 had been raised in this manner, being £376 in excess of last year. The number of patients admitted during the year was 1228, compared with 1179 patients in hospital in 1912.

Doctor's Widow's Action.

Mrs. Amy Louisa O'Donoghue, the widow of Mr. William Charles O'Donoghue, brought an action against the Cheshire Lines Committee to recover damages for herself and her infant children in respect of the loss of her husband. The case was tried at the Liverpool Assizes on April 23rd before Mr. Justice Ridley. In December last Mr. O'Donoghue was returning to Liverpool from Manchester by train. He was seized with sickness and put his head out of the window for a few minutes. While he was in this position a local train passed on an adjoining line and an open swinging door in one of the carriages struck him on the head and killed him instantly. Mr. Rigby Swift, K.C., M.P., for the plaintiff, said everyone knew there were certain *risks* about putting one's head out of a carriage window, but a railway door carelessly left open was not a risk which must be reasonably contemplated. There were no circumstances which could more strongly justify a passenger *acting* in that way than the circumstances related in this case. Mr. Gordon Stewart, K.C., M.P., for the defence, argued that the deceased had been negligent in thrusting his head so far out of the window. Mr. O'Donoghue was subject to train sickness and ought *to* have been prepared for its oncoming and should have gone to the window on the near side where no trains would pass. His lordship said he could not get himself to see in what duty the railway company had failed in regard to a passenger in other train when *nothing* could have happened him if he had kept his head indoors as he intended to do. Mr. Swift argued that the doctor's action was not a negligent one, because he happened to be sick, but that was not the way to measure the reasonableness of the act. "I have been in steamboats, and I daresay members of the jury have too," went on his lordship, "when five or six people in the same cabin have all been sick one after the other. Did any of them take the trouble to go to the side? No, they were all sick in the presence of each other. It cannot seriously be put forward that because there were others present a man is justified in taking on himself the risk of thrusting his head through the window. If the train were stationary and no other train was approaching, of course a gentleman would take means to avoid giving trouble to his fellow passengers." The jury found that the defendants had been guilty of negligence in allowing the door to be open, and that the deceased was not negligent in putting his head out of the window and keeping it there in the circumstances. They awarded £2750 damages in all, £1250 for the widow and £500 for each of the three children. Mr. Justice Ridley: "I entirely disagree with the verdict, but I will grant a stay without any terms."

April 28th.

BRISTOL AND WESTERN COUNTIES.

Lord Mayor's Hospital Sunday Fund.

THE total sum collected up to now amounts to £2041 4s. 1d., a figure only exceeded on two previous occasions, both of them in the last decade. There are still a few collections to come in, so that it is possible that this year's total may reach second place. In view of the very natural apprehensions that were expressed as to the effect of the National Insurance Act on this and similar funds, so successful a result is particularly gratifying.

Tuberculosis Dispensaries in Bristol.

The Bristol tuberculosis scheme will shortly take a fresh step towards completion. A second dispensary is to be opened in the east central district to supplement the work that is already being carried on at the municipal dispensary in the south-west of the city. This will necessitate the appointment of a second whole-time tuberculosis officer.

Medical Inspection of School Children in Gloucestershire.

At a recent meeting of the Gloucestershire county council the remarkable statement was made that only about 40 per cent. of the children examined were normal. This raises the question, "What is normal?" It was not this, however, that agitated the council, but a straight hint from the Board of Education to the effect that the small percentage of reported children securing successful treatment rendered some better system necessary if certain maximum grants were to be secured. Something is proposed in the way of dental treatment, and an extension of the plan by which the recommendations of the school medical officer are carried out by visiting nurses is also mooted.

University of Bristol Colston Research Society.

The subscriptions to this society during the past year amounted to £505, and a sum of £300 was handed to the University for expenditure on research. The committee controlling the allocation of these funds to various researches has been enlarged by the addition of six members of Senate, and the president of the society is to be president *ex-officio* of the committee during his year of office.

Winsley Sanatorium.

At the annual meeting of supporters a curious state of affairs was disclosed in regard to this institution. As is known, it was opened some years ago as a private venture, with a certain number of its beds reserved for public bodies who contributed proportionate sums to its upkeep. Gradually the demand for this type of bed has increased, and it was recently proposed that more beds still should be allotted to public authorities. This proposal was carried, in spite of the strong disapproval expressed by a section of the managing board; but the execution of the plan was delayed by a request from the Charity Commissioners for the title deeds of the sanatorium, backed by a refusal on the part of the Local Government Board to sanction loans to public bodies to pay for the sanatorium beds which those authorities were under contract to purchase, unless the request of the Commissioners were acceded to. On inquiry the sanatorium management found that this difficulty did not arise from any dissatisfaction on the part of the Commissioners or the Board with the general management of the institution; however, the obstacle has not yet been removed. Apart from this the financial position is excellent; some very necessary extensions are being carried out, and a large legacy will allow of the erection of suitable premises for the resident medical officer. Since its opening there have been 1124 patients admitted to the sanatorium, 983 of whom came from Bristol. Of those discharged during the past year 53 per cent. were certified fit for some work.

Teignmouth and the Mussel Trade.

Dr. F. C. H. Piggott, medical officer of health for Teignmouth (Devon), in his annual report for 1913, states that the death-rate was 12·98 per 1000 and the birth-rate was 13·30. 50 per cent. of the children born during the year were vaccinated. Dr. Piggott, in alluding to the removal of the "embargo" on mussels gathered from the river Teign, mentions that the Fishmongers' Society had recommended that mussels should have a certificate stating that they had been "relaid" at Saltby for seven days, and if this certificate was not forthcoming the fish should be seized and condemned. He adds that there seemed to be a few reckless individuals who had distributed uncleaned mussels locally from the upper part of the river Teign, and these people by their selfish action had imperilled the whole trade.

The late Mr. Arthur John Awdry.

Mr. Arthur John Awdry, honorary medical officer to the Berkeley Hospital, who died at his residence, Berkeley, Gloucestershire, on April 23rd, from influenza followed by pneumonia, received his medical education at Birmingham University, and qualified L.R.C.P. and M.R.C.S. in 1901. He shortly afterwards joined his brother, Dr. W. R. Awdry, in partnership at Berkeley. He was extremely popular, and sympathy with his family is felt throughout the neighbourhood.

April 28th.

SCOTLAND.

The National Insurance Act and Aberdeen Doctors and Chemists.

ON April 22nd a largely attended meeting of Aberdeen doctors who are on the panel was held for the purpose of considering the deduction of 10 per cent. made from the payments to doctors under the National Insurance Act by the Aberdeen Burgh Insurance Committee. The finding of the meeting was ultimately embodied in the following resolution:—

That the Panel Committee be instructed to take legal advice in reference to the matter of deduction and to report.

It was also agreed to protest against the method of crediting to the Insurance Committees their share of the Medical Benefit Fund of Scotland. With regard to the county of Aberdeen, a final settlement has not been made with the doctors in respect of their payments, but it is understood there is still some money in hand, and no difficulty such as that existing in the city is anticipated. In the county the "floating sixpence" is available. In Aberdeen this has been absorbed to meet the drug bill, and a further total deduction in pharmaceutical charges of £620, or nearly as much as the 10 per cent. docking of the doctors' fees, has been made on the accounts rendered by the chemists, the chemists thus being 10 per cent. short of their legitimate payments. The amount available is £5000, the chemists' accounts have come to £5615, and there has been paid to chemists the sum of £4995.

Chancellorship of the University of Aberdeen.

At a statutory meeting of the general council of the University of Aberdeen held on April 18th, the Earl of Elgin and Kincardine was elected Chancellor of the University of Aberdeen. There were no other nominations. Lord Elgin has been pleased to accept office.

Diphtheria in Inverness.

Within the last fortnight a smart outbreak of diphtheria has occurred in Inverness, 26 cases having been notified. A large majority of these cases were found to have had their milk from one dairy, and the outbreak has been definitely traced to two women employed there. The bacillus was found in the noses of those women, who are now segregated and under medical care, though they have not developed the disease themselves.

Proposal for Sick Children's Hospital in Dundee.

The committee formed to make full inquiry into the whole question regarding a new sick children's hospital for Dundee have after consideration come to the conclusion that for the present the scheme is impracticable. Sufficient funds, in their opinion, would not be forthcoming, and the committee recommend that the directors of the infirmary be approached to see what accommodation can be provided at the infirmary.

Medical Service in Skye.

A deputation of the Highlands and Islands Medical Service Board visited Portree on April 23rd and had an interview with representatives from the seven parishes in Skye. Evidence was given on the financial positions of the Martin Hospital, Uig, and the Mackinnon Hospital, Broadford, it being stated that the latter is altogether dependent on outside aid. It was suggested that besides the fever hospital at Portree another is required to provide the necessary accommodation for the needs of the district and of the growing iron ore industry which is now established at Raasay. Nursing in the various districts was also discussed. Locomotion is very difficult, many of the roads being not passable for bicycles. Inquiry was also made into the housing accommodation available for doctors and nurses, and also into the need for providing a motor ambulance to be stationed at Portree, to be used for the conveyance of patients to the various hospitals.

April 28th.

IRELAND.

Irish Medical Association.

THE annual meeting of the Irish Medical Association has been arranged for Wednesday, June 3rd, and is to be held in Dublin. Dr. F. W. Kidd has accepted nomination for the presidency. He has had long experience in the working of the association, and he holds the full confidence of the profession.

Royal College of Physicians: Honorary Fellowship for Sir Arthur Chance.

On April 23rd Sir Arthur Chance, the well-known Dublin surgeon, was formally admitted to the honorary Fellowship of the Royal College of Physicians of Ireland. The ceremony took place in the College hall, Kildare-street, in the presence of a large assembly. The registrar of the College, Dr. Percy Fitzpatrick, introduced Sir Arthur Chance to the audience in a sympathetic speech, in which he made special allusion to the splendid work done by their new Fellow as a member of the General Medical Council. The President, Dr. C. E. Fitzgerald, then formally admitted Sir Arthur Chance to the Fellowship, afterwards investing him with the appropriate gown, and spoke in eloquent terms of the esteem and affection with which he is regarded by his colleagues.

The Friendly Societies and Certification.

At a meeting of the executive committee of the Orange and Protestant Friendly Society held on April 21st a resolution was passed recommending that for the purposes of certification whole-time doctors should be appointed to certify those incapable of work, always provided that a number of certificates be apportioned to each society, and that the society shall have the right of nominating candidates for such appointments.

Meath Hospital.

The annual meeting of the Meath Hospital and co. Dublin Infirmary was held recently in the hospital. The report stated that the debit balance against the hospital had increased during the year from £8509 7*s*. 5*d*. to £9211 14*s*. 1400 patients had been treated in the wards during the year and 8106 accident cases attended. The dispensary cases numbered 9924. The average number of beds occupied was 117·43. An appeal was made for funds to build a new operating theatre.

Poliomyelitis in County Tyrone.

At a meeting of Cookstown rural council held on April 25th four deaths from poliomyelitis were reported, three being members of one family and the fourth a cousin, all in the Stewartstown dispensary district. Three other cases are doing well. The houses, the church, and the school, where the children were present, have been disinfected. It was decided to remove all cases to the hospital.

April 28th.

PARIS.

A Hunger Strike in the Paris Asylums.

THE Conseil Général de la Seine, on Dec. 24th, voted that the hospital staffs should be allowed to get their evening meal away from the hospitals, authorising for this purpose a per capita allowance of 85 centimes. The object of this arrangement was to permit of married outside employees having one meal daily with their families. As, however, four months elapsed without any attempt being made to bring this ruling into force, and as the direction of the Assistance Publique, notwithstanding repeated requests by the members of the syndicate of hospital nurses, refused to state at what date they would give effect to the ruling, the syndicate, weary of waiting, decided on a hunger strike in the asylums of Vaucluse, Villejuif, Maison-Blanche, and St. Anne, and 900 male and female nurses accordingly refused their evening meal. Out of courtesy to the catering staff they informed them that their action was intended as a strike, and not in any sense as a mark of dissatisfaction with the culinary service. The strike lasted four days, after which the Assistance Publique agreed to fix a date at which the new regulation should come into force.

A Backward Step in the Crusade against Alcohol.

Notwithstanding the efforts of the medical profession to obtain from Parliament the regulations necessary to repress alcoholism, a regrettable backward step has been taken by the Chamber of Deputies. On the eve of a new election the Chamber has voted for the suppression of the wine-seller's licence—that is to say, of the permit required by law for opening a drinking shop, which entails the payment of an annual toll. Besides the fact that by the loss of this toll the Budget will lose 38 millions of francs yearly, no restraint is any longer placed on the establishment of new drinking shops. Bills for limiting the number of these places, by controlling the establishing of new ones, have been brought many times before Parliament, but as often rejected, though each time with a decreasing majority, so that a hope was entertained that such a Bill would one day pass. The profound dismay at the action now taken may therefore be understood. Unfortunately, on the eve of an election the deputies feel the need of securing at all costs the support of the publicans, whose premises for the most part serve as meeting places where the chances of future elections are discussed. Consequently, at the end of its term, every four years, the Chamber of Deputies rarely fails to commit some folly of this kind, or to accept some outrageous expenditure in favour of interested localities whereby the members hope to gain the support of the electors. The Bill, however, will not become law until accepted by the Senate, whose members, being nominated by a limited constituency and for nine years, are less dependent on the discussions of pot-house politicians; and it is hoped that it will reject this Bill, whose authors will by then have received the benefit of it in the shape of re-election, which for most of them is all that matters. Nevertheless, the Anti-Alcohol League has forwarded to the Senate an energetic protest, in which its president, Professor Debove, points out the dangers that would ensue should the Bill become law.

April 27th.

SOUTH AFRICA.

Sanitation at the Mines: Report of Surgeon-General Gorgas.

THE Transvaal Chamber of Mines has just issued the report of Surgeon-General W. C. Gorgas, late chief sanitary officer of the Isthmian Canal Commission. This officer, it will be remembered, was invited by the Chamber to investigate the causes of the high death-rate from pneumonia among the native labourers, and to make such recommendations as might appear necessary for the reduction of the mortality and the improvement of the general sanitary conditions of the mines and compounds. In his investigation, which began in December last, he was assisted by Major R. E. Noble and Dr. S. T. Darling, both on the staff of the Isthmian Canal Commission.

The report is an interesting one, and considering the short time at Surgeon-General Gorgas's disposal he was evidently able to make a fairly thorough survey of the conditions on the Rand. In the course of the report he points out that the uniformity with which pneumonia attacks preponderatingly the recently arrived native is as pronounced on the Rand as it is on the Isthmus of Panama, and that this seems to be the only generalisation yet drawn with regard to the incidence of pneumonia of epidemiological value. This indicates that the question of immunity is the most important element in the causation of the death-rate. In the construction of the Panama Canal in its incipiency there was much the same trouble with pneumonia amongst the negroes as amongst the natives in the mines of the Tranvaal, and the death-rate for pneumonia among the black employees of the Canal Commission in 1906 was 18·74 per 1000, higher than the death-rate for this disease among native employees in the proclaimed labour district of the Transvaal for any year since. During the first few years on the Isthmus the negroes were housed in barracks containing 84 men, and of such dimensions as to give them about 30 feet each of floor space. In 1907 the Commission allowed the negro labourers to scatter out along the line of the canal and to build huts and bring out their families. There was a sudden and permanent drop in the death-rate from pneumonia, due, in Surgeon-General Gorgas's opinion, mainly to the scattering of the natives, and he argues this step should if possible be taken on the Rand. He points out that the most serious sanitary defect on the Rand is the matter of housing.

Conditions of Housing.

The native quarters are much too crowded. The native labourer has generally about 200 cubic feet of air space, or about 14 feet of floor space; the occupants are thus in close personal contact. and the spread of any infectious disease is largely increased. This applies particularly to pneumonia, tuberculosis, and cerebro-spinal meningitis. The great American sanitarian thinks that if the native labourers were to be placed in individual buildings with their families it would have the same result as on the Isthmus. It reduced the death-rate from pneumonia there in the course of a year from 18·4 per 1000 to 2 per 1000. It would probably reduce the Transvaal rate of 15 per 1000 (the highest monthly rate for 1913) to 2 per 1000. If this is not considered feasible at present the nearest approximation to it should be attempted. What does strike him as feasible is to extend the family locations, and instead of spending large sums in recruiting endeavour to attract a permanent force of married men who would live in the locations and be always available as a source of labour for the mines. Such locations should be self-supporting, and would correct the unsatisfactory health conditions of the compounds by giving more floor space *per capita* to those who continue to live therein. If it is not possible to put the natives into huts with their families, he recommends that they should be put into huts without their families, arranged so as to give each native 50 square feet of floor space. If huts are not practicable, they should be put into barracks, but the latter should be divided into small rooms and arranged to give each native 50 square feet of floor space.

Surgeon-General Gorgas notes that the compounds appear to be well kept, but that in the native living quarters the very opposite is the case.

> Food was always present in dirty vessels in considerable quantities, old clothing and wearing apparel of all kinds, soiled and dirty, littering up everything, and litter of all kinds was stowed away under the sleeping platforms.

He does not think that much in the way of correction can be done in the present overcrowded condition of the barracks.

Immunisation.—Death-rates.

He considers that the question of immunisation for pneumonia as recommended by Sir Almroth Wright should be more carefully looked into, and he suggests that it would be useful for the experimental inoculation against pneumonia to be continued, using the different strains of pneumococci. When inoculating natives he considers that at least one-half at present should be kept as controls. He points out also that the death-rate from enteric fever is far too high, and expresses the opinion that it would be abolished altogether if all native employees were vaccinated for enteric fever as a routine procedure.

The report deals at length with the statistics showing the prevalence of pneumonia and other diseases amongst natives. The death-rate among natives employed on the mines and on industrial works in the Transvaal in 1903 was 71·7 per 1000; in 1912 for some 300,000 employees in the same area it was 26·84. "This rate," says the report, "is still very much too high, as we are considering men in the prime of life." According to the Native Affairs Department, the total death-rate in this year from diseases was 22·6 per 1000, the four highest being pneumonia 9·8, phthisis 5·4, meningitis 1·3, and enteric fever 1·1. It is pointed out that—

> these four diseases are all more or less infectious and contractable. If they could be gotten rid of entirely, the rate for 1912 would be reduced to 5·0 for all other diseases. While the eradication of these diseases cannot at present be accomplished in this or any other community, probably by proper hygienic measures a very appreciable reduction could be accomplished.

Summary of Recommendations.

In a summary of the recommendations, the report states:—

> Of the sanitary recommendations, I consider that of increasing the floor space to about 50 feet the most important and pressing, and by far the best way of doing this to be the village hut system and the introduction of families. If this particular method cannot be carried out, to come as near it as possible. The second in importance I consider the improvement in the hospital system and the care of the native sick. This can be best carried out by a central hospital. If a central hospital is not possible, by such concentration of hospitals as is possible. The third in importance is the establishment of a central sanitary bureau or department under the Chamber of Mines, the head of this department to represent the mines on all sanitary questions. The revision of the present regulations regarding matters of sanitation, so that the sanitation of the mines might be accomplished by the authority of one official of the Government or municipality, instead of with five different interested parties as is now the case.

In regard to these recommendations, it will be remembered that Sir George Turner, when medical officer of health for the Transvaal, on more than one occasion came into conflict with the mining houses on the ground that insufficient air space was provided for native labourers, and there can be little doubt but that it is high time that steps are taken to remedy the evil. On more than one occasion this question has been referred to in THE LANCET. It is very doubtful whether the village system could be greatly extended, and even if it were possible it is doubtful whether a permanent force of skilled workmen would be always available as a source of labour for the mines. Surgeon-General Gorgas has overlooked the fact that the average kaffir will not work for more than about six months in the year, and that considering the nature of his work on the mines it is perhaps as well that he does not do so. It will be generally agreed, however, that the strictures passed on the existing native quarters are fully justified, and that these buildings call for alteration with a view to remedying their overcrowded condition. Also no one will find reason to doubt the wisdom of the recommendations made in respect of the mine hospitals. The need for improvement here has long been felt. The staffing of these hospitals is also unsatisfactory, and it would be well if they could be staffed with coloured female nurses instead of orderlies. This, however, could not be done at once for lack of trained coloured nurses. With the recommendation for the centralisation of sanitary control under one authority no one can quarrel. This has already been urged in these columns. It is doubtful, however, whether the Chamber of Mines should directly have anything to do with it. What is required is a board of health representing the municipalities, the Chamber of Mines, the Department of Native Affairs, the Department of Mines, the Department of the Interior, and the Provincial Government. This board should be given special rating powers, and should control through a medical officer of health the sanitation of the whole area. Something of this sort is what Surgeon-General Gorgas probably means, but he does not say so definitely.

Surgeon-General Gorgas and his staff are to be congratulated on the work they have accomplished, and it is to be hoped that his recommendations will be given trial as far as practicable.

March 31st.

DONATIONS AND BEQUESTS.—By will the late Mr. Ernest Dresden, of London and Newmarket, left £5000 to the Middlesex Hospital and £1000 each to the Rous Memorial Hospital, Newmarket; the County Hospital, Bury St. Edmunds; the Infant Orphan Asylum, Wanstead; the Cancer Hospital, Fulham-road, S.W.; and the Hospital for Children, Great Ormond-street.—The late Mr. Frederick Burton, of Pendleton, Manchester, and Gwaynynog, Denbigh, has left £2000 to the Salford Royal Hospital and £1000 each to the Manchester Royal Infirmary and St. Mary's Hospitals, Manchester, and £500 to the Denbigh Infirmary.—Under the will of the late Mr. Henry Skeate White the testator left £200 each to the Royal Ear Hospital, Soho; the Royal Dental Hospital, Leicester-square; the Royal Hospital for Incurables, Putney; and the British Home and Hospital for Incurables, Streatham.—The late Mr. David Sturrock has left £1000 to the Glasgow Western Infirmary for the purpose of endowing a bed to be called the David Sturrock bed.—King Edward's Hospital Fund for London has received £500 from the Clothworkers' Company.—The late Dr. William Watts Thetford left by will £100 to the Royal Medical Benevolent Fund Society of Ireland.—Mr. L. E. Raphael has presented the Jewish board of guardians, of which he is a member, with a gift of £2500 for the purpose of providing sick children with treatment in hospitals or at the seaside.—The late Mr. Francis Arthur Farrell, of Dublin, has left £200 each to the Hospital for Incurables at Donnybrook, St. Mary's Asylum for the Female Blind, Dublin, the Mater Misericordiæ Hospital, St. Vincent's Hospital, and St. Michael's Hospital, Kingstown.

Correspondence.

"Audi alteram partem."

LUNACY IN EGYPT.

To the Editor of THE LANCET.

SIR,—A most interesting problem in the treatment of the insane is at present being worked out under very trying conditions in Egypt. About 20 years since a start was made by Dr. F. M. Sandwith at the disused palace of Abassia near Cairo. The palace was badly adapted for the reception of lunatics, but by degrees it has been brought into shape, fresh buildings have been added, and quarters for the medical staff have been built, but every visit to the place impresses the visitor with the great difficulties, structural, economic, and administrative, which have had to be overcome. The governing authorities looked upon the whole matter as a nuisance, because there were constant calls for money for work which they considered unremunerative. There was at that time no real lunacy department, the asylums being under the Department of Public Health. Much was attempted and a great deal done by Dr. J. Warnock, who for 18 years has been struggling against enormous odds. It is wonderful what he has managed to do. The method of the working of the large and crowded asylum is splendid, and to this I shall refer later. His work now stands a good chance of recognition and, what is more to him, of receiving genuine support. On April 1st the then head of Public Health in Egypt handed over the asylum work to the Ministry of the Interior. Dr. Warnock continues to be the head of Abassia, and will also be Director in Lunacy for Egypt. It is anticipated that some definite sums of money will be specially provided for the regular development of the care and treatment of the insane.

The overcrowding and overwork have caused delay in producing the annual reports, so that the reports for the years 1911 and 1912 have only just been received. During that time the chief matter of importance has been the starting of what one may call the relief asylum at Khanka, on the other side of Cairo. This is only begun, but in due course will develop into a very large asylum. Another matter of general importance is that the criminal lunatics have been removed from Tura to Abassia. This involves extra work and extra risks to the officers and staff, and I cannot help thinking this can only be a temporary measure, for the English experience is that criminal lunatics should be separated from the non-criminal ones.

The great difficulty of obtaining trustworthy nurses, male and female, is felt. The lack of Egyptian women who are in any way trained or trainable makes it imperative that the backbone should be trained English nurses. This deficiency, after years of effort on the part of Dr. Warnock, has been partly met this year by three English asylum nurses being obtained. As is pointed out, too, the pay at present for the men is not sufficient to attract those who are suitable. When it is shown that the majority of the nurses can neither read nor write, nor in fact recognise the numbers of the doors of the bedrooms, it will be seen how grave is the task of working with such material.

Special attention is called first to the overcrowding of both the parent and the second, or relief, asylum. Many patients have to sleep on the ground, though this certainly is not felt to be a hardship by the natives. Next, as a result of the crowding, patients have to be discharged as soon as they cease to be actively dangerous. One consequence of this has been that a certain number of these unstable persons have committed crimes, and it has been said that the Abassia patients have contributed to the serious crimes in Cairo; but Dr. Warnock shows that this is not true, and that criminals have found it convenient to plead past or recent lunacy and thus have hoped to escape their full punishment. Doubtless some of the convalescent patients have committed crimes, and as so many of the patients admitted have been suffering from abuse of alcohol or hashish, it is not surprising that on their release they return to the habit and again become dangerous.

Another point of interest is the very large number of recent injuries from which the residents in the asylum suffer. The numbers would astonish the English Commissioners. They are partly to be attributed to the untrained attendants and partly to the infusion of criminal lunatics and the hashish maniacs. The number of sufferers from pellagra is noteworthy, and Dr. Warnock contributes interesting pathological observations on the post-mortem changes which he found. He is certainly convinced that maize is not the one and only cause of the disease.

The reports give in most elaborate detail all the facts and statistics which can be wanted, and must have involved an enormous amount of work. Tables are given showing the admissions and discharges, the forms of malady, duration of disorder, the causes of the disease, and the cost of maintenance, with all the details of the costs of administration. One can only admire the clear and definite way in which every part is explained.

One, therefore, feels now that there is a fair prospect before the Director of Lunacy that this work, so well started and developed, will be continued under his direction until the whole of lunacy can be treated along fixed and definite lines. The two asylums are not enough, for though the relief one at Khanka will in time receive 1000 patients, yet that will not suffice for all Egypt. In the report it is shown that many insane pass through the various general local hospitals, but the medical officers at these institutions have as a rule a very limited experience of insanity, and are not competent to treat or even advise as to the need of asylum treatment for the cases which are sent to them. It is certain that there ought to be a well-established criminal lunatic asylum not far from Cairo, and probably some hospital asylum for the paying cases and for Europeans. There is no fully recognised system of lunacy law in Egypt, and for this there is special need of the practical experience of Dr. Warnock.

Before concluding this letter on Egyptian lunacy one must make a special reference to the asylum at Khanka, under Dr. H. W. Dudgeon, who has had over ten years' experience in Egypt. A large farm has been taken, and it is determined to try to work this farm by quiet and harmless patients so that it shall produce the vegetables for both asylums, and later possibly produce profitable crops such as cotton. The space is ample. The general want being water, it is hoped that soon communication will be established by the Irrigation Department with a canal near, thus giving a more regular supply at all seasons. At Khanka the difficulty of overcrowding exists, for with ample space the buildings are still wanting. The administration is difficult, for though they receive the quiet cases, yet as soon as these become useful workers the pressure of space requires that they should be discharged, though it would be better for their future if they could remain longer under care. The isolation of Khanka is a trial for the resident officers and their families which makes prolonged holidays necessary.

I must conclude by expressing satisfaction at the work done and the prospect of its further encouragement by the Government.

I am, Sir, yours faithfully,

Devonshire-place, W, April 21st, 1914. G. H. Savage.

THE UNIVERSITY OF LONDON AND EXTERNAL DEGREES IN MEDICINE.

To the Editor of The Lancet.

Sir,—Your editorial note to Dr. A. Percy Allan's letter in The Lancet of April 18th challenges a reply which has been delayed owing to my absence from town. In that note you reaffirm the correctness of a statement made in your leader of March 21st which had been so definite that I had concluded that you had received information not at my disposal; but the sole authority which you give for the statement is the report of the Commission, and I submit with all courtesy that you have misread the latter.

The statement to which I refer reads thus in your leader of March 21st: "...... the spokesmen from all the London medical schools but one, and a number of other witnesses, urged the abolition of the external degrees in medicine." The reference in the report, which you give as your authority in your editorial note, runs thus: "Moreover, with the exception of the witnesses from St. ...... Hospital Medical School, all the witnesses from the London medical schools, *who referred to this matter*, and a number of other witnesses, urged the abolition of the external degree in medicine."

I submit that the omission of the qualifying clause, which I have italicised, makes your version much more sweeping than that of the report; and that it is not supported by the facts is evident from an inspection of the footnote to the reference, in which the schools which are instanced as having given hostile evidence are specified by name. Omitted from this list are not one but four schools, whose importance may be measured by the fact that they contribute 547 University students as against the 454 such students contributed by schools which are included in that list. Dr. Allan will be pleased to know that "Guy's" is not named with the hostile schools; in fact, the representatives of Guy's made it clear that there was a majority at their school in favour of the retention of external degrees, but this is not mentioned in the report of the Commissioners, who are anxious to draw attention only to the opinions of critics hostile to the external side. Indeed, they are apparently not above twisting expressions of hostility out of evidence which does not sustain that imputation, as in an instance I give immediately below.

The "other witnesses" referred to both by the report and your leader are also specified by name in a succeeding footnote in the report. As so much has been made of these it is of some importance to analyse this list in turn. There are seven names cited. The first is Lord Moulton. A perusal of his evidence, which in its general tenour is an impressive appeal for continuance of external degrees, shows that the only countenance for including him in a list of "witnesses who urged the abolition of external degrees in medicine" is to be found in his admission that "tuition and residence" are necessary in the case of medical students who cannot qualify by "private study." But he nowhere says that the tuition and residence must be restricted to London schools.

I have before me as I write a letter from Lord Moulton, dated April 20th, 1914, in which he says: "I remember nothing that I said in my evidence before the Commission which could justify the use of my name as supporting the abolition of the external degree in medicine." I submit, therefore, that Lord Moulton is quite improperly included in this list, and I have his authority for publishing the categorical denial quoted above. Of the remaining six witnesses, five are Professors or Fellows of University College. This is surely a noteworthy preponderance, and inevitably leads to the inquiry whether this college has any material interest in the suppression of the external degrees in the University, an interest which would make this collective hostility of its members a mere act of laudable patriotism towards their college, but which would at the same time necessarily detract from its moral force as a protest against those degrees. There is abundant evidence for answering that inquiry in the affirmative.

"It is openly avowed," says Dr. Waller (himself a purely internal representative on the Senate), "on the internal or College side that the existence of the external side of the University of London is an intolerable hindrance to their development. To the disinterested spectator the position of the Colleges now incorporated in the University of London of 1898 has been one of steady progress towards the acquisition of an unimpeded monopoly. ...... During the last ten years the Colleges have become incorporated by the University, and have steadily drawn the clothes over to their side of the bed and steadily complained of the intolerable pretensions of their external bedfellow. In this respect we may certainly admit that the policy of University College has been a continuous and unchanging policy."[1]

I claim to have shown that the extent of the opposition to the retention of the external degree in Medicine has been greatly exaggerated, and, further, that where it exists it is very largely an interested opposition. May I, in concluding, compliment you on the generosity of your reception of my letters, a generosity which has, indeed, justified your proud motto of "Audi alteram partem."

I am, Sir, yours faithfully,

Wimpole-street, W., April 27th, 1914. E. Graham Little.

THE EFFECT OF THE INSURANCE ACT ON NATIONAL NUTRITION.

To the Editor of The Lancet.

Sir,—May I put in a plea for a more careful consideration of the economic effects of the Act than it generally obtains in the medical press? It is often forgotten that the problem of the public health is mainly economic. If the poor were well-to-do their death and sickness rates would rapidly fall to the level of those of the classes above them; and the question that confronts a statesman is not to deal with disease, leaving poverty unrelieved, but to do all he can to abolish poverty in the sure knowledge that the rest will follow of itself.

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[1] A Short Account of the Origins of the University of London. By Augustus D. Waller, F.R.S., LL.D., Member of the Senate, late Dean of the Faculty of Science in the University of London. (See p. 22.)

Free trade rapidly gave to England the lowest death-rate of any industrial or populous country in the world, and the lesson it teaches is that if you would make a people healthy you must raise real wages (i.e., make necessaries plentiful) by freeing production; and that the distribution of these necessaries may be left to natural agencies. It follows, in accordance with Dr. Farr's well-known maxims, that if a malignant government aimed at lowering the health of the community its readiest method would be to tax production.

Apart from the degradation of compulsion applied to a class because it is poor, the blot on the Act is the 5*d.* weekly per head said to be given "free" to the beneficiaries. The older economists knew and preached that the State cannot make a gift to the working class save at the expense of the normal market rate of (real) wages. Every business man takes into consideration all the expenses of his trade, and bases his prices on those expenses, whether normal or imposed by State or municipality, where he can; and it is only the struggling businesses which cannot in the long run recoup themselves for rates and taxes. In a word, a business man gets interest on his outlay, and his outlay includes artificial State burdens. This fact has been proved *ad nauseam*, and the child-like faith that a Ministry has only to say that the employer must pay a tax to prevent him transferring that tax would seem difficult even for legislators intoxicated with the sense of their omnipotence, when they see, as they must see, that the gross assessments to income-tax have risen faster under a Government which has set itself to tax the rich, than under the Government which conducted the Boer war; while they have at the same time to admit that wages have fallen in purchasing power, and specially—as Mr. Ramsay Macdonald himself has just stated—in the last two years. In a word their efforts have made the "rich richer and the poor poorer."

A very simple test may be applied to the Act—Would it have been passed if the beneficiary had been made directly responsible for the whole 9*d.*? It is safe to say that not only would it have not been passed, it would not have been suggested. But the case is worse, if under the pretence of a partly free benefit, Government has actually put more than the whole burden on people whom they state to be too poor to afford the uncomplicated cost. No one can go from cottage to cottage and hear the constant complaint of raised prices (in which the Act plays a dominant part) without seeing that the Insurance Act has already done that; the day I wrote this, a workman's wife estimated that she was paying "something like 2s. for the 9*d.*"; that is, no doubt, a great exaggeration, but there is no question that the cost of the 9*d.* will go on rising for some time. For the well-to-do among the working class this diminution in real wages does not matter much; but no one pretends that the Act was necessary for these, who were all well insured before. To the class for whose benefit it was intended, the class which must save any possible extra expense out of food, this means dire distress in times of depressed trade; and, looking at their case, one is driven to believe that the Act is a dreadful mistake. To relieve some it has made all poorer. No administrative benefit can ever compensate for lowered nutrition. Without Mr. Masterman's promises at the Bethnal Green election we knew that sooner or later the benefit for this class will have to be free, and if for one section, necessarily, as in the case of education, for all sections. Friends of the Act who trust that by sheer weight of organisation it must endure are living in a fool's paradise. English people have never yet been forced into a duty, for the performance of which they must directly pay; in this single instance of education of their children (which yet stands on a different footing) they have had to be deluded into the notion that they do not pay. If this Act becomes wholly "free," it has become a poor law, naked and unashamed, and falling with all its cruel, if unappreciated, weight on the very class it is meant to relieve. The alternative is that right English remedy, the voluntary system. If you must advocate compulsion, there is a third way, the honest and the cheapest way, which, like the voluntary system, would have the merit of raising wages—viz., putting the whole cost directly on the beneficiaries. But as no Government dare suggest this, it is out of the range of practical politics.

I am constantly meeting with working men who already suspect that they are bearing, now before two years are past, more than the whole cost; if the conviction becomes general there is no fear that the Act will endure on its present basis; and the solution which will naturally suggest itself is voluntaryism. The dilemma in which the profession finds itself is highly unpleasant. Either we are gaining by the Act, in which case we are parasites on the community, guilty of that worst of national sins, depressing the level of wages; or if we are losing, as many of us are, we are being despoiled by the State which should protect us in all legitimate enterprise, in compensation for our clear conscience. But at least we can do this, and I suggest it as a duty for all men, whether advocates of the Act or haters of it with a hatred that grows from day to day; we can do our utmost to stimulate clear thinking among panel patients, and to induce them to inquire whether they are really getting benefits at the ostensible rate or buying them at a cost that spells disaster to the poorer among their ranks.

I am, Sir, yours faithfully,

B. G. M. BASKETT, M.B. Oxon.

Rayleigh, Essex, April 21st, 1914.

THE PAYMENT OF FEMALE MEDICAL OFFICERS.

To the Editor of THE LANCET.

SIR,—You were good enough to publish a letter under this heading *re* salaries under the Board of Control (Mental Deficiency Act) in your issue of Feb. 28th from Dr. F. M. Dickinson Berry and myself. As a result of that letter Dr. Sophia B. Jackson, who was an accepted candidate for the women's post of medical inspector under the Board of Control, and whose self-sacrificing stand for the principle of equal pay for equal work in the medical profession is well known, on being interviewed by the Board, made her acceptance of the post conditional on either the salary being made equal to that of the medical man doing the same work or the work to be done being definitely restricted. The second candidate also made the same stipulations.

A good deal of correspondence between the first and second candidates, the Board of Control, the British Medical Association, and the Registered Medical Women's Association has taken place, and briefly summarised is as follows. On April 8th the second candidate wrote in thorough concurrence with Dr. Jackson's *actions, stating that* she would certainly decline to accept the post were it offered to her. On April 9th Dr. Jackson was informed *that* the second candidate had had a conversation with one of the Commissioners of the Board of Control, who told her the work was restricted, and that the post would probably be lost to medical women if the stand of equal pay were forced, because the salary had been fixed by the Treasury and was unalterable. At the same time she gave Dr. Jackson to understand that if she (Dr. Jackson) persisted in refusing it, she (the second candidate) would feel justified in accepting it. She also added that she would take no "definite step" till she had communicated with Dr. Jackson. The second candidate eventually accepted the post.

Within the last few days an official letter has been received stating that the Board have come to no decision, as alleged, that the duties of the woman inspector to be appointed under the Board *are to be "definitely restricted."*

In these circumstances, surely any candidate who had accepted a post, believing certain conditions were attached to it which now she knows are not, should refuse to take it. I pass by the extraordinary fact that a Commissioner should make statements that are proved to be incorrect, on the strength of which we may assume the candidate accepted the post.

Apologising for the length of this letter, which I am sure you will allow to deal with principles vital to our profession,

I am, Sir, yours faithfully,
JANE H. WALKER,
President of the Registered Medical Women's Association.

Harley-street, W., April 28th, 1914.

THE BIOLOGY OF TUMOURS.

To the Editor of THE LANCET.

SIR,—The difficulty of defining the relationship that exists between growth and reproduction (growth beyond the individual) to which Mr. H. C. Ross refers in THE LANCET of April 25th, is very largely due, it appears to me, to his assumption that such a highly specialised structure as a cell is to be taken as the unit of life. It is necessary to go much farther back—to what we believe to have been the simplest and most primitive beings, to the time when life made its first appearance upon the earth. Whatever the relationship that existed between growth and reproduction then, it is the same now. Details may have changed, but not the principle.

In these primitive forms of life reproduction was the direct outcome of continued growth. Bulk increased by the ingestion and assimilation of foreign matter until the size of the organism was no longer suited to its environment and it was forced to divide. The dimensions varied in each case. There was no definite size at which division took place. It depended entirely upon circumstances, but when circumstances continued to be the same for generation after generation it gradually came about that division (reproduction) occurred at more or less regular intervals. Then two classes of organisms arose—one in which the daughter units separated from each other at once and lived apart; the other in which they still maintained their connexion with each other. But the power of division (reproduction) remained the common property of every unit in equal degree. The former class advanced no farther. They are the protozoa still. In the latter, owing to emergencies imposed by the division of labour, the function of reproduction which had been the common property of every unit gradually became restricted to one special group of cells. In these the power was developed more and more highly as time went on, and it diminished proportionately in all the rest. But it did not disappear or die out. With the exception of very highly specialised structures, such as the organs of special sense, the power of reproduction is still present in all tissues and can be called into action at any moment, especially while the cells are young.

Reproduction, therefore, is only a form of growth. External conditions originally determined when the growth of the individual should become growth beyond the individual; and these conditions, acting from immeasurable time, impressing their power upon generation after generation, at length led to reproduction taking place only when a definite stage of growth was reached. Auxetics may stimulate reproduction, but reproduction is the product of hereditary transmission from the time when life began upon the earth.

Mr. Ross asks me to suggest a line of experiment. There are certain clinical facts which seem to me to point with no uncertain finger. The secret of the origin of tumours (including cancer) lies not in trying to find influences or agents that will stimulate growth and reproduction, but in isolating and investigating the action of substances that possess the power of checking development and interfering with functional activity. Development controls growth and reproduction. If development is arrested (as, for example, the development of epithelial cells is arrested under certain conditions by arsenic or soot) the functional activity of the tissues is arrested; the power of growth and reproduction, or so much of it as the cells still retain, is freed from control, and if there is the least provocation, such as may be caused by continued irritation, cells and tissues at once begin to increase and multiply at their own free will. The result is a shapeless, formless mass of cells, resembling more or less closely the parent that gave them birth, never advancing beyond it in development, never doing any useful work, but growing without ceasing, so long as there are supplies of food—in other words, a tumour.

I am, Sir, yours faithfully,
C. MANSELL MOULLIN.

Wimpole-street, W., April 27th, 1914.

WILLIAM HAWES AND THE ROYAL HUMANE SOCIETY.

To the Editor of THE LANCET.

SIR,—Your interesting annotation on this subject in THE LANCET of April 25th rekindles the embers of a controversy which a century and a half ago was waged with characteristic mid-Georgian scurrility on either side. Hawes, as you say, published in 1774 "An Account of the Late Dr. Goldsmith's illness so far as relates to the Exhibition of Dr. James's Powders, &c." This pamphlet, with subsequent corrections and the accretion of an appendix, ran through several editions in the course of the year. Perusal of it leaves one in doubt as to whether Goldsmith died in spite of James's powders or because of them. I would add that a leading argument of the pamphlet is based on Hawes's own statement that he was not a doctor, but an apothecary, so that I am not sure that he should be entitled "Dr." Hawes. But the claim put forward by Hawes to be the pioneer in establishing the Humane Society was too much for his brother apothecary F. Spilsbury to swallow in silence, and in 1776 he published a venomous tract entitled "Free Thoughts on Quacks and their Medicines," full of personal abuse of Hawes. In this tract Spilsbury asserts that all the directions for establishing such an institution had long since been laid down by Dr. Mead in an essay "Of the Mad Dog"; but what is more to our point, he proceeds to show that Dr. Alexander Johnson was "really the first promoter of the scheme for establishing in this kingdom an institution for the recovery of drowned persons, after the manner of similar institutions, already established in France, Holland, Germany, and other places," which had greatly impressed him during his travels abroad. Of his priority to Hawes, at any rate in the matter of publication, there is no question, for in 1773 Johnson had published in London "A Short Account of a Society at Amsterdam Instituted in the Year 1767 for the Recovery of Drowned Persons, with Observations Showing the Utility and Advantage that would accrue to Great Britain from a similar Institution Extended to Cases of Suffocation by Damps in Mines, Choaking, Strangling, Stifling, and other Accidents, by Alexander Johnson, M.D." Now, if this were all, we might well assume that Hawes was unaware of Johnson's work, and had inadvertently and independently turned the same furrow; but it is not all. In the Annual Register, Vol. XX., 1777, Hawes is to the fore again with a project, which he entitles "Cautions against the Burial of Persons Supposed Dead." After some blood-curdling assurances of the frequency of burial of the living he proceeds: "It was the intention of the writer to publish a work upon this subject, but as his various avocations will not permit him to carry that design into execution, he thought it his duty to throw out the above hints; and if they should be the means of preventing one person from being laid out, or, what is more horrible, buried alive, it will afford the writer a pleasure of the noblest kind, that arising from the consciousness of doing good to his fellow-creatures." Now there is hardly a single idea or illustration in this effusion by Hawes but which is transferred in crude and wholesale fashion from Johnson's publication, and this in spite of the fact that only a year previously Spilsbury had openly accused him of pillaging Johnson's wares. By all means let Hawes wear the halo you have so generously bestowed on him—may we all earn ours as easily!—but let us remember that the light that illumines it is but the reflected light of Dr. Alexander Johnson, doctor of physic.

I am, Sir, yours faithfully,

April 28th, 1914. RAYMOND CRAWFURD, M.D., F.R.C.P.

CASE OF SIMULATED GANGRENE OF THE LUNG.

To the Editor of THE LANCET.

SIR,—Some years ago in distant Vancouver I received an urgent summons to a patient I had occasionally but not recently treated for chronic bronchitis. On entering his room a putrid odour was noticeable, which I found came from a small quantity of expectorated sputum. The patient was pale, with pinched, drawn features, clammy cold surface, and small weak pulse, apparently *in extremis*. So much did he feel that way that he had sent for his lawyer to make an alteration in his will.

I did not doubt but that I had a case of gangrene of the lungs to deal with. As the first indication was obviously to rid the bronchi of the literally putrid sputum, I gave a full dose of vin. ipecac., which was the means of promptly bringing away more stinking sputum. In a few minutes there was a marked improvement in the patient's condition, and in less than 15 minutes he was out of danger. The next forenoon he was as well as usual. The presence of the putrid sputum and its resultant infection of the system was, there can be little doubt, due to the patient taking too freely of a patent sedative cough "cure," which caused the sputum—infected doubtless by some one or more of the flora which Dr. H. Batty Shaw in his lecture published in THE LANCET of April 18th enumerates as the cause of gangrene of the lung—to be retained. I had the patient under observation for some years after this experience and never knew of his expectorating offensive sputum again; the bronchitis somewhat lessened and the health improved. Had the patient died I would unhesitatingly have assigned gangrene of the lungs as the cause of death, and had a necropsy been made the neighbouring lung tissue would infallibly by then have become infected, and hence my diagnosis have been triumphantly confirmed. To my mind this single case shows that offensive expectoration, due to whatever cause, should be treated by frequent emesis.

I am, Sir, yours faithfully,

D. L. BECKINGSALE, M.D.Edin.

Hampden Club, N.W., April 21st, 1914.

EXTRAPERITONEAL URETERO-LITHOTOMY THROUGH A MEDIAN SUPRAPUBIC INCISION.

To the Editor of THE LANCET.

SIR,—I have read with considerable interest in THE LANCET of April 25th the article by Dr. Gordon Whitehead and Mr. John Morley on the method of approach of the lower end of the ureter by means of a median suprapubic incision.

During the last two years I have used in three cases a method which is slightly modified in that a vertical incision is used a little to one side of the mid-line, and I can fully endorse their statements as to its value in cases where a stone is impacted close to the bladder. I had believed that this method was a device of my own, but in the last (the March) number of the *Annals of Surgery* Judd has described three cases in which he used a similar method. In two of his cases, as in all of mine, the operation was deliberately planned as an approach to the ureter itself and the bladder was not opened. In one of Judd's cases, as in that reported by Mr. Morley and Dr. Whitehead, the bladder was opened previous to the laying bare of the ureter. The following is a brief account of the cases in which I made use of this method.

1. A male aged 35 years. Dull aching pain for 14 years in right loin, steadily increasing, and for two years definite attacks of colic. Never any trouble with micturition or hæmaturia. Neither kidney could be felt and nothing abnormal was seen in the radiograph. No abnormality of the urine. On cystoscopy indigo carmine seen to be secreted from left ureter; none from right ureter. Catheter passed readily up left ureter, but stopped abruptly three-quarters of an inch from opening of right ureter. A vertical incision 1 inch to the right of the mid-line was used, the peritoneum stripped off the bladder, and the bladder pulled over to the left. The bifurcation of the

common iliac artery was readily laid bare. After some difficulty the ureter was found; it was the size of a coil of small intestine, and hence was overlooked several times in the search. It was then easily traced to the base of the bladder, the vas being seen as it crossed and hooked on one side. The ureter was opened and a stricture found at its entry into the bladder. The catheter passed upwards, however, for a distance of 20 inches. It was evident that the pelvis was much dilated. The ureter was therefore ligatured and divided close to the bladder, the upper end of the ureter being freed as far as possible in an upward direction. The wound was then closed and the kidney, which was in a condition of extreme hydronephrosis, removed together with the ureter by the ordinary incision in the loin.

2. A male aged 30 years. Six weeks before admission sudden onset of acute pain passing from right groin to loin, followed by hæmaturia and frequency; one similar attack since. A radiograph showed an oval calculus in the position of the lower inch of the right ureter. On attempting to catheterise the right ureter the catheter was stopped 1 inch above the orifice. A 2-inch suprapubic incision was made 1 inch to the right of the mid-line. The ureter was readily found and traced down to the bladder, the stone being felt about half an inch above the bladder wall. The ureter was opened and the stone was easily extracted, a ureteric catheter then passing freely into the bladder. The opening in the ureter was stitched with three catgut sutures and a small tube inserted; the rest of the wound being closed. There was a slight discharge of urine for four days, after which the wound closed entirely, and the patient was discharged cured.

3. A male aged 42. Typical attack of renal colic two weeks before admission to hospital, followed by hæmaturia. The radiograph showed a typical shadow of a renal calculus about 2 inches above the vesical orifice on the left side. A catheter was obstructed at the corresponding point. An incision similar to that used in the last case was made to the left of the mid-line, and the stone easily extracted. There was a slight discharge of urine for nearly a week, after which the wound healed rapidly.

By the use of the lower rectus incision a very good view is obtained of the lower 6 inches of the ureter. Its point of entry into the bladder is laid bare and is rendered so accessible that operations upon it can be readily carried out, and the adjacent portions of the bladder are also exposed. The vas and vesiculæ can be seen, as also the iliac arteries. The peritoneum being unopened no difficulty is experienced from the proximity of the intestines. The operation being wholly extraperitoneal the danger of infection is slight and the wound can be freely drained. The exposure is infinitely preferable to that given by a parasacral or iliac routes.

I am, Sir, yours faithfully,
ALBERT J. WALTON.

Weymouth-street, W., April 25th, 1914.

THE FATALITY OF MEASLES.

To the Editor of THE LANCET.

SIR,—In a leading article in THE LANCET of Feb. 21st on "The Control of Measles" you quote with approval Dr. James Kerr's statement that "the chief hope of combating measles lies in improvements in regard to habits of life, housing, and space to live." No doubt this contains much truth, but it does not quite hit the principal nail on the head.

It is universally admitted that the fatality of measles is almost negligible among the educated and well-to-do classes, but considerable among the poor and ignorant. To a certain extent want of abundant fresh air and of comfortable accommodation is responsible; but the chief cause, I have long been certain, is the scare of a "chill" on the part of the poor and ignorant parents and friends; and in order to escape from this illusory Scylla they run into the real Charybdis of the opposite extreme. Thus the child is packed more or less tightly in a bundle of clothes—usually of flannel or flannelette—covered with a superabundance of impervious bedclothes, and sometimes (as I have seen in London) kept near a large fire, and, of course, in a badly ventilated room. To touch the skin with water would be looked upon as next door to murder, so that the child is not refreshed by washing or changing the clothes.

This process of overheating is, I believe, far more prejudicial and dangerous than any chill that is likely to be sustained while the pyrexial period lasts. It intensifies the disease, and it is the intensity of the disease that mainly determines aggravation of bronchitis or the onset of pneumonia—the chief causes of death. That this fact is recognised and acted upon by most medical men I readily allow, but I do not remember having seen it expressly stated, especially in codes of instruction for popular use.

Small-pox used to be regarded and treated in the same way by popular and medical assent until Sydenham taught the beneficial effects of keeping the patient cool and giving him fresh air.

It is, of course, useless, to expect any advantage from notification of the disease—the nostrum of many health authorities. The important desideratum is that cases of measles shall be attended by sensible medical men. If pneumonia should develop in the course of the disease, the most effectual treatment is blood-letting—not necessarily venesection as was always practised with good effect in old times, but, in the case of children, by the application of one or two leeches, which usually suffice.—I am, Sir, yours faithfully,

F. LUCAS BENHAM, M.D., M.R.C.P.

Exeter, South Australia, March 25th, 1914.

TRAUMATIC DISLOCATION OF THE HIP-JOINT.

To the Editor of THE LANCET.

SIR,—By an odd coincidence I read Mr. Harold Rischbieth's account of the above injury in a boy aged 10, reported in THE LANCET of April 18th, a few hours after seeing a boy who was in the Children's Hospital at Shadwell at the age of 7 for a similar accident. I had written to the boy asking him to come up to report himself.

On referring to my notes I find that the boy was admitted on Oct. 23rd, 1910. He had fallen down in the street on the day of admission and the left femur had been dislocated dorsally. He had suffered from no previous injury to the limb. The femur was markedly flexed, adducted, and rotated inwards, the left knee being in apposition with the lower end of the right thigh just above the right knee. The great trochanter was well above Nélaton's line, and there was a deep pit in Scarpa's triangle. Passive movements caused great pain. The boy was given chloroform and placed on a mattress on the floor. Reduction of the dislocation by flexion, adduction, and external rotation, associated with raising of the limb and sudden extension, was accomplished without great difficulty. A long side-splint was applied for 24 hours, after which sand-bags were substituted. Passive movements were commenced three days after the injury, and the boy was allowed to walk on Nov. 3rd. X rays showed no injury to bone or epiphysis. The history since the accident has been uneventful.

I am, Sir, yours faithfully,
HILDRED B. CARLILL.
Harley-street, W., April 24th, 1914.

THE STATE, THE MOTHER, AND THE CHILD.

To the Editor of THE LANCET.

SIR,—The leading article with this title in THE LANCET of April 25th approves "the efforts which are now being made to extend State action in all that relates to maternity and infant welfare," and says that "individualists, if any such remain," and "the eugenist," may argue against these efforts. Then you remark that "such arguments, however, usually appear to be pleas for inaction." This is very true; for few individualists and eugenists have the courage to advocate the extension of the knowledge of family limitation to the poor, which is the only alternative to State action on their behalf. So we are progressing towards a stage when the married couples with more than 30s. a week will be having an average of only one child per family in order to help to maintain the large families of those with less than 30s. a week! I earnestly hope, however, that there are many colleagues who share my view that if people were encouraged to have no more than one child for every 20s. or so a week poverty would soon cease to exist; the race would quickly improve, and a welcome freedom from meddlesome and costly legislation and officialism would ensue.—I am, Sir, yours faithfully,

BINNIE DUNLOP, M.B., Ch.B.
Alexandra Court, S.W., April 25th, 1914.

THE NATIONAL INSURANCE ACT.

LONDON INSURANCE COMMITTEE AND THE SURPLUS FUNDS.

THE London Insurance Committee by a majority of four votes has decided to draw up a scheme for the distribution among the medical men on the panel of the surplus funds arising in respect of unallotted patients. At a meeting of the Committee held to consider the matter, Mr. Kingsley Wood first moved that having regard to the opinion of Mr. Danckwerts, K.C., whose death is recorded this week, the Committee should inform the Commissioners that it could not proceed with the distribution. Mr. Kingsley Wood argued that there should be either judicial or Parliamentary authority before dealing with the fund, but he pointed out that no action had been instituted by the medical practitioners which would have facilitated the obtaining of a judicial decision. Mrs. Handel Booth moved an amendment to the effect that a scheme for the distribution of the money should be prepared and submitted to the Commissioners, who would have the opinion referred to before them and whose decision would absolve the committee. After discussion this amendment was carried by 27 votes to 23. With regard to the risks suggested in the opinion of Mr. Danckwerts, it may be pointed out that even though a distribution were to take place which in law were wrong, it might still be difficult to find anyone having such an alternative interest in the money as would entitle him to raise any question in the courts with regard to it.

SANATORIUM BENEFIT IN LONDON.

The London Sanatorium Benefit Subcommittee in a report on arrangements for the present year estimates the income to be dealt with at £100,000, and the required expenditure to include £40,000 to medical practitioners for domiciliary treatment, £7620 for drugs, £5000 for dispensary treatment, and £54,600 to cover the cost of 700 beds for institutional treatment. In an explanatory memorandum the Sanatorium Benefit Subcommittee quoted the Chancellor of the Exchequer as having stated that at first the payment of 6*d.* for domiciliary treatment might be very much too high. At present the amount of the payment under this head could not be varied, but the subcommittee noted that before the end of 1915 there would be a reconsideration of the whole position. If it were not for money accumulated during the first six months' working of the Act, when applications for sanatorium benefit were few, there would be a deficit of £10,000 this year in respect of institutional treatment.

LONDON PRACTITIONER VINDICATED.

The Medical Service Subcommittee communicated to the London Insurance Committee on April 23rd the results of its inquiries into a case in which a practitioner on the panel had been censured (in his absence) by a coroner's jury, it being suggested that he did not properly examine a patient. Treatment had been given for dyspepsia and rheumatism; the post-mortem examination showed advanced tuberculous disease. A curious feature of the case appeared to be the reticence of the patient as to his symptoms. He never mentioned that he had night sweats, and definitely denied that he had cough or expectoration; he only mentioned diarrhœa, stomachic pains, and rheumatic pains in the knee. The practitioner had examined the patient a year earlier and had found him to be organically sound. The medical members of the subcommittee advised that there was no evidence to show that the tuberculous disease of the lungs was in any way active at the time of death, or that it was an active agent in causing death. The conclusion arrived at was that the practitioner exercised proper professional care and was not negligent in any way. At the request of the practioner—Dr. D. J. F. Bennett, of Walworth, S.E.—his name was publicly announced.

ARBITRATION UNDER THE INSURANCE ACT.

The Scottish Insurance Commissioners were recently invited for the first time to arbitrate between an insured patient and an Approved Society on the question of the refusal of the latter to pay sickness benefit. The applicant was Mrs. M'Cartney, a member of the Scottish Catholic Society, which had refused her the benefit claimed on the ground that she was not incapacitated. Mrs. M'Cartney, in accordance with the rules of the society, applied to the Commissioners to appoint an arbitrator to decide the question, and Mr. R. D. M'Ewen, chairman of the Glasgow Insurance Committee, being duly appointed by the Commissioners, held an inquiry and found in her favour. The society appealed to the Commissioners against this decision, and the Commissioners have now issued their award upholding that of the arbitrator, and finding that the insured person was incapacitated for the period for which she claimed. The Commissioners further found the society liable for £3 3s. as costs. Congratulations are due to the medical man on the panel whose certificate has thus been upheld.

THE QUESTION OF CERTIFICATION AT GLASGOW.

A conference was held on April 24th at the City Chambers, Glasgow, between representatives of the medical profession and the managing bodies of the larger medical institutions in the city regarding the question of the certification for sickness benefit of insured persons while under treatment in institutions. The conference was called in consequence of a motion in the following terms adopted by the Glasgow Insurance Committee:—

> That a conference be arranged of representatives of the Insurance Committee, the Local Medical Committee, the Panel Committee, and institutions treating insured persons, with a view to securing coördination in the certification of insured persons for sickness benefit while under treatment in institutions.

There were present: Dr. A. Johnston and Dr. J. McKie, representing the Local Medical Committee; Dr. A. T. Campbell, Dr. Miller Semple, and Dr. James R. Drever, representing the Panel Committee; Dr. D. J. Mackintosh (Western Infirmary), Dr. D. O. Macgregor (Victoria Infirmary), Dr. J. Maxtone Thom (Royal Infirmary), Dr. W. J. Richard (Merryflatts Hospital), Dr. John Brownlie (Ruchill Hospital), representing their respective medical institutions; Dr. A. K. Chalmers (medical officer of health of the city); Dr. A. Macgregor, tuberculosis officer; Mr. R. D. McEwan, Mr. John Grieve, Mr. John Maillie, and Dr. J. Grant Andrew, representing the Insurance Committee; and Mr. William Jones, clerk to the committee.

The Chairman having referred briefly to the position of insured persons under treatment in institutions, to the inability of panel practitioners to grant the usual certificates of incapacity during such period, and to the delays which had occurred, particularly in cases where there were dependents, in making payment of sickness benefit through lack of the necessary certificates, a discussion ensued, which was taken part in by, among others, Dr. Mackintosh, Dr. Chalmers, Dr. Brownlie, Dr. McKie, Dr. Richard, Mr. Maillie, and Mr. Grieve. The following forms of certificates were submitted:—

GLASGOW ROYAL INFIRMARY.

This is to certify that ....
is at present under treatment in the Infirmary, and is unable for work.

_______________________, House Surgeon.

WESTERN INFIRMARY, GLASGOW.

This is to certify that ....
is at present an .... Patient of this Infirmary.

As the result of the views expressed by the several speakers, it was agreed that such institutions as may not be already doing so be recommended to adopt a form of certificate, certifying that the insured person is an inmate of the institution, similar to the forms in use at the Royal and Western Infirmaries, which forms, it was understood, were freely accepted by Approved Societies.

THE ROYAL COLLEGE OF SURGEONS IN IRELAND AND TREATMENT BY UNQUALIFIED PERSONS.

The following resolution was passed by the Royal College of Surgeons in Ireland on April 19th in relation to the employment of non-qualified persons for the purpose of medical treatment under the National Insurance Act:—

> The College observes with regret that in Section 44 (2) of the National Health Insurance (Medical Benefit) Regulations, 1913, and the Memorandum issued in connexion therewith, provision is made whereby insured persons who make their own arrangements for medical benefit under Section 15 (3) of the National Insurance Act may obtain treatment from non-qualified persons.
>
> Hitherto none but duly qualified medical practitioners have been employed, as such, in any public capacity; and the College deplores that, under an Act professing to promote the health of the nation, recognition should be given and provision made for the payment of public money to a class of persons who have not obtained a legal qualification to practise medicine, and concerning whose medical knowledge there exists no sort of guarantee.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held recently the following candidates passed in the subjects indicated:—

Surgery.—C. Bluett (Sections I and II.), London Hospital; E. S. Dufty (Sections I. and II.), Sheffield; and B. C. Piercy (Sections I. and II.), Leeds.

Medicine.—C. Bluett (Section II.), London Hospital; W. Brown (Section I.), Oxford and King's College Hospital; M. Dos Santos (Section I.), Louvain and London Hospital; H. Dudley (Section I.), University College Hospital; D. M. Hunt (Section I.), London Hospital; W. Smith (Section II.), Durham; and A. K. S. Wyborn (Section I.), Middlesex Hospital.

Forensic Medicine.—W. Brown, Oxford and King's College Hospital; and N. W. Rawlings, Manchester.

Midwifery.—J. C. Gillies, Leeds; and G. Robinson, Manchester.

The Diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery: C. Bluett, E. S. Dufty, and J. C. Gillies.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL: UNIVERSITY OF LONDON.—A course of lectures on the Pathology of the Heart will be begun by Dr. Thomas Lewis on Wednesday, May 6th, at 11 A.M. The lectures, which are free to all medical men, will include discussion on the following subjects: recent anatomical discoveries; principles of electrocardiography; causes of cardiac syncope and unexpected death; rapid action of the heart; auricular fibrillation and its relation to mitral stenosis; the diagnosis of fibrosis of the heart; alternation of the ventricles; heart sounds and murmurs; dyspnœa in cardiac patients; and hypertrophy with special reference to physical signs. One lecture will be delivered each week.

MARGATE CHAMBER OF COMMERCE. — The seventh annual banquet of the Margate Chamber of Commerce was held in the Queen's Hall, Queen's Highcliffe Hotel, Margate, on April 24th. The occasion possessed particular interest in view of the organised effort now taking place to establish an extension of the holiday season and also of the memorial signed by 250 members of the House of Commons urging the Government to grant facilities for the passage of the Health Resorts and Watering Places Bill. Amongst other things, this Bill seeks to give powers to seaside and health resort municipalities to invest money out of the rates for the purpose of increasing and making known the attractions of the place. As was pointed out by Mr. Norman Craig, K.C., M.P., in his speech at the banquet, the Chamber of Commerce at Margate has worked very hard to make known to the world the advantages of Margate. This, however, has been a purely voluntary movement, but it is an illogical thing that while Margate is able to speculate £30,000 in a pavilion, it cannot spend a penny of the ratepayers' money in advertising. The corporation may, in fact, speculate, but they must not invest. Mr. Craig said that it was hoped that a reform in this direction would be gained by the passing of the Health Resorts and Watering Places Bill. The Hon. Harry Lawson, M.P., who was the principal guest of the evening, has taken a considerable practical interest in the suggestions in regard to extending the holiday season, and there is every prospect of the matter receiving careful consideration not only by the governing authorities of our seaside and health resorts, but by the great railway companies also. The Margate Chamber of Commerce is continuing its good work, and the excellent propaganda which its members have actively put forward during its existence since 1899 in the interests of the health-seeking public and of the town has developed very encouraging results which should induce other watering places to found a similar organisation. Margate possesses a splendid asset in its wonderfully recuperative air.

Edinburgh University Club of London.—The jubilee dinner of this club will be held on Wednesday, May 13th, in the Grand Hall of the Hotel Cecil, at 7.30 P.M. Lord Balfour of Burleigh will preside.

South London Hospital for Women.—The annual general meeting of supporters of this hospital will be held at 35, Wimpole-street, W., on Wednesday, May 6th, at 3.30 P.M., when the chair will be taken by the Viscountess Castlereagh.

Tuberculin Dispensary League.—On Saturday, May 9th, at 12 o'clock noon, H.R.H. Princess Christian of Schleswig-Holstein will declare open the new dispensary at 1, Manor-street, Chelsea, S.W. The dispensary will be open for inspection from 2 till 6 o'clock.

The Port of Exeter and Small-pox.—At the last meeting of the Exeter port sanitary authority it was decided to support the Association of the Port Sanitary Authorities in their action of urging the Local Government Board to grant powers to port authorities to detain all vessels which have cases of small-pox on board. Such power is already granted for cases of cholera, yellow fever, or plague.

The Medical Difficulty at Droitwich.—The Droitwich board of guardians at their last meeting decided, after considerable discussion, to submit their difficulty in obtaining a medical officer to the Local Government Board. The guardians originally offered the post at £90 per annum. As there were no applications they increased the offer to £100, but this also proved unacceptable to the medical men of Droitwich. Meanwhile the acting medical officer has been asked to continue his duties until June 21st.

Conference on Morals.—The International Federation for the Abolition of the State Regulation of Vice, which met last year in Paris, will hold its annual conference for 1914 in Portsmouth from June 15th to 18th, when representatives are expected to attend from France, Denmark, Italy, and other foreign countries, in addition to members of the British branch. The problem to be considered will be "A Constructive Policy" in relation to the reduction of venereal disease and of public immorality. At a meeting of representatives of public bodies interested in social questions held at the town-hall, Portsmouth, on April 24th, an executive committee to make arrangements for the conference was appointed. It was resolved to ask permission of the international committee to give an opportunity to discuss the subject from its economic and educational aspects, which were not included in the agenda of the conference.

Metropolitan Public Gardens Association.—London owes a debt of gratitude to this association for the preservation of many acres of open land which otherwise would have been occupied by buildings. During the past year the association has been responsible for much good work, among which may be mentioned its coöperation in securing for public use the central enclosure of St. Peter's-square, Hammersmith, in the projects for the purchase of farm land adjoining Wandsworth Common, in the extension of Valentine's Park, Ilford, and in the acquisition of Colley Hill, Reigate. The laying out of gardens in the large churchyard of St. Paul, Deptford, was also undertaken by the association; and its activities on behalf of the Wimbledon Common and Putney Heath Extension Scheme and the Wandle River open spaces have been attended with good results. These and other works have, however, entailed an expenditure greater than the actual income, which amounted to £2058, a deficit remaining on the year's working of £518. The association was formed in 1882 to supply one of the most pressing needs of the poorer districts of London by providing resting-places for the old and playgrounds for the young in the midst of densely populated districts, and no one can read the detailed work of the association in the annual report for 1913, which is published at 83, Lancaster Gate, price 6*d*., without realising the importance of the work and the need for its extension. A map of London on the scale of 1½ inches to the mile contained in the report is especially worthy of study.

Royal Society of Arts.—At the ordinary meeting at John-street, Adelphi, London, W.C., on Wednesday, May 6th, at 8 P.M., the paper on Inexpensive Motoring, by Mr. A. Ludlow Clayden, should prove of interest to many medical practitioners.

Post-Graduate College, West London Hospital.—A conversazione will be held at the West London Hospital, Hammersmith, by the staff of the college on Wednesday, May 20th, at 8.30 P.M. Exhibitions and music will form part of the entertainment, and refreshments and smoking will be provided.—The summer session of the college will commence on Monday, May 11th.

The Lord Mayor Treloar's Cripples' Hospital and College.—The first festival dinner of this useful institution, which is situated at Alton, Hants, will be held on Wednesday, May 13th, in the Merchant Taylors' Hall, Threadneedle-street, City. The chair will be taken by the Right Hon. Arthur J. Balfour, M.P., at 7.30 P.M.

Exhibition of the Arts and Industries of the Blind.—This exhibition will be held in connexion with the International Conference on the Blind at the Church House, Great Smith-street, Westminster, London, from June 18th to 24th, both dates inclusive. It will be open from 10 to 1, 2.30 to 7, and from 8 to 10 each day, Sunday excepted. There will be a charge for admission, but entrance will be free to members of the Conference on showing their cards of invitation. The exhibits will include (*a*) goods made by the blind; (*b*) machines, apparatus, books, &c., which may be used by the blind; and (*c*) objects, books, pictures, &c., illustrating the history, education, and training of the blind or connected with blindness or with notable blind men and women. A catalogue will be printed, and the forms of particulars of exhibits must be returned to Mr. Stuart Johnson, care of Miss J. B. Weippert, 110, Loughborough-park, S.W., by May 18th, but blind persons should send their exhibits to the societies for the blind with which they may be connected or else to the local secretaries not later than May 8th, who in their turn will send all exhibits to the Church House not later than June 8th. No charge will be made for space except to firms exhibiting goods under Class B. All correspondence connected with the exhibition should be addressed to Mr. Stuart Johnson, 64, Denison House, 296, Vauxhall Bridge-road, London, S.W., and marked outside "Exhibition." Persons possessing or knowing of objects likely to form interesting exhibits or desiring to assist in the work of the exhibition are requested to write at once.

International Society for Sexual Research.—This society is organising its first congress, to be held in Berlin this year from Oct. 31st to Nov. 2nd. The congress will cover the entire field of scientific sexual research, and will probably be divided into a biological-medical, a sociological, a legal (including criminal anthropology and psychology), and a philosophic-psychological-pedagogical section. The proceedings will be conducted in German, English, and French, the president being further empowered in special cases to permit the use of other languages. The following addresses are announced:—Professor Dr. Broman, Lund, "Causes and Spread of Natural Sterility and its Share in the Decreasing Birth-rate"; Professor Dr. Hans Gross, Graz, "Comparative Criminal Psychology of the Sexes"; Professor Dr. Ch. Klumker, Frankfurt a.M., and Pastor Wilhelm Pfeiffer, "What is to Become of the World's Illegitimate Children?"; Professor Dr. Mingazzini, Rome, "Female Criminality and Menses"; Professor Dr. W. Mittermaier, Giessen, "The Attitude of Criminal Law to Sexual Crimes in the Course of History"; Dr. Albert Moll, "On the Psychology, Biology, and Sociological Place of the Old Maid"; Professor Dr. Sellheim, "Propagation and Readiness to Propagate as the Task of Woman"; Professor Dr. E. Steinach, Wien, "Receptivity to Influence of the Sexual Characteristics"; Professor Dr. S. Steinmetz, Amsterdam, "The Individual Factor in Race-Blending"; Geh. Reg. Rat Professor Dr. Julius Wolf, Berlin, "Sexual Science as a Science of Education and Civilisation." Participation in the congress is free to members of the society. Non-members are expected to pay a registration fee of 10 marks. All inquiries respecting the congress and the society should be directed to Dr. Max Marcuse, Berlin W.35, Lützowstr. 85.

RURAL MIDWIVES ASSOCIATION.—The eleventh annual meeting of this association will be held at 3, Grosvenor-place, London, S.W., on Tuesday, May 5th, at 3.15 P.M., under the presidency of the Marchioness of Tullibardine. Miss Margaret Awdry will speak on Infant Mortality, and Mr. Francis E. Fremantle on Coöperation of Voluntary Associations with Public Bodies in Rural Areas.

MEDICAL RESEARCH IN CHINA.—With the object of ascertaining the mode of spread of trematode diseases of man and the relations of such human diseases to those in domestic animals, a party consisting of Dr. R. T. Leiper, of the London School of Medicine, Surgeon E. L. Atkinson, R.N., and Mr. Cherry-Gerrard has recently arrived in Shanghai. They will first ascend the Yangtze river and spend several months in the interior of China. The London School of Tropical Medicine is responsible for the despatch of the party.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Milk Legislation.

MR. HERBERT SAMUEL'S promise to expedite the introduction of a Milk Bill has been well received by those Members who have been pressing for legislation on this matter for years. Indeed, the object of Mr. ASTOR'S motion on Wednesday, April 22nd, was primarily directed to impress on the Government the necessity for a Bill on the subject. Mr. BURNS when he was at the Local Government Board desired to deal with the milk problem, and although he introduced a measure it was not found possible to press it in the face of the opposition of the dairy interest to some of its provisions. Mr. SAMUEL'S Bill will be more restricted than the one produced by Mr. BURNS.

HOUSE OF LORDS.

THURSDAY, APRIL 23RD.

Midwives (Scotland) Bill.

Lord BALFOUR of BURLEIGH, in moving the second reading of the Midwives (Scotland) Bill, said that the communications which had been received with reference to the Bill since it was introduced were entirely favourable, but a number of drafting amendments had been suggested.

The second reading was agreed to without debate.

HOUSE OF COMMONS.

WEDNESDAY, APRIL 22ND.

Mortality Amongst Seamen.

Mr. MCGHEE asked the President of the Board of Trade whether his attention had been called to the statistics relating to mortality amongst seamen on British ships; and whether he proposed to take any steps in the matter.—Mr. BURNS answered: I am aware of the statistics to which my honourable friend refers, and by my direction the whole question of seamen's mortality is now being investigated by officers of my department in consultation with representatives of the Local Government Board and the General Register Office.

THURSDAY, APRIL 23RD.

Form of Declaring-on Certificate.

Mr. CHARLES BATHURST asked the honourable Member for St. George's-in-the-East, as representing the Insurance Commissioners, whether he was aware of the feeling among Approved Societies and their various organisations that the form of declaring-on certificate, Medical 34, issued by the Insurance Commissioners to panel doctors, should bear upon it words to the effect that the certificate should be sent in to the society immediately it was signed; and whether he would take steps to have the desired alteration carried into effect.—Mr. WEDGWOOD BENN replied: The question of the revision of the form in the manner referred to by the honourable Member is now under the consideration of the Insurance Commissioners.

Mr. BATHURST: How long will it be before this consideration leads to action?—Mr. WEDGWOOD BENN: The honourable gentleman has just made a suggestion which will be acted on if it is a good one.

Mr. BATHURST: Was it brought to the knowledge of the Commissioners many months ago?—Mr. WEDGWOOD BENN: Not to my knowledge.

Stoke-on-Trent Panel.

Sir HENRY CRAIK asked the honourable Member for St. George's-in-the-East whether his attention had been called to the delay which had occurred in paying the doctors on the Stoke-on-Trent panel, and whether the Insurance Commissioners could bring to an end a state of matters which inflicted heavy loss upon the doctors who had undertaken to serve under the Act.—Mr. WEDGWOOD BENN answered: My right-honourable friend is not aware that any avoidable delay has arisen in the case referred to. He is informed that the doctors in question have already been paid 94 per cent. of the amount estimated to be available for their remuneration, and as a matter of fact the accounts, with a view to a settlement, are in the hands of the doctors themselves for agreement by them.

MONDAY, APRIL 27TH.

Hop Substitutes in Brewing.

Mr. DUNDAS WHITE asked the President of the Board of Agriculture whether he would state what hop substitutes were used in the brewing or preparation of beer which were deleterious to health and were not already prohibited by the Sale of Food and Drugs Acts or other statutes.—Mr. HERBERT LEWIS (on behalf of Mr. RUNCIMAN) replied: The proposed legislation is not based on the assumption that hop substitutes are deleterious to health, and I am not prepared to say whether or not any hop substitutes can be so described.

Medical Cards.

Mr. DENNISS asked the honourable Member for St. George's-in-the-East what was the number for England, Wales, and Scotland respectively of insured persons' medical cards which had not been delivered by the Post Office to the addressee; where those cards were at present; what steps were being taken, or were proposed to be taken, to find the addressees and deliver the cards; and whether the Approved Societies had been invited to furnish the addresses of those of their members whose medical cards had been returned through the post; and, if so, with what result.—Mr. WEDGWOOD BENN answered: The numbers of medical cards returned through the Post Office are approximately 800,000, 125,000, and 20,000. These cards are with the Insurance Committees by whom they were issued; and steps are being taken in many cases to trace addressees by means of the sources of information accessible, including Approved Societies. Apart from any such steps cards had been issued upon application to a very large number of insured persons who did not receive a card upon the initial distribution.

TUESDAY, APRIL 28TH.

Notification of Infectious Diseases.

Mr. WING asked the President of the Local Government Board whether he would amend the Notification of Infectious Diseases Act, by order or otherwise, in such a manner as to make it compulsory on the part of private medical attendants to inform parents as to the nature of the illness of their children and its infectious character, and advise as to the exclusion of children from school pending the arrival of the medical officer of health; and whether he was aware that this proposal was recommended by several public officers of health.—Mr. HERBERT SAMUEL replied: I am aware that a suggestion of this kind has been made in the report of a medical officer of health, but I have received no representations on the subject. Legislation would be required to give effect to the suggestion, and I am not at present convinced of the necessity for adopting compulsion in this matter.

WEDNESDAY, APRIL 29TH.

Unallocated Panel Surplus in London.

Sir J. D. REES asked the honourable Member for St. George's-in-the-East whether the Government had sanctioned the distribution proposed by the London Insurance Committee of the unallocated surplus of about £200,000 in the panel fund to the doctors on the panel; and whether legal advice had been taken by the Insurance Commissioners as to the legality of such distribution.—Mr. WEDGWOOD BENN replied: The proposals of the London Insurance Committee as to the manner in which the sum at issue (the amount of which is overstated in the question) is to be distributed among the doctors have not as yet been submitted to the Insurance Commissioners.

BOOKS, ETC., RECEIVED.

THOMAS Y. CROWELL COMPANY, New York.

Tuberculosis: Its Cause, Cure, and Prevention. (A book for laymen.) By Edward O. Otis, M.D. Price $1.25 net.

F. A. DAVIS COMPANY, Philadelphia. STANLEY PHILLIPS, 22, Creighton-road, Queen's Park, London.

Modern Ophthalmology: A Practical Treatise on the Anatomy, Physiology, and Diseases of the Eye. By James Moores Ball, M.D., LL.D., Dean and Professor of Ophthalmology in the American Medical College of St. Louis. Third edition, revised and enlarged.

LAURIE, T. WERNER, London.

A Daughter of Debate. By Mrs. Ambrose Harling. Price 6s.

Woman and Crime. By Hargrave L. Adam. Price 6s. net.

LEWIS, H. K., London.

Diseases of the Nervous System for the General Practitioner and Student. By Alfred Gordon, A.M., M.D. Paris. Second edition, revised and enlarged. Price 17*s.* net.

LIBRAIRIE MÉDICALE ET SCIENTIFIQUE, Rue Serpente, Paris.

Les Teintures Capillaires à la P. Phénylène Diamine: de leur Interdiction aux Idiosyncrasiques. Par R. Rousseau, Pharmacien de 1re classe, Docteur de l'Université de Paris. Price Fr.3.

LONGMANS, GREEN, AND Co., London, New York, Bombay, and Calcutta.

The Viscosity of Liquids. By Albert Ernest Dunstan, D.Sc. Lond., and Ferdinand Bernard Thole, B.Sc. Lond. With diagrams. Price 3*s.* net.

MALOINE, A., Paris.

Les Opsonines et les Bactériotropines au point de vue des Expériences personnelles et La Critique de la Théorie de Wright. Par le Dr. St. Serkowski (Pologne). Price Fr.2.50.

L'Arthritisme-Diathèse à Vichy Physiologie pathologique et Thérapeutique physiologique. Par E. Gautrelet (Docteur in Pharmacie), et H. de Lalaubie (Docteur in Médecine). Price Fr.10.

MARHOLD, CARL, Halle a.S.

Heil-Und Pflegeanstalten für Psychischkranke. Redigiert Oberarzt Dr. Johs. Bresler. (Lüben i Schles.) Band I. Price M.14.

MARLBOROUGH, E., AND COMPANY, London.

German Technical Words and Phrases: An English-German and German-English Dictionary of Technical and Business Terms and Phrases. By C. A. Thimm and W. von Knoblauch. Second edition, revised and enlarged. Price 2*s.* 6*d.*

METHUEN AND CO., London.

A Third-Year Course of Organic Chemistry: Heterocyclic Compounds, Carbohydrates, and Terpenes. By T. P. Hilditch, D.Sc. Lond., F.I.C. Price 6*s.*

Some Minute Animal Parasites or Unseen Foes in the Animal World. By H. B. Fantham, D.Sc. Lond., B.A. Cantab., A.R.C.S., F.Z.S., Lecturer in Parasitology in the Liverpool School of Tropical Medicine; and Annie Porter, D.Sc. Lond., F.L.S., Beit Memorial Research Fellow, Quick Laboratory, Cambridge. With frontispiece and 56 text figures. Price 5*s.* net.

MURBY, THOMAS, AND Co., London.

The Mind at Work: A Handbook of Applied Psychology. Edited by Geoffrey Rhodes, with contributions by Charles Buttar, M.D., E. J. Foley, and Professor L. L. Bernard, Ph.D. Price 3*s.* 6*d.* net.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ARNOTT, ORROCK, M.B., B.S. Durh., has been appointed Superintendent in Charge of the Basutoland Leper Settlement, Botsabelo, Basutoland.

BAXTER, A., M.B., C.M. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Old Meldrum District of the county of Aberdeen.

COURTS, A. S. C., M.D. Lond., has been appointed Resident Medical Officer at the Hampstead General and North-West London Hospital.

DEARNLEY, GERTRUDE, M.B., B.S. Lond., has been appointed Assistant Anæsthetist and Junior Clinical Assistant to the Royal Free Hospital.

DORE, S. E., M.D. Camb., M.R.C.P. Lond., has been appointed Consulting Physician for Diseases of the Skin to the Evelina Hospital for Sick Children.

FORRESTER-BROWN, MAUD F., M.B., B.S. Lond., has been appointed House Physician at the Royal Free Hospital.

GRAY, NORMAN, M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at the Royal Free Hospital.

HALLOWES, K. R. C., M.B., B.Ch. Dub., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Cavan District of the county of Cavan.

HEY, W. H., M.B., Ch.B. Vict., F.R.C.S. Eng., has been appointed to the Staff of the Manchester Royal Infirmary.

KRAMER, A. B. H., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the King's Cliffe District of the county of Northampton.

LEA, CHARLES EDGAR, M.D., Ch.B. Vict., M.R.C.P. Lond., has been appointed Honorary Physician to the Ancoats Hospital, Manchester.

MELLAND, C. H., M.D. Lond., M.R.C.P. Lond., has been appointed to the Staff of the Manchester Royal Infirmary.

MILNE, DOROTHY KATE, M.B., B.Ch. Dub., has been appointed Junior Clinical Assistant to the Royal Free Hospital.

MOSS, EDITH M., M.B., B.S. Lond., has been appointed House Surgeon at the Royal Free Hospital.

PLATT, HARRY, M.S., M.B. Lond., F.R.C.S. Eng., has been appointed Honorary Surgeon to the Ancoats Hospital, Manchester.

POWELL, E. M., M.R.C.S., L.R.C.P., has been appointed Junior Obstetric Assistant to the Royal Free Hospital.

ROWNTREE, CECIL W., M.B., B.S. Lond., F.R.C.S. Eng., has been appointed Surgeon to the Cancer Hospital, Fulham-road.

SHUTTLEWORTH, G. E., M.D. Heidel., M.R.C.S., has been appointed by the Board of Control to sign Certificates of Mental Defect under the Mental Deficiency Act, 1913 (Sections 3 and 5).

SMITH, J. R., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Pontyberem District of the county of Carmarthen.

TRUTER, J. Z., M.B., Ch.B. Edin., has been appointed House Surgeon at the Hampstead General and North-West London Hospital.

WALKER, G., M.B., B.C. Cantab., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Colnbrook District of the county of Buckingham.

WEBB, MILLICENT VERE, L.R.C.P. & S. Edin., has been appointed Medical Superintendent of the Dufferin Hospital, Calcutta.

WILLIAMS, H. AUSTIN, M.R.C.S., L.R.C.P. Lond., has been appointed House Physician at the Hampstead General and North-West London Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BARNSLEY, BECKETT HOSPITAL AND DISPENSARY.—Second House Surgeon, unmarried. Salary £100 per annum, with apartments, board, and laundry.

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL.—House Surgeon. Salary £120 per annum, with residence, board, and laundry.

BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, Woodchurch-road, Birkenhead.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

BIRMINGHAM AND MIDLAND HOMŒPATHIC HOSPITAL.—Resident House Surgeon. Salary £100 per annum, with board, laundry, &c.

BIRMINGHAM CITY HOSPITAL, Lodge-road.—Assistant Resident Medical Officer. Salary £160 per annum, with board, residence, &c.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon. Salary £5 5*s.* per week, with apartments.

BIRMINGHAM UNION.—DUDLEY-ROAD INFIRMARY: Resident Assistant Medical Officer. Salary £150 per annum, with apartments, rations, laundry, and attendance.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £120 per annum, with board, residence, and laundry.

BRADFORD CITY EDUCATION COMMITTEE.—Female Physical Exercises Instructor.

BRADFORD POOR-LAW UNION HOSPITAL AND UNION HOUSE.—Female Assistant Resident Medical Officer, unmarried. Salary £150 per annum, with rations, apartments, and washing.

BRADFORD ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing.

BRENTFORD UNION INFIRMARY, WORKHOUSE, AND SCHOOLS, Isleworth, W.—Second Assistant Medical Superintendent, unmarried. Salary £150 per annum.

BRIGHTON COUNTY BOROUGH ASYLUM, Haywards Heath.—Locum Tenens Assistant Medical Officer. Salary £4 4*s.* a week and railway fare.

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke-road.—House Surgeon for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

BRIGHTON, ROYAL SUSSEX COUNTY HOSPITAL.—Honorary Medical Clinical Assistant and Honorary Surgical Clinical Assistant.

BRISTOL CITY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, washing, and attendance.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House Surgeon. Salary £100 *per annum*, with board, rooms, attendance, and laundry.

BRISTOL ROYAL INFIRMARY.—House Surgeon for Throat, Nose, and Ear Department. Salary at rate of £100 per annum, with board, lodging, and laundry.

BURY INFIRMARY.—Junior House Surgeon. Salary £100 per annum, with board, residence, and washing.

CAMBRIDGE, ADDENBROOKE'S HOSPITAL.—House Physician. Salary £100 per annum, with board, residence, and laundry.

CANCER HOSPITAL (FREE), Fulham-road, S.W.—Assistant Surgeon.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary £200 per annum, with apartments.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.—Resident House Surgeon. Salary £50 per annum, with board and laundry.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House Physician. Salary £90 per annum, with board, apartments, and laundry.

CHICHESTER, WEST SUSSEX COUNTY MENTAL HOSPITAL.—Junior Assistant Medical Officer. Salary £200 to £250 per annum, with apartments, board, laundry, and attendance.

COUNTY OF LONDON.—London County Council Lecturers in First Aid, Home Nursing, and Infant Care. Salary £1 1*s.* a lecture.

DERBYSHIRE EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £300 per annum, with £100 per annum for travelling expenses.

DEVONPORT, ROYAL ALBERT HOSPITAL.—House Surgeon, unmarried Salary £50 for first six months, £75 for second six months, and at rate of £150 per annum during second year. Also Assistant House Surgeon, unmarried. Salary at rate of £75 per annum, with board and laundry.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon for six months. Salary £100 per annum, with residence, board, and washing.

DURHAM COUNTY COUNCIL.—Two School Medical Inspectors. Salary £300 per annum.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House Surgeon for six months. Salary at rate of £75 per annum, with board, residence, laundry, &c. Also Medical Officer to Casualty Department for six months. Salary at rate of £100 per annum, with luncheon and tea provided.

ECCLES AND PATRICROFT HOSPITAL.—House Surgeon. Salary £70 per annum, with board, washing, and lodging.

FAREHAM, HANTS COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, washing, and attendance.

FEDERATED MALAY STATES GOVERNMENT CENTRAL LUNATIC ASYLUM.—Assistant Superintendent. Salary £400 per annum, with free quarters.

Flintshire Education Committee.—Assistant Medical Officer. Salary £250 per annum.

Gloucester, Gloucestershire Royal Infirmary and Eye Institution.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and washing.

Halifax Royal Infirmary.—Second House Surgeon and Third House Surgeon, unmarried. Salary £100 and £80 per annum respectively, with residence. board, and washing.

Hemel Hempstead. West Herts Hospital.—Resident Medical Officer. Salary £120 per annum, with *rooms, board, and washing.*

Huddersfield Royal Infirmary.—Assistant House Surgeon. Salary £80 per annum, with board, residence, and washing.

Kent County Council.—Locum Tenens Tuberculosis Officer for four *months. Salary at rate of £500* per annum.

King's Lynn, West Norfolk and King's Lynn Hospital.—House Surgeon. Salary £120 per annum.

Leeds Public Dispensary, North-street.—Junior Resident Medical Officer. Salary *£130* per annum, with board, residence, and laundry.

Liverpool City Infectious Diseases Hospital and Sanatorium for Tuberculosis.—Assistant Resident Medical Officer, unmarried. Salary £150 per annum, with board, washing, and lodging.

London Medical Mission, Endell-street, W.C.—Resident Medical Man, unmarried. Salary £120, with board and residence.

Maidstone, Kent County Asylum.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

Manchester, St. Mary's Hospitals for Women and Children.—House Surgeon. Salary *at rate of £50 per annum,* with board and residence.

Metropolitan Hospital, Kingsland-road, N.E.—Assistant House Surgeon for six months. Salary at rate of £40 per annum, with *board and washing.*

Middlesborough, North Ormesby Hospital.—Assistant House Surgeon. Salary at rate of £100 per annum first six months and £110 per annum afterwards, with board, apartments, washing, and *attendance.*

Newark-upon-Trent Hospital.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and laundry.

New Zealand, University of Otago.—*Professor of Anatomy.* Salary £800 per annum.

Pembrokeshire Education Authority.—Assistant School Medical Officer. Salary £300 per annum.

Peterborough Infirmary and Dispensary.—House Surgeon, unmarried. Salary at rate of £120 per annum, with residence, board, and laundry.

Portsmouth Corporation Mental Hospital.—Assistant Medical Officer, unmarried. Salary £225 per annum, with board, apartments, attendance, and washing.

Preston, County Asylum. Whittingham. Lancs.—Junior Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, &c.

Prince of Wales's General Hospital, Tottenham, N.—Senior House Physician and Senior House Surgeon. Salary £75 per annum each. Also Junior House Physician and Junior House Surgeon. Salary £60 per annum each. With residence, board, and laundry. All for six months. Also Pathologist. Salary 120 guineas per annum. Also Honorary Medical Registrar.

Queen Charlotte's Lying-in Hospital, Marylebone-road, N.W.—Assistant Resident Medical Officer for four months. Salary at rate of £50 per annum, with board, residence, and washing.

Reading, Royal Berkshire Hospital.—Second House Surgeon for six months. *Salary at rate of £80 per annum,* with lodging, board, and washing.

Rochdale Infirmary.—Senior House Surgeon, unmarried. Salary £110 per annum, with board, residence, and laundry.

Rotherham Hospital.—Assistant House *Surgeon. Salary £100* per annum, with board, lodging, and washing.

Royal Free Hospital, Gray's Inn-road, W.C.—House Physician for six months. Board, lodging, and washing provided.

Royal Hospital for Diseases of the Chest, City-road, E.C.—Director of the Pathological Department. Salary £400 per annum. Also Medical Registrar. Salary 100 guineas per annum.

Royal Institute of Public Health, Russell-square, W.C.—Assistant Director of the Bacteriological Laboratories. Salary £250 per annum.

Royal London Ophthalmic Hospital, City-road, E.C.—Honorary Physician.

Royal Waterloo Hospital for Children and Women, S.E.—Honorary Physicians.

Royal Westminster Ophthalmic Hospital, King William-street, West Strand, W.C.—House Surgeon for six months. Salary at rate of £50 per annum, with board, residence, and laundry.

St. Mark's Hospital for Cancer, Fistula, and other Diseases of the Rectum, City-road, E.C.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

St. Mary's Hospital, Paddington, W.—Casualty House Surgeon for six months. Salary £100 per annum, with board and lodging.

St. Pancras South Infirmary and Workhouse, Pancras-road.—Senior Assistant Medical Superintendent and Senior Assistant Medical Officer. Salary at rate of £175 per annum, with residential allowances.

Salford Royal Hospital.—Junior House Surgeon and Casualty House Surgeon. Salary at rate of £80 per annum each, with board and residence.

Salisbury Infirmary.—Assistant House Surgeon, unmarried. Salary £75 per annum, with apartments, board, lodging, and washing.

Sheffield, East End Branch of the Children's Hospital.—House Surgeon for Out-patient Department. Salary £100 per annum, with board and residence.

Sheffield, Jessop Hospital for Women.—Assistant House Surgeon, unmarried. Salary £80 per annum, with board, residence, and laundry.

Sheffield Royal Infirmary.—Ophthalmic House Surgeon for six months. Salary £80 per annum, with board and residence.

Sheffield, South Yorkshire Asylum, Wadsley.—Locum Tenens Assistant Medical Officer for five months. Salary £5 5*s.* per week, with apartments, board, and attendance.

Southampton, Royal South Hants and Southampton Hospital.—Junior House *Surgeon. Salary* at rate of £100 per annum, with rooms, board, and washing.

Stockport, County Borough of.—Tuberculosis Officer. Salary £4[illegible] per annum.

Stoke-on-Trent, North Staffordshire Infirmary, *Hartshill.*—House Physician, unmarried. Also Casualty and Out-patient Officer, unmarried, for six months. Salary at rate of £110 per annum each, with board, residence, and washing.

Sunderland Borough Asylum, Ryhope.—Assistant Medical Officer. Salary £200 per annum.

Swansea Education Committee.—Dental Surgeon. Salary £220 per annum.

Tunbridge Wells General Hospital.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, &c.

Walsall and District Hospital.—Senior House Surgeon and Assistant House Surgeon. Salary £150 and £110 per annum respectively, with board, residence, and laundry.

West Ham and Eastern General Hospital.—Junior House Physician and Junior House Surgeon. Salary at rate of £75 per annum, *with board, residence,* and washing.

West London Hospital, Hammersmith, W.—Ophthalmic Surgeon.

West Riding of Yorkshire.—Dispensary Tuberculosis Officer. Salary £400 per annum.

Wigan, Royal Albert Edward Infirmary and Dispensary.—Junior House Surgeon. Salary £100 per annum, with board, apartments, and washing.

Wolverhampton and Midland Counties Eye Infirmary.—House Surgeon. Salary £100 per annum, with *apartments,* board, and laundry.

Wolverhampton and Staffordshire General Hospital.—Resident Medical Officer. Also Two House Surgeons for six months. Salary in each *case at rate of £125 per annum,* with board, *rooms,* and laundry.

Woolwich Tuberculosis Dispensary, Maxey-road, Plumstead, S.E.—Medical Officer. Salary £500 per annum.

The Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Brixham, in the county *of Devon,* and at Langport, in the county of Somerset.

The Home Secretary gives notice of a vacancy for a Medical Referee under the Workmen's Compensation Act, 1906, for the Carlisle, Haltwistle and Alston. Brampton, Penrith, Wigton, Appleby, and Keswick County Courts, in Circuit No. 3. Applications should be addressed to the Private Secretary, Home Office, Whitehall, S.W., not later than May 12th, 1914.

Births, Marriages, and Deaths.

BIRTHS.

Conran.—On April 25th, at Bathurst Lodge, Lavington-road, Ealing West, to Dr. and Mrs. Charles E. Conran, a daughter.

Cummins.—On April 24th, at Cullompton, Ashtead, Surrey, the wife of Major S. Lyle Cummins, R.A.M.C., of a daughter.

Foster.—On April 21st, at Widey Grange, Crownhill, S. Devon, the wife of Captain R. L. V. Foster, M.B., Royal Army Medical Corps, of a daughter.

Gaskell.—On April 28th, at Ladbroke-grove, W., the wife of John Foster Gaskell, M.D., of a daughter.

Hoffmeister.—On April 23rd, at Sion-hill, Ramsgate, the wife of Cyril J. R. Hoffmeister, B.A. Cantab., M.R.C.S., L.R.C.P., of a daughter.

MacRae.—At Roberts Victor Diamond Mine, Roberts Victor, O.F.S., S. Africa, on April 23rd, the wife of Duncan MacKenzie MacRae, M.A., M.B., Ch.B., of a daughter.

Montgomery.—On April 27th, at Messina, Northern Transvaal, the wife of Dr. W. H. Montgomery (neé Dr. Winifred Muirhead) of a daughter (by cable).

Tate.—On April 25th, at Lower Baggot-street, Dublin, the wife of Captain R. Tate, R.A.M.C., of a son.

MARRIAGES.

Coulter—Pope.—On April 22nd, at St. Michael and All Angels, Bedford Park, W., Robert James Coulter, M.A., M.B., of Newport, Mon., to Mary Catherine, second daughter of the late H. Campbell Pope, M.D., and Mrs. Campbell Pope, of Emlyn-villas, Stamford Brook, W.

Garton—Bryce-Williams.—On April 18th, Wilfrid Garton, M.R.C.S., L.R.C.P., to Eleanor de Burgh Bryce-Williams.

Pringle—Cooper.—On April 23rd, at Lacca Church, Kenneth Douglas Pringle, M.B., to Dorothy Despard Cooper, eldest daughter of Mrs. Cooper, of Lacca Manor, near Mountrath, Queen's County, Ireland.

DEATHS.

Barrie.—On April 25th, suddenly, at his residence, Cliff Lodge, Eldon-street, Greenock, Andrew David Barrie, M.B., C.M., in his 71st year.

Cæsar.—On April 20th, at The Oaks, Pevensey, Sussex, Arthur Augustus Cæsar, late Senior Surgeon, East London Hospital for Children, aged 74 years.

Lyon.—On April 20th, suddenly, at Ingatestone Hall, Essex, George Lyon, M.D., M.R.C.P. Edin.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE PSYCHOLOGY OF EXPLETIVES.

IN THE LANCET of Oct. 4th, 1913, p. 1037, we published a note with a few remarks on the psychology of "damn," referring to the frequent use of this word on the stage. Another expletive has now been the subject of recent discussion for a similar reason. It may be that it is really the modern corruption of "Byrlady" "By our Lady," as "Marry" is of "By Mary," or it may have some closer connexion with "Sblood"—"God's blood." Most of these old oaths had some reference to God or some divinity or divine subject. For instance, there were "Sdeath" for "God's death," "Zounds" for "God's wounds," "Od's-bodikins" or "Od's-bobs" for "God's body," and "Od's-pitikins" for "God's pity." "Drat." or "Drot." is derived from "God rot." "Gadzooks" or "zooks" is said to mean "God's hooks," the nails of the Cross. "By gosh," "By Jove," and "Begorra" are well known. "The Deuce" for the Devil or "Deus" or "Zeus" is common. "By Jingo" is said by some to be the Basque "Jinkoa"—"God," and by others to be connected with St. Gengulphus. An odd expletive, used in the eastern counties of England some years back and now obsolete, was "By Jimineezer." This is no doubt "Jimenez" and its abbreviated form "By Jiminy," may yet be heard, but it is one of the expletives which have always been more current in the books purporting to portray the life of the people than in their actual life. The French "Dame," for expressing hesitation or surprise, "Parbleu" and "Morbleu," and the German "Donnerwetter" and "Donner und blitzen," are all appeals to God as the Ruler of the Universe. The psychology as well as the etymology of these expressions is certainly an interesting study.

SAPROPHYTIC EXISTENCE OF TRICHOPHYTON ENDOTHRIX.

To the Editor of THE LANCET.

SIR,—Perhaps the following may interest some of your readers. I have been growing and mounting pure cultures of the above fungi from hairs that have been in my possession over eight years. I know there are some dermatologists who think it probable that ringworm fungi may pursue a saprophytic existence; but does not the fact of growing cultures from these hairs prove that trichophyton fungi live a double life, both parasitic and saprophytic?

I am, Sir, yours faithfully,
Maldon, Essex, April 28th, 1914. CHARLES DIBBEN.

MEDICAL PRACTICE IN SWEDEN.

THE conditions of the Public Health Medical Service in Sweden will be found described briefly in THE LANCET, Vol. II., 1911, p. 244. The standard of medical education is unusually high in that country, and it is not rare for the medical curriculum to last over eight years. A special feature is the importance attached by the authorities to the holding of resident hospital appointments. Medical diplomas other than those of the three Swedish Universities are not recognised, and the foreigner wishing to practise in the country would have to pass its medical examinations. During the last few years there has been a growing dearth of medical men in Sweden, and it is therefore possible that on application to the authorities the possessor of a first-class foreign diploma might be allowed to practise without passing all the examinations usually considered necessary.

THE LONDON SURGICAL HOME.

To the Editor of THE LANCET.

SIR,—In the Obstetrical Transactions for 1865 I find Mr. Baker Brown described as "Senior Surgeon to the London Surgical Home." Can you tell me what "the London Surgical Home" was and what became of it?

I am, Sir, yours faithfully,
Leeds, April 27th, 1914. J. B. HELLIER, M.D. Lond.

⁂ The London Surgical Home for Diseases of Women was established in 1858 at 12, Osnaburgh-place, Regent's Park, London. It was "for respectable females suffering from curable surgical diseases." The surgeon was "Baker Brown, Esq." Mr. Isaac Baker Brown resided at 17, Connaught-square, Hyde Park, and 5, Stanley-terrace, Notting Hill. What became of the Home we cannot trace.—ED. L.

ALCOHOL AND LONGEVITY.

To the Editor of THE LANCET.

SIR,—I was very glad to read in THE LANCET of April 18th, p. 1127, that the question of alcohol and longevity, and the statistics which point beyond cavil to the advantages to health from the practice of total abstinence, as evidenced by some insurance statistics, is not endorsed after a careful survey. The reasons given are entirely in accord with my investigation of the subject, carried on now for ten years. I have found these total abstainers who insure are more careful living men, less excitable in disposition, and do not indulge in such violent games and exercises, or are so fond of adventures where there is an element of danger, as those who partake of alcohol. In brief, the alcohol, if drank in strict moderation, has nothing to do with the statistics, but solely the personal element of the insured person.

A very good and practical illustration, which certainly tends to prove that the moderate use of alcohol makes for longevity, is the case of a very near relative of mine, who died at the age of 84 from influenza. The old lady had always taken her wine or beer for dinner and whisky before going to bed. She had a great belief in virtues of beer, stating it prevented constipation and fermentation in the bowels. She was never ill all her life, and only kept her bed during maternal duties; never had to visit a dentist, the teeth merely falling out as the gum receded, and never wore glasses, reading the papers a week before her death. From long clinical experience I believe that pure beer is a most wholesome beverage, epecially for growing boys and girls.

I am, Sir, yours faithfully,
THOMAS DUTTON.
New Cavendish-street, W., April 23rd, 1914.

◆

Income Tax.—The proceeds of the sale of our correspondent's practice should be credited to capital account, and therefore should not be returned as income for assessment to tax. When he purchases another practice the expenditure will be debited to capital account, and will not be allowed as a charge against the profits of the practice.

Enquirer.—It would be advisable for a patient with granular kidneys and a tendency to glycosuria to refrain from taking a beverage which contains both alcohol and sugar, even in small quantities.

ERRATUM.—In our annotation last week on Kubisagari the reference should have been to the *Revue de Médecine*, not to the *Presse Médicale*. We regret the slip.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced.

In 1914:—
- May 1st–Nov. 1st (Lyons).—International Town Hygiene Exhibition.
- „ 15th–Oct. 15th (Berne).—Swiss National Exhibition.
- „ 18th–21st (London, Imperial Institute).—Victoria League Imperial Health Conference.
- May–October (London, Shepherd's Bush).—Anglo-American Exposition.
- June 8th–10th (Berne).—Seventh International Dairy Congress.
- „ 18th–24th (London, Church House, Westminster).—International Conference on the Blind.
- June–July (Groningen).—University of Groningen 300th Anniversary Celebration.
- July 6th–11th (Blackpool).—Twenty-ninth Congress of the Royal Sanitary Institute.
- „ 8th–10th (Oxford).—Ophthalmological Congress.
- „ 15th–20th (Edinburgh).—Congress of the Royal Institute of Public Health.
- „ 21st–23rd (Chester).—British Pharmaceutical Conference.
- „ 27th–31st (London).—Fifth Annual Session of the Clinical Congress of Surgeons of North America.
- „ 28th–31st (Aberdeen).—Eighty-second Annual Meeting of the British Medical Association.
- Aug. 3rd–8th (London).—Sixth International Dental Congress.
- „ 10th–15th (St. Petersburg).—Twelfth International Congress of Ophthalmology.
- Sept. 7th–12th (Berne).—International Congress for Neurology, Psychiatry, and Psychology.
- „ 21st–26th (Vienna).—Third International Congress on Diseases of Occupation
- „ 30th–Oct. 3rd (Brussels).—Fourteenth French Congress of Medicine.
- Oct. 31st–Nov. 2nd (Berlin).—First Congress of the International Society for Sexual Research.
- Nov. 15th–21st (London).—Health Week. (Under the direction of the Health Week Committee appointed by the Royal Sanitary Institute.)
- (St. Petersburg).—Third Mendeléeff Congress on Pure and Applied Chemistry and Physics.

In 1915:—
- May 31st–June 5th (London, South Kensington).—Sixth International Congress of Social Work and Service.
- Sept. 8th (begins) (Manchester).—Meeting of the British Association.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—(4 P.M., Election of Fellows.) Lord Rayleigh, O.M.: (1) Some Calculations in Illustration of Fourier's Theorem; (2) On the Theory of Long Waves and Bores.—Sir Joseph Larmor and Mr. J. S. B. Larmor: On Protection from Lightning and the Range of Protection Afforded by Lightning Rods.—Mr. E. N. Da C. Andrade: The Flow in Metals Subjected to Large Constant Stresses (communicated by Prof. A. W. Porter).—Prof. E. Wilson: On the Properties of Magnetically-shielded Iron as Affected by Temperature (communicated by Prof. J. A. Fleming).—Mr. G. I. Taylor: Eddy Motion in the Atmosphere (communicated by Dr. W. N. Shaw).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY.

SECTION OF SURGERY: SUB-SECTION OF ORTHOPÆDICS (Hon. Secretaries—A. S. Blundell Bankart, E. Rock Carling): at 5 P.M.

Annual Meeting.—Election of Officers and Council for Session 1914-1915.

SECTION OF PATHOLOGY (Hon. Secretaries—Gordon W. Goodhart, C. Price-Jones): at 8.30 P.M.

Annual Meeting.—Election of Officers and Council for Session 1914-1915.

Dr. H. C. Ross: The Similarity between the Artificially Induced Figures of Cell Division in Mononuclear White Blood Cells and those Found Occurring in the Blood under Natural Conditions in Pernicious Anæmia.

Dr. E. F. Bashford and Dr. J. A. Murray: Observations on the Mechanism of Cell Division (with kinematograph demonstration).

WEDNESDAY.

SECTION OF OPHTHALMOLOGY (Hon. Secretaries—J. Herbert Parsons, Leslie Paton): at 8 P.M.

Cases:

Papers (at 8.30 P.M.):

Mr. R. Affleck Greeves: Pathological Observations on the Filtration Angle in Some Glaucoma Cases.

Lieut.-Col. Herbert: The Ideal Glaucoma Incision.

Mr. N. Bishop Harman: A Variable Flap Operation for Chronic Glaucoma.

Mr. W. G. Laws: Herbert's Small-flap Operation for Glaucoma.

THURSDAY.

SECTION OF OBSTETRICS AND GYNÆCOLOGY (Hon. Secretaries—T. Watts Eden, C. Hubert Roberts): at 8 P.M.

Annual Meeting.—Election of Officers and Council for Session 1914-1915.

Specimens:

Mrs. Willey, M.D.: Submucous Fibroid showing Implantation of the Placenta on the Tumour.

Dr. C. E. Purslow: (1) Red Degeneration of Uterine Fibroid with Very Early Gestation; (2) Uterus with Multiple Fibroids and Placenta Prævia.

Dr. J. P. Hedley: Fœtal Bones Removed from the Uterus Three Years After a Miscarriage.

Mr. Joseph Adams: Case of Carcinoma of the Uterus in a Child aged 2½ Years.

Dr. Herbert Williamson: Intussusception through a Gastro-enterostomy Wound Occurring during Labour.

Mr. Clifford White: Volvulus of the Cæcum Occurring in Connection with Labour.

Paper:

Dr. James Young: The Etiology of Eclampsia.

FRIDAY.

CLINICAL SECTION (Hon. Secretaries—W. Essex Wynter, Thomas H. Kellock): at 8.30 P.M.

Cases:

Dr. Clive Riviere: Spleno-myelogenic Leukæmia.

Mr. Sidney Boyd: Splenectomy for Splenomegalic Cirrhosis with Ascites.

Dr. Arthur Hertz: Three Cases of Thomsen's Disease in Members of the Same Family.

Dr. Parkes Weber: (1) Progressive Vertebral Ankylosis (Spondylose Rhizomélique); (2) Specimen from a Case of Spasmodic Stricture of the Œsophagus (cardiospasm) with Fusiform Dilatation above it.

And other Cases.

Short Paper:

Dr. J. Alison Glover: Rupture of an Aneurysm of the Abdominal Aorta in a Young Woman.

RÖNTGEN SOCIETY.

TUESDAY.—Paper:—Mr. L. W. Bragg (Cambridge): X Rays and Crystals.

NORTH-EAST LONDON CLINICAL SOCIETY. Prince of Wales's Hospital, Tottenham, N.

THURSDAY.—4.15 P.M., Dr. Redmond's Motion *re* Library. Clinical Meeting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY.—5 P.M., Mr. Shattock: Specimens illustrating Sarcoma. (Museum Demonstration.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

TUESDAY.—4 P.M., Dr. P. Stewart: Clinique (Medical). 5.15 P.M., Lecture:—Dr. A. J. Jex-Blake: Lardaceous Disease and Tuberculosis.

WEDNESDAY.—4 P.M., Mr. P. Turner: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. L. Evans: Knock-knees.

THURSDAY.—4 P.M., Mr. J. E. Adams: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. H. C. Cameron: The Use of X Rays in the Diagnosis of Disease in Children.

FRIDAY.—4 P.M., Mr. A. Levy: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. Mr. B. Harman: Diseases of the Eye.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Dr. Simson: Diseases of Women and Eye Department.

THURSDAY.—9 A.M., Dr. Bernstein: Bacterial Therapy Department. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Mr. B. Harman: Diseases of the Eye.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: *Diseases of the Skin.*

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. H. B. Carlill: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine.

TUESDAY.—*Out-patient Demonstrations:*—10 A.M., Dr. C. E. Zundel: Medical. Mr Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., *Dr. G. Rankin:* Medicine. 4.15 P.M., Sir Malcolm Morris: Skin.

WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. H. B. Carlill: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.——2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery. 2.15 P.M., Special Lecture:—Dr. F. Taylor: Rigors.

THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. H. R. Prentice: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. Dr. A. Davies: Pathological Demonstration. 3.15 P.M., Dr. R. Wells: Medicine. 4.30 P.M., Special *Lecture:—Sir William Bennett, K.C.V.O.*

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NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. E. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Gynæcological (Dr. Banister). 3 P.M., Medical In-patients (Dr. R. M. Leslie).

TUESDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Nose, Throat, and Ear (Mr. H. D. Gillies). X Ray and Electrical Methods (Dr. Metcalfe). 3.30 P.M., Medical In-patient (Dr. Whiting).

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. Dorell).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson); X Rays and Electrical Methods (Dr. Metcalfe).

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. E. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. G. P. Chappell).

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL (UNIVERSITY OF LONDON), Albert Embankment, S.E.

Lectures in Advanced Medical Subjects:—

TUESDAY.—5 P.M., Dr. H. Maclean: Carbohydrate Metabolism in Health and in Diabetes.

GUY'S HOSPITAL MEDICAL SCHOOL, London Bridge, S.E.

Course of Lectures on Industrial Medicine:—

FRIDAY.—Lecture I.:—Dr. F. Shufflebotham: The Symptoms and *Diagnosis of Lead Poisoning.*

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, Medical School, City-road, E.C.

MONDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Cardiac Department, Dr. Stott: Out-patient Department, Dr. Phear, Dr. S. Thompson. 3 P.M., Wards, Dr. Phear.

Tuesday.—9 a.m., Laryngological Department, Mr. Mant. 1.30 p.m., Department for the Prevention of Consumption. 2 p.m., Out-patient Department, Dr. M. Leslie, Dr. B. King; Operations, Mr. A. Evans. 3 p.m., Wards, Dr. White. 4 p.m., Wards, Dr. M. Leslie

Wednesday.—2 p.m., Wards, Dr. A. Davies; Out-patient Department, Dr. Drysdale, Dr. Kellie. 4 p.m., Wards, Dr. Drysdale. 4.30 p.m., Roentgen Ray Department, Dr. Jordan.

Thursday.—9.30 a.m., Dental Department, Mr. G. Thomson. 10 a.m., Cardiac Department, Dr. Stott. 1.30 p.m., Department for the Prevention of Consumption. 2 p.m., Out-patient Department, Dr. Phear, Dr. S. Thompson. 4.30 p.m. Laryngological Department, Mr. Mant.

Friday.—1.30 p.m., Department for the Prevention of Consumption. 2 p.m., Wards, Dr. Calvert; Out-patient Department, Dr. M. Leslie, Dr. B. King.

Saturday.—10 a.m., Out-patient Department, Dr. Drysdale, Dr. Kellie. 11.30 a.m., Roentgen Ray Department, Dr. Jordan.

TY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, ictoria Park, E.

ourse of Demonstrations for Post-Graduates:—

Wednesday.—4 p.m., Dr. H. Walsham: Demonstration of X Ray Cases.

TIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, ueen-square, Bloomsbury, W.C.

Tuesday and Friday.—3.30 p.m., Clinical Lectures:—Dr. G. Holmes: Differential Diagnosis of Cerebral Tumours.

IE THROAT HOSPITAL, Golden-square, W.

Monday.—5.15 p.m., Special Demonstration of Selected Cases.
Thursday.—5.15 p.m., Clinical Lecture.

ONDON LOCK HOSPITAL, 91, Dean-street, Soho, W.

Special Course of Instruction in Venereal Diseases, for Post-Graduates and Students, with Practical Demonstrations of the Various Methods of Treatment:—

Monday.—Clinics:—1 p.m., Mr. Ryall; 6 p.m., Mr. Gibbs.
Tuesday.—Clinics:—2 p.m., Mr. Lane; 6 p.m., Mr. Paterson.
Wednesday.—Clinic:—6 p.m., Mr. Shillitoe.
Friday.—4 p.m., Lecture:—Mr. McDonagh: The Treatment of Venereal Diseases.
Saturday.—Clinic:—2 p.m., Mr. McDonagh.

OYAL INSTITUTION OF GREAT BRITAIN, Albemarle-street, Piccadilly, W.

Monday.—5 p.m., General Meeting.
Tuesday.—3 p.m., Prof. W. Bateson: Double Flowers.
Friday.—9 p.m., Prof. K. Pearson: Albinism in Men and Dogs.

OYAL SANITARY INSTITUTE, 90, Buckingham Palace-road, S.W.

Tuesday.—7 p.m., Lecture:—Dr. M. S. Pembrey: Physical Games versus Set Exercises.

ANCHESTER HOSPITALS POST-GRADUATE CLINICS.

Tuesday.—Manchester and Salford Hospital for Skin Diseases, Quay-street.—4.30 p.m., Dr. G. H. Lancashire: Eczema and Seborrhœa.
Wednesday.—Royal Infirmary—4.30 p.m., Mr. W. H. Hey: Inoperable Malignant Disease.
Thursday.—Ancoats Hospital—4.30 p.m., Mr. J. Morley: Gall Stones.

UNIVERSITY OF SHEFFIELD, at the University.

Post-Graduate Course on Syphilis:—

Tuesday.—3 p.m., Prof. Dean: Application of Wassermann Reaction to Diagnosis, Prognosis, and Treatment. General Pathology of Syphilis as Modified by Recent Research. Latent Syphilis. Parenchymatous Syphilis. Inherited Syphilis.
Friday.—3 p.m., Prof. Dean: General Principles of Chemiotherapy. The Work of Ehrlich and his School. Relations between Chemical Constitution and Specific Action. Atoxyl and Other Arsenical Compounds. Salvarsan.

For further particulars of the above Lectures, &c., see Advertisement Pages.

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(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

The Lancet Office, April 29th, 1914.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
April 23	30·25	S.W.	...	85	60	49	51	55	Cloudy
" 24	30·34	S.W.	...	113	63	45	48	52	Fine
" 25	30·28	N.E.	...	110	58	52	48	53	Cloudy
" 26	30·57	E.	...	109	60	41	46	50	Fine
" 27	30·43	E.	...	97	65	41	45	51	Fine
" 28	30·35	S.E.	...	109	66	46	52	55	Fine
" 29	30·03	S.E.	...	109	70	42	48	50	Fine

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The Lumleian Lectures

ON

SOME MODERN THEORIES CONCERNING HYSTERIA.

Delivered before the Royal College of Physicians of London on March 19th, 24th, and 26th, 1914,

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LECTURE III.[1]

Delivered on March 26th.

MR. PRESIDENT, FELLOWS, AND GENTLEMEN,—The doctrines of Professor Sigmund Freud on the subject of hysteria and other neuroses have not been generally known in England till within the last few years, since they were at first published in a tentative and disconnected way, and only in German. But lately an American translation of his principal work has appeared, and his theories have been expounded in England by Dr. Bernard Hart, Professor W. Brown,[2] and Dr. David Forsyth, so that doubtless they are familiar to many of my audience. But in view of their original character, of the wide application that has been made of them, and of the keen controversies to which they have given rise, it is necessary that I should attempt some exposition of them.

THE VIEWS OF PROFESSOR FREUD.

They originated, historically, in observations made by Dr. Joseph Breuer, and by Freud himself, some 30 years ago. The first case reported by Breuer was briefly as follows:—

> A young woman under the strain of nursing her father developed a severe hysteria with manifold symptoms. Among these symptoms was a sort of alternating mental condition. Thus at certain times of the day she was excited and had hallucinations; at others she was somnolent, and at others again normal. While in the somnolent phase, a sort of auto-hypnosis as it seemed, she uttered sounds and disjointed phrases which were discovered to relate to previous events of her illness, and it was found possible by suitable encouragement to get her to talk of these events, and to express her feelings concerning them. After such a talk she was always better. Artificial hypnosis was then substituted for the auto-hypnosis, and then further progress was made. She could narrate precisely the conditions which had given rise to particular symptoms, and after that, provided the emotion appropriate to the occasion manifested itself, the symptom in question disappeared. This was called the "talking cure" or "chimney-sweeping," or in more dignified language "katharsis."

Summary of Earlier Conclusions.

This method of treatment was applied by Breuer and by Freud to other cases, and from a study of them were derived their first conclusions about hysteria, which may be summarised as follows:—

1. That a hysterical symptom may originate from some disagreeable occurrence, the memory of which is still active, though it has passed from the patient's consciousness.

2. That the symptom can be cured if this memory can be revived in consciousness, and if the patient can be brought fully to relate the occurrence and to express the emotions to which it gave rise.

3. That the reason why the patient has forgotten the disagreeable occurrence which has so affected him—the mental trauma, as it may be called—may be of two kinds: Either (*a*) because when it arose he was in a condition of inattention to his surroundings, a sort of day-dream or state of incipient double consciousness. These states, which Breuer calls "hypnoid," he considers to be common in hysterical patients. In genuine traumatic hysteria the mere shock or fright may produce such a state *de novo*. Or (*b*) because the memory of the occurrence is so disagreeable to the patient that he has voluntarily banished it from his consciousness. The hysteria has then arisen by way of "repression" and is designed to protect the patient from objectionable memories. Such hysteria by repression is called by Freud a "defence-neurosis," and it is apparently the only kind of hysteria which he now recognises.

4. What is the relation of the hysterical symptom to this repression of the memory or idea? The answer is that though the patient may successfully banish from his consciousness the disagreeable idea, yet he cannot thus rid himself of the emotion which attends upon it, the "affect" as it is technically termed; and this would remain as a source of distress were it not that hysterical patients have the faculty (so it is said) of directing this emotion into bodily channels and thereby converting the affect into a symptom, such as pain, spasm, paralysis, and the like. But when the original idea, the skeleton in the secret cupboard of the mind, has been dragged out into the light of consciousness, and the emotion stirred by it has been poured forth in words or tears or passionate display, then the symptom which represented the emotion is no longer needed, and disappears. This is cure by "katharsis." It is, as Aristotle said of tragedy, "a purge for the emotions."

Later Development of Theories.

No doubt these views are simple and attractive. One might doubt, perhaps, the universal efficacy of treatment by "katharsis," and one might ask for much more evidence and explanation concerning the supposed hysterical faculty of "converting" emotions into symptoms. Still we recognise the emotional element in hysteria, and we recognise also the relief given to pent-up feelings—by tears, or perhaps by oaths. But such simple statements are very far from representing the theories developed later by Freud. In these latter, it is true, hysteria remains as a type of a "defence-neurosis," based on the repression from consciousness of disagreeable ideas. But this power of repression is elaborated into a mental faculty which forms the keystone of a large system of psychology. Secondly, the simple plan of hypnotism, followed by "katharsis," is replaced by the method of psycho-analysis. Thirdly, the particular class of ideas and events at the bottom of hysteria, and indeed of all neuroses, is declared on the testimony of psycho-analysis to be solely the sexual class.

Now, it would appear that Freud arrived at his larger theories partly by studying dreams (his own and those of his patients) with the aid of psycho-analysis, partly by studying the symptoms of neurotic patients in the same way, and partly (as it seems to me) by sheer speculation.

The "Censor" and the Unconscious Mind.

The object of psycho-analysis is to bring to light ideas which have been lost to consciousness or which, it may be, have never been apprehended in consciousness. For, according to Freud, the greater part of our mental activity is unconscious. There is within our mind a great mechanism or system of the Unconscious, which receives impressions, stores them in memory, and groups them together by association. Moreover, in this same system, or chamber, of the Unconscious are domiciled the emotional elements of our being, appetites, impulses, and desires, which are constantly striving for an outlet in action and in conscious thought. But before they can arrive at their goal they must pass through another stage called by Freud the Fore-conscious or Pre-conscious. Into this stage they cannot pass till they have been brought into conformity with certain standards, rules, and regulations; but once having been brought into such conformity they can pass into the stage of the Fore-conscious, ready to be called up into conscious thought or action. This sounds so obscure that I will venture on an analogy. You are going to pay your respects to Royalty. You gather together without any formality in certain suites of spacious rooms. These I compare with the Unconscious. Going on with the stream you must pass a door, where certain lynx-eyed officials stand, who may require you to correct any error in your costume, under pain of being turned back. Once past that door you find yourself, not indeed in the Presence, but in an ante-chamber, which you may call the Fore-conscious, and ready at the beck of the authorities to be called into the Royal presence, which I venture respectfully to compare to the highest stage, that of conscious thought.

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[1] Lectures I. and II. were published in THE LANCET of April 25th (p. [illegible]) and May 2nd (p. [illegible]), 1914.

[2] THE LANCET, April 18th (p. [illegible]) and 25th (p. [illegible]), 1914.

Now the standards, rules, and regulations, to which our thoughts must conform before leaving the Unconscious, have been elaborated by the many influences which have been brought to bear on each individual in the course of his life—education, religion, public and social opinion, previous experiences, previous mental conflicts, and the like. Such influences are summarised, I might say personified, by Freud under the title of the "Censor." The Censor determines what thoughts and strivings from the Unconscious shall be allowed to play their part upon the stage of consciousness, or again he can withdraw his licence, and relegate them back to the Unconscious. But there for good or evil they still exist, and it is asserted that by means of psycho-analysis we can find them out.

A great discovery, if only it be true.

The Process of "Free Association."

Now the assumption has to be made that our thoughts are not determined by chance or by our own volition, but that thought follows thought as surely as event follows event in the physical world; and further, that if any occurrence or thought in the past has given rise to a chain of thoughts which eventuates in a symptom or an idea in the present, this chain can be traced back from the present to the past. For contemplation of the present idea will cause an associated thought of the past to arise in the mind, and contemplation of that thought a further one, and so on from thought to thought till the whole chain can be unravelled. This is called the process of "free association." We must emphasise the word "free." It means freedom, not only from external interference, but also from interference from within. For if the unravelling of associations leads to thoughts which do not meet the demands of the Censor they will be repressed by him, so that either they will not rise to the surface at all or else they will arise in a modified, perhaps an unrecognisable, form.

Psycho-analysis.

The actual process of psycho-analysis is much as follows. The patient must give his willing and intelligent coöperation, and for this it will probably be necessary to furnish him with some explanation of the method to be followed. And first he must give a full and detailed account of his symptoms and the history of his illness so far as he can consciously remember it. It is to filling up gaps in this account or to the explanation of particular symptoms that the psycho-analysis is primarily applied. (I defer for the present the consideration of dreams.) For this he is placed in a restful position, on a couch or chair, usually with his eyes closed, and is told to concentrate his attention on the circumstance or symptom under consideration, and to say what thoughts come into his head or what pictures arise before his mind's eye in connexion therewith. His attitude is to be simply one of contemplation; he is not to try to think of appropriate things, nor yet in any way to criticise the thoughts that do occur to him, but simply to let them come, and to tell them to the physician, no matter how trivial, irrelevant, ridiculous, or disagreeable they may seem to be. From the thoughts or pictures thus obtained others will be obtained, and so on, I must not say *ad infinitum*, but until something essential or important has been reached. It is for the physician, I presume, to settle when to stop, and for him also to settle during the process what clues are to be followed up. In most cases, at any rate, a long process of disentanglement of ideas is to be expected; success in which process will depend partly on the facility with which the patient can produce mental pictures, and partly on the skill of the physician in selecting likely lines of research.

Now if, as I should imagine is often the case, the patient says that no thoughts will come, this, according to the psycho-analyst, is due to the action of the Censor. Thoughts are there, and probably important ones, but they are barred because they are disagreeable to him, or lead up to others that are disagreeable. The patient must be assured that thoughts are ready to come, and if by urging or persuasion or any other means he can be brought into a more contemplative and less critical frame of mind, it is said that they will come.

To an outsider it must be owned the situation seems to be peculiar and even to have a touch of comedy. It reminds one irresistibly of the "thinking shop" in the *Clouds* of Aristophanes, where the old country bumpkin Strepsiades is lying on a couch—less clean and comfortable than the couch in a Harley-street consulting-room—and Socrates, who is in vain trying to extort some ideas from the old man's head, says:—

Σω. Οὗτος, τί ποιεῖς; οὐχὶ φροντίζεις; Στ. ἐγώ;
  νὴ τὸν Ποσειδῶ. Σω. καὶ τί δῆτ᾽ ἐφρόντισας;
Στ. ὑπὸ τῶν κορέων εἴ μού τι περιλειφθήσεται.

. . . . .

Σω. οὗτος, καθεύδεις; Στ. μὰ τὸν Ἀπόλλω ᾽γὼ μὲν οὔ.
Σω. ἔχεις τι; Στ. μὰ Δί᾽ οὐ δῆτ᾽ ἔγωγ᾽. Σω. οὐδὲν πάνυ;

. . . . .

Σω. μή νυν περὶ σαυτὸν εἶλλε τὴν γνώμην ἀεί,
  ἀλλ᾽ ἀποχάλα τὴν φροντίδ᾽ εἰς τὸν ἀέρα,
  λινόδετον ὥσπερ μηλολόνθην τοῦ ποδός.

Socrat. Are you not thinking?
Streps. Certainly I am.
Socrat. What was your thought then?
Streps. I was wondering
How much these bugs would leave upon my bones.
(Socrates reproves him and proceeds):

Socrat. Now, are you sleeping?
Streps. No such luck, by Heaven.
Socrat. What have you got then?
Streps. Nothing.
Socrat. Nothing at all?
Streps. Nothing, but what I have in my right hand.

(The real reply is too Aristophanic for translation, and too Freudian.)

(Finally Socrates explains to him the frame of mind desired:)

Socrat. You keep your thought too centred on yourself.
Let it soar freely in the boundless air,
Just like a beetle threaded on a string.

You might call that "free association."

Another difficulty may be that the productions of the patient seem to be utterly irrelevant and meaningless. This, too, is put down to the action of the Censor. Such futilities are supposed to represent thoughts which in their original state he will not allow to pass, and therefore they have been dressed up, as it were, in a fantastic guise and in this way have slipped past the Censor into Consciousness. To utilise them the physician must interpret them in a symbolic sense. This interpretation by symbols is a very important matter, but I will return to it later.

A Modification of the Procedure.

To be complete, I ought to mention here a modification of the process of psycho-analysis introduced by Professor Jung, of Zürich. A long list of a large variety of words is made out. These are read out one by one to the patient, and he is told to answer to each one, as quickly as he can, with the first word that comes into his head in connexion with each word that is read out. The time taken for each answer is noted on a stop-watch, and it is generally found that he is much longer in answering to some words than to others. This tardiness in reaction is assumed to be due to the fact that the word has called up by association some idea or memory that is disagreeable to the patient and which he therefore tries to repress. It indicates, we are told, "a repressed complex." "Complex" seems to me an unfortunate word, but it is used in this connexion to indicate an idea or system of ideas with which is bound up some powerful feeling. Now if the assumption made about the reactions to the test words be correct, we can find out by them the existence of such "complexes," and possibly, from the nature of the patient's replies, make some sort of guess as to the nature of the "complexes." So that, as Dr. Forsyth points out, this method may serve as a useful preliminary to a psycho-analysis, by enabling us to determine what tracks to follow out.

Difficulty of Psycho-analysis.

I believe that the above description fairly represents the process of psycho-analysis as described by Freud and his followers. If it be objected that in this description I have mixed up theory with practice, I reply that that is exactly what they do. Thus any hitch in the process is put down to the action of the Censor, whereas the very assumption of such a Censor is only justified by the results of the process itself. And the same for other assumptions made about it. But let us defer criticism for the present; enough has been said to show that the method of "free association" is not so easy as those terms might imply; indeed, what with the numbers and complexity of the possible trains of ideas, the barriers or "resistances" to their appearance interposed by the Censor, and the distortion of thoughts produced in their struggle for emergence, the psycho-analysis of a case may be a very difficult process. And also a very long one: Freud tells us that one of his cases was unfinished at the end of five years.

Upon data obtained by this method is built up the whole system of Freud—whether principally upon the psycho-analysis of dreams or upon that of cases of hysteria, it is hard to say, for he refers us from the one to the other in a way that is puzzling. But since he tells us that the interpretation of dreams is the "*via regia*" to a knowledge of the unconscious, I must not evade his views on that subject, and must tax your patience while I try to explain them.

Interpretation of Dreams.

We all know the dream as it presents itself to the dreamer—generally a sort of moving picture of persons, things, and situations, a picture which differs strangely from our waking thoughts, but in which nevertheless we can generally recognise fragments of our waking experiences grotesquely pieced together. This Freud calls the *manifest* dream: it is to be sharply distinguished from the thoughts which really prompt it, which he calls the *dream thoughts* or *latent* dream. The manifest dream is a representation of the dream thoughts, but they are so altered and distorted that without interpretation they are unrecognisable. They are there, it is true, but they are jumbled, confused, and symbolised to such an extent that the manifest dream may be compared to a picture puzzle or a hieroglyphic, which needs deciphering to get at the dream thoughts.

How and why does this distortion take place? The "how" involves several processes; and I must mention some of them, since a knowledge of them is necessary for interpretation.

1. An object in the manifest dream may be compounded from several elements in the dream thoughts; this is called "condensation"; just as we may suppose a centaur to be compounded out of a horse and a man, or a mermaid out of a girl and a fish, or, to take words, just as we talk of the "Bakerloo" railway.

2. Allied to this is the process of "over-determination." A number of things in the dream thoughts may converge, or be piled up, as it were, so as to produce one thing in the manifest dream. Say you have been travelling abroad and the night of your return you dream of lions. Perhaps you started from the city of Lyons in France, read a book on the journey about big game shooting, and as you drove out of Charing Cross Station saw the name of Lyons over a tea shop. Thus the lions in your dream were over-determined.

3. "Inversion." The dream may invert the dream thoughts or take them in the wrong order, so that for interpretation it must be read backwards like Chinese. We might dream first of having a son and heir and afterwards of getting married; or a candidate for examination might dream he came out bottom of the class list because he really wished to come out top.

4. "Displacement of values." This means that the importance or the feelings which attach to a particular element in the dream thoughts are in the dream transferred to something else, or suppressed or disguised. In dreams, perhaps in dreams only, we love our enemies. We might adopt a strange child, because we really felt anxious how to support our own. We might ask a crossing sweeper for a cheque, or give a penny to a millionaire. A

young man, says Freud, dreamed that he had a hole in his overcoat and was terribly shocked at it. The rent had really been in something else. In technical language, the "affect" was transferred.

5. Dream thoughts may be expressed in the manifest dream by symbols, whereof the dreamer himself, whether asleep or awake, does not know the meaning.

6. We are further told, though this is less obvious, that just as the dream picks up the happenings of our daily life and weaves them into a sort of drama, so in order to complete this drama it picks up the fancies and day-dreams in which we may have indulged in our waking hours, and incorporates them into the drama of the dream. This is called "secondary elaboration."

All these processes, and others which I pass over whereby the dream thoughts are transmuted into the manifest dream, are called the "dream work." But why should there be any such dream work? What need is there for all this elaborate misrepresentation? The answer given is this. Our dream thoughts are thoughts which in our waking state we do not recognise as desirable, and therefore the Censor rigorously represses them. But when we sleep, the alertness of the Censor, like that of our other faculties, is dulled, and then is the opportunity for such thoughts to crowd into consciousness. Nevertheless the Censor sleeps, as has been said, with one eye open; and therefore the dream thoughts must assume a disguise in order to evade him and get through into consciousness.

For simplicity's sake, I have omitted the consideration of certain types of dream, which are very common, such as dreams of falling, of flying, of being without clothes in the presence of others, and also of the important fact that the physical condition of the dreamer has an effect upon his dreams. About these things Freud has his special views, which will not commend themselves to everybody.

Causation of Dreams.

Why should we have dreams at all? According to the theory we are considering, dreams are caused by the striving of deeply buried impulses towards conscious gratification. This, apparently, is the final meaning of Freud's well-known formula, "the dream is a fulfilment of a wish." Now at first sight that seems a most untenable proposition. We often have dreams that we should be sorry to see fulfilled, and oftener still our dreams seem to have no relation to our wishes at all. But we must consider two points.

First, that the wish is contained in the dream thoughts, and must be sought there, not in the manifest dream where it has been efficiently disguised. Perhaps we may except some of the simple dreams of childhood, which may be understood without interpretation.

Secondly, what does Freud *mean* by a wish? In the earlier parts of his book he certainly speaks of very ordinary everyday wishes as being fulfilled in dreams, such as the wish to obtain an appointment, the wish to meet a particular person, the wish to go on sleeping, or even the following somewhat ludicrous position of affairs. A man dreamed a dream which he said the professor could not interpret as the fulfilment of a wish. Nor could he, until the interpretation occurred to him that the wish in the man's mind was that the professor might be shown to be in the wrong! But later Freud indicates that such banal wishes are not sufficient by themselves to produce a dream unless they can borrow energy from some of the primitive unconscious desires which are always struggling to emerge into consciousness. In his own words, "A conscious wish is a dream inciter only if it succeeds in arousing a similar unconscious wish which reinforces it." And further, though he does not distinctly assert it, yet it is more than once hinted and implied by him that the chief unconscious inciter of dreams is the sexual desire. Thus a most important modification has been introduced into the original simple meaning of the word "wish." Why it should have been introduced is not clearly explained; I presume, however, partly because further and more prolonged psycho-analysis pointed that way, partly because this modification brought the theory of dreams into correspondence with his completed theory of hysteria and neuroses in general. To which theory, Sir, I must now turn again.

Theory of Hysteria.

Hysteria, he says, like the dream, is based on unconscious thoughts which have been repressed or modified by the agency of the Censor, and the symptoms of the disease, like the pictures of the manifest dream, have to be interpreted by psycho-analysis. But these unconscious thoughts have always a sexual basis. Indeed, in Freud's view this is the basis of all neuroses. He makes this sweeping assertion: "In a normal sexual life no neurosis is possible."

This is a great departure from the original theory of Breuer, according to which the psychical trauma, the memory of which gave rise to the hysteria, might be constituted by any disagreeable event; and it sounds strange, in view of Breuer's first case (quoted above), in which the sexual element was conspicuous by its absence. How, then, was this dictum arrived at? So far as I can make out by the persistent and extensive use of psycho-analysis, which showed that when a history was traced back far enough repressed sexual ideas always emerged. At one stage of his investigations, on the basis of 13 cases, Freud stated that the events which started these ideas were actual criminal assaults on the patient in early life. This statement, as you may easily imagine, had to be given up; the stories of the assaults were simply "phantasies" of the patient, which both he and the psycho-analyst erroneously took to be true. The factors originating the hysteria had then to be sought still further back in life. From this necessity, it would seem, arose Freud's theory of sexuality in the infant. This theory is ingenious and interesting, but to my mind improbable and extremely disagreeable. Nevertheless, it holds such an important position in the views of Freud and his stricter disciples that I must ask your leave, Sir, to give the outline of it.

Infantile Sexuality.

The child, contrary to what is generally thought, has sexual feelings long before the age of puberty, indeed, from his earliest infancy. But this infantile sexuality differs from that of the adult in several particulars. It is unconscious, and not recognised by its possessor in any more definite sense than that of a vague impulse which seeks gratification. It has not the definite scope and definite external object that come in later years; and several regions of the body, not one only, can minister to its gratification. It may therefore be called "auto-erotic" and "polymorphous." It has in itself the germs of all adult sexual impulses, not only of those which are recognised as right and proper, but of those which are perverted and wrong. The right adult sexuality has to be evolved from it by severe processes of restriction and repression.

To follow this out in detail would not be desirable in a lecture, but I may give some brief indications of what is meant. When the auto-erotic impulse of the child first turns to an external object that impulse is bisexual; the homo-sexual element in it has to be suppressed, in order that the individual may become normally hetero-sexual. The first external object of the infant's desire—namely, his mother—must wane, lest in later life he be left under the domination of the so-called Œdipus-complex. The outlying regions of his body—skin, mouth, anus—or so-called "erotic zones," which originally helped to gratify his desire, must be suppressed in favour of the proper genital zone. I shall not elaborate these points; most of them are disagreeable, some like the following one are simply ludicrous. Thus we are told that a predominance of the "oral zone" (mouth and lips) is indicated by a persistent habit of thumb-sucking. This is supposed to give the child some kind of sexual pleasure. One would naturally have thought the pleasure was connected with the remembrance of taking food. Such children, says Freud, become as adults "habitual kissers, and show a tendency for perverse kissing, or as men they have a marked desire for drinking and smoking." I hope, if only for my own sake, that this is not true. Yet such according to our modern Struwelpeter is the fate that

> comes
> To little boys who suck their thumbs.

And so on through a whole gamut of vicious propensities—sadism, masochism, exhibitionism, and the like—all of which are said to have their root in the undifferentiated sexuality of the infant. Though what positive evidence there is for these statements I really cannot discover.

The Mental Conflict in Hysteria.

Now the doctrine of hysteria is connected with this doctrine of infantile sexuality in this way. The infant, though sexually minded, is not worried by that fact. He is shielded by ignorance and lives happily in his garden of Eden. As he grows up the stream of his sexual impulses is narrowed and directed into proper channels by education and other influences. But with the arrival of puberty and under the stimulus of physical sexual development the strength of this stream is enormously increased. If the old channels are insufficiently obliterated they may be opened up again, and with such reopening comes the danger of sexual perversions. Add to this the change that has now taken place in his mental outlook; for consciousness is now directed upon the sexual sphere, which was previously hidden, and further, the revelation of it may take place in some sudden or disagreeable way. Then, to avoid the conflict between the stirrings of a natural impulse and the repugnance felt for the distasteful sexual idea, the individual resolves to banish this idea from consciousness. The Censor bans the play. But he cannot stifle the desires and feelings which prompt it. They must have an outlet, and in the case of hysteria this outlet is provided by the "conversion" of them into bodily symptoms.

The Process of "Conversion."

Now in this so-called process of conversion there is much that is not clear to me. It is not obvious why the faculty of conversion should be only possessed by hysterical patients, nor what is its precise mechanism, nor why hysterical symptoms should satisfy desire, nor why, if the desire is always the same—namely, sexual—the symptoms that satisfy it should be so manifold. To meet this last difficulty we may perhaps introduce a further statement of Freud. He says that hysterical people have the habit of indulging in "phantasies"—that is, day-dreams, reveries, or castles-in-the-air. The content of these day-dreams is generally (so he says) erotic, in women always so. To the desire that prompts them these phantasies stand in the same relation as does the manifest dream to the dream thoughts, and like the manifest dream they have to be interpreted by psycho-analysis. It is these manifold phantasies which are converted into the manifold symptoms of hysteria. Thus, the parent of the symptoms is the phantasy, and the parent of the phantasy is the original sexual motive; or if you wish to connect the symptoms more directly with the motive you may use the language of the stable, and say that they are bred out of Fancy by Desire. The whole thing sounds very hypothetical, and we are told, indeed, by Freud that the relation between the symptoms and the phantasies is a complicated one and only to be understood by psycho-analysis.

Summary of Theory.

I will endeavour now to make a short summary of this complicated theory of hysteria.

The infant has sexual feelings, inchoate, indeed, and unconscious, but so extensive and generalised that the germs of all adult sexuality, normal and abnormal, exist therein. Gradually to restrict this infant sexuality, by damming up undesirable tendencies, or by directing them towards other than sexual objects, such as the arts, poetry, and the manifold objects and ambitions of life, is the work of education and of the higher human faculties. But when in the course of physical development sexual ideas and aims press themselves to the front a struggle ensues between these opposing forces. "The flesh lusteth against the spirit and the spirit against the flesh." Certain individuals terminate this struggle by forcibly banishing the offending sexual idea from consciousness. But it continues to exist in the "unconscious"; and, moreover, the "affect," the emotion or feeling connected with it, cannot be thus banished. This "affect" is then dealt with by "conversion," which means that an outlet is provided for it into bodily channels, and thus arise the bodily symptoms of hysteria. So hysteria is called a "defence-neurosis" because it shields the patient from distasteful ideas and the feelings aroused by them.

There are other defence-neuroses, according to Freud; for instance, that which is known as the "compulsion-neurosis," which embraces apparently such conditions as imperative ideas and the majority of "phobias." In these, as in hysteria, there has been repression of an unpleasant idea, but the "affect," instead of being converted into a bodily symptom, remains and attaches itself to some innocent and otherwise unimportant idea, and from that vantage ground still torments the patient's consciousness. Paranoia is said to be also a defence-neurosis, but with a different mechanism.

All these diseases have a mental origin; they are "psycho-neuroses." There are others, simple neuroses, the mechanism of which is principally physiological. Among these Freud places neurasthenia, using the term, I presume, in a limited sense, which he asserts (on what evidence I know not) to be due to self-abuse, and the so-called "anxiety neurosis," which he ascribes to insufficient sexual gratification and particularly to coitus *interruptus*. To these neuroses, which stand outside his theory of hysteria, he does not apply psycho-analysis; and this is odd, because he applies it to almost everything else with a persistency which sometimes lands him in the ridiculous.

What Evidence is There?

The author of this theory which I have been endeavouring to expound, Professor Sigmund Freud, has devoted many years to the elaboration of it; he has urged it with admirable ingenuity, and with a wealth of illustration which cannot be reproduced in a sketch like the present; he has extended it over a wide psychological area, ranging from the masterpieces of literature to the happenings of everyday life; and as regards the therapeutics of the psycho-neuroses he seems to be regarded by some physicians as a sort of Moses who points the way to the promised land. Small wonder, then, that he has an enthusiastic following; small wonder, too, if you regard the content of his doctrines, that there are rebellious physicians among us, who say with Korah and his company, 'We will not come up."

Now let us admit freely that the theory incorporates some factors which are *veræ causæ*, and not imaginary. Repression of primitive instincts and desires, and of many other motives, must go on in any civilised or moral person. The strength of the sexual motive and the need for government and occasional repression of it cannot be denied. The doctrine of "conversion of the affect," though very hypothetical and vague, yet recognises the large part played by emotion in hysteria, and tries to account for the bodily manifestations of that disease. But these are generalities; to prove an elaborate theory like the present, more precise evidence must be called. What evidence is there?

The answer made is, the evidence derived from psycho-analysis; and those who presume to doubt the validity of this evidence are told pretty plainly that it is beyond the criticism of those who are not themselves experts in the method. They are reminded that histological questions can hardly be discussed except by microscopists, nor chemical problems except by those who have worked in a laboratory. But the parallel is not exact, for it is the method itself of psycho-analysis that is called in question—a method that involves many uncertainties and many assumptions. Outside criticism must therefore obtain a hearing, unless psycho-analysis is to become a purely esoteric cult.

Critical Remarks.

The method, and indeed the whole of Freud's theory, presupposes a determination in mental phenomena as strict as that in the physical universe, so that one thought follows another thought as surely as event follows event. Those of us who are the most steeped in physical science will be the most ready to assent to this. But I doubt whether the average man will endorse it as a universal truth; he will refuse to accept such a dreary fatalism. And indeed the semi-personified Censor of Freud seems a little inconsistent with it, he reminds one too much of those old-fashioned entities, Conscience or Free Will. But let this pass.

Then psycho-analysis professes to take present thoughts, symptoms, or dreams, and to follow them up through a series of past thoughts to those which have been long forgotten, or which, perhaps, never entered into consciousness at all. Is this possible? Only, I imagine, within narrow limits. Any one of us may have occasionally caught himself thinking of something, and, wondering how it came into his head, may have rapidly run back over his thoughts and found what started them in the present direction. But this is a process undertaken at once, concerning recent thoughts, which have been in consciousness, which have patent connexions with each other, and which are revived by conscious effort. Matters may be very different in psycho-analysis. The process may have to be carried back over many years, perhaps to the thoughts and desires of infancy. The successive pictures that arise in the patient's mind may have no apparent connexion with each other—at least, he is not encouraged to look for any. The thoughts which we desire to unearth may have never been present to consciousness at all.

May we not justly doubt whether the things which come into the patient's head during examination really represent the thoughts he had long ago? All sorts of things may have happened in the meantime to obscure the original thoughts and to start different associations. His circumstances now are different to what they were then. And at least there is one new circumstance of the greatest importance, that is the presence and influence of the operator.

For in any but the simplest cases the operator will have to search among the patient's thoughts for clues to the riddle of them, and must form guesses and working hypotheses about the answer to this riddle. He can hardly avoid guiding the patient, consciously or unconsciously, in the direction of these guesses, especially if the patient be a quick-witted neurotic ready to divine the direction in which he is being led. In such a case the free association is no longer free.

There is a still greater danger to freedom when the patient's thoughts have to be interpreted by the operator. This must be done when they appear trivial or absurd or without bearing upon the subject in hand. Now to trace out the effects of the processes which have been described as "dream work"—condensation, inversion, transposition of "affects," and the like—evidently leaves much to the predilections of the operator, even if we assume Freud's canons about dreams to be correct. But how much more is left to him, when interpretation by symbols is employed? You may gather this from Freud's own words:[3] "In the symbolic interpretation of dreams the key to the symbols is arbitrarily chosen by the operator." How arbitrary this choice may be we learn from his chapter on the Material of Dreams. He says: "When one has become familiar with the abundant use of symbolism for the representation of sexual material in dreams, one naturally raises the question whether there are not many of these symbols which appear once and for all with a firmly established significance like the signs in stenography, and one is tempted to compile a new dream book according to the cipher method." (Such a lexicon of dream language has actually been prepared.) Then follow illustrations in which a whole variety of common objects are thus interpreted, regardless of the fact that they might just as well be interpreted some other way. Why should you think that a staircase means coitus or that a lady's hat means something grossly sexual? or why, if you think so, should you tell her so? Yet this has actually been done. And when Freud says: "There is no series of associations which cannot be adapted to the representation of sexual facts," one may reply—"of course, if you are determined to adapt them that way." In another of his writings[4] he says, "He who can interpret the language of hysteria can understand that the neurosis only deals with the repressed sexuality." One strongly suspects that the meaning of that language was invented by the interpreter himself.

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[3] Interpretation of Dreams, Brill's Translation, pp. 235, 257, 316.

I know that it has been said, in relation to this aspect of the question, that by sexuality Freud means something very large—that is to say, all kinds of emotions which can be connected with or find their root in the sexual sphere. Such a meaning may indeed be necessary to give to his theories that wide scope and extension which he desires. But the bedrock of his theories and of psycho-analysis as practised by him is sex in its barest and least attractive form. Let anyone read the "Interpretation of Dreams" and the "Three Contributions to the Sexual Theory" and judge for himself.

Again, it is said that the sexual factor is unessential and can be omitted from the new psychology. Professor Jung[5] appears to be discarding it as fast as he can. For sexual desire he substitutes desire in general, "*élan vital*," innate energy. When in the battle of life the energy of the individual meets insurmountable obstacles it turns back, or "regresses," towards the phantasies of childhood, and develops from them neurotic symptoms. The initial difficulty is the present obstacle, and not in the infantile past. This may or may not be true, but it is not Freud. Indeed, one wonders how two such distinguished exponents of the psycho-analytic method can have reached by it such different results. Besides, what thin and unsubstantial suppositions have we here been brought to. To adduce them in support of a theory is merely, as Aristotle would say, ἀνάγειν εἰς τὸ ἄλογον.

Therapeutic Value of Psycho-analysis.

There remains the question of the therapeutic value of psycho-analysis. It began as a therapeutic method—the katharsis or confessional treatment of Breuer—but of this we hear little now. Instead, there remains the psycho-analysis by which we hope to discover the paths and the places where the patient first left the road of health, so that by reëducation and appropriate suggestions we can set him in it once again. And if psycho-analysis be necessary for this object, and if it be reliable (about which I have expressed my doubts), I presume it must be used. But I cannot think that it is suitable for general use. The old ideal in therapeutics was expressed in the words "Tuto, cito, et jucundo." We will agree that "jucundo" is the least important point. No doubt Naaman the Syrian did not like the look of the waters of Jordan. Still one must allow that there are many things in one's physical and mental economy which one would rather not expose to view. Were I being treated for dyspepsia I would rather not see the semi-digested contents of my stomach. It would not give me an appetite for the next meal. And similarly for many things that may be lurking in obscure corners of our minds. Freud chose for his dream book a most appropriate motto, "Flectere si nequeo Superos, Acheronta movebo." And he might have added, on his own showing, that the heart of man is "deceitful above all things and desperately wicked."

The other two points, the "tuto" and "cito," are in this case, I hold, essentially connected. Given a rapid and reliable method of bringing the patient to grips with his condition, and of directing his thoughts into healthy channels, we shall all welcome it. But if we are to go on for weeks, months, perhaps years, with a kind of mental vivisection, teaching the patient the while to revive and study all sorts of forgotten facts and fancies, and perhaps to invent new ones—then I fear the process will simply favour the growth of morbid habits of mind, and in the case of a psycho-neurotic will defeat the very object of treatment, which is to drag the patient out of the stuffy chambers of his own mind into the open air of everyday life.

But putting therapeutics aside, the main outstanding question is whether psycho-analysis can be trusted as a means of investigation. Does it really supply a means of penetrating the arcana of our minds? Is there any corroborative evidence of its value? Freud's whole system of psychology is based upon it—an imposing structure, it is true; but if psycho-analysis fails, an edifice without foundations.

MASSIVE COLLAPSE OF THE LUNGS FOLLOWING ABDOMINAL OPERATIONS.

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IN the Bradshaw lecture[1] of 1908 Dr. W. Pasteur discussed the nature of massive lobar collapse of the lungs, as contrasted with the scattered lobular collapse that occurs passively when the bronchioles are obstructed by secretion and the alveoli are slowly emptied by absorption of their air into the circulating blood. A familiar example of the latter is seen post mortem in the small areas of collapse in a child's lung with broncho-pneumonia. Massive collapse of the entire lobe of a lung develops, according to Pasteur, under one or the other of two conditions: 1. As the result of complete paralysis of the inspiratory muscles, either the intercostals or the diaphragm. The change is occasionally seen in post-diphtheritic neuritis. 2. As the result of a reflex inhibition of the diaphragm's respiratory movement, which may sometimes occur after an abdominal operation, and so lead to alterations in the lung which closely simulate those of ordinary pneumonia.

In two subsequent papers[2,3] Dr. Pasteur developed with greater precision the clinical picture of such post-operative collapse, and showed clearly the need to distinguish it from post-anæsthetic pneumonia, or even at times from pulmonary embolism. It appears after either ether or chloroform, and may develop at any time in the first week after the laparotomy. In some of his cases there was no sepsis nor consciousness of pain from the abdominal wound, and the symptoms of lung trouble appeared to arise quite suddenly. After a few hours, during which the patient may complain of an uneasy feeling in the chest and show a rising temperature, there is a more rapid development of signs and symptoms. Pain becomes acute in the chest, the face assumes a cyanotic tint, the respirations are accelerated, and the pulse is rapid and feeble. On examination the lower half of the chest on one side is found to be moving but slightly, if at all; its percussion note is dull, and the breath sounds over the dull area are at first weak, but later become intensely tubular with whispering pectoriloquy. The other side of the chest is distended and emphysematous: a condition which may make it somewhat difficult to prove the essential point in the diagnosis, namely, that the heart is displaced toward the area of dulness. This displacement of the cardiac impulse may amount to several inches, and by that the state of collapse is at once distinguished from pneumonia or pulmonary embolism. Hæmoptysis does not occur, but there is generally a muco-purulent expectoration.

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[4] Papers on Hysteria and other Psychoneuroses, No. ix. The Rôle of Sexuality in the Etiology of the Neuroses (p. 192 of Brill's translation).

[5] Discussion on Psycho-analysis at International Medical Congress of London.

The present paper is written to emphasise the clinical importance of Pasteur's massive collapse, to show that it may occur after spinal as well as after inhalation anæsthesia, and, lastly, to discuss the manner in which it is produced. Chiefly by the kindness of Sir Rickman Godlee, who drew our attention to several examples of this condition in patients under his care, we have seen in the last two years 11 cases. Undoubtedly many more have occurred during that time in University College Hospital, for we did not systematically examine every case of post-operative "pneumonia." All followed abdominal operations, either on the appendix, the gall-bladder, or for gastro-enterostomy, or hernia, and in all the operation had been surgically successful. Two examples may be quoted in detail.

CASE 1.—July 12th: Man, aged 31. Bassini operation for double inguinal hernia under chloroform with Vernon Harcourt inhaler. No preceding cough or expectoration. July 13th: Slight fever and bronchitis developed, the fever lasting eight days until the 21st. July 17th: Feeling well and appetite good. Between 8 and 9 P.M. he complained of a "drawing pain" over the xiphisternum, and at 11 P.M. of pain over the precordium. July 18th: At 2 A.M. the pain lessened, but he became dyspnœic and so cyanosed that oxygen was administered. The pulse rose from 88 to 144, and the respirations from 20 to 64; temperature 101° F. 10 A.M., still slightly cyanosed. Right chest immobile in its lower half, with dull percussion note and absent breath sounds over the lower lobe, where vocal resonance was also lost. Under X rays the heart was seen to be displaced to the right, so that its left border was at the left edge of the sternum. The right lower lobe of the lung was very dark, and the upper lobe was dull. On the left side the magnified shadow of the diaphragm on the screen moved three inches, but only half an inch on the right. Muco-purulent expectoration, $\frac{1}{2}$ oz. in last 24 hours.

July 20th: Right side moving better. Left limit of cardiac dulness by percussion 2 inches to left of sternum. Sharply defined area of dulness over lower four spaces at right base behind, where the breath sounds were now intensely tubular and whispering pectoriloquy was heard exactly as in lung that is fully consolidated. No pain. Respiration 24, pulse 96, and temperature 100°. July 21st: Right side moving perfectly; breath sounds normal. X rays showed the heart to be in its normal position again, though the right side of the diaphragm was still a little restricted in its movement, and there was a little opacity in the right base of the lung above the liver.

The patient never complained of abdominal trouble or pain. The skin incision over the left hernia had gaped a little, but there was no infection.

Here the X ray examination proved definitely the extreme displacement of the heart and the immobility of the diaphragm. Pneumonic consolidation of the lung could not have cleared up so rapidly that tubular breath sounds should be replaced by normal breath sounds in 24 hours, and an opaque lung become translucent to X rays in three days. It is certain that the lung had collapsed, and the initial absence of breath sounds followed by their augmentation to a tubular character suggests that at first the bronchi also were closed. When the bronchi opened, the breath sounds naturally sounded tubular owing to their conduction through collapsed lung, while later they assumed the normal vesicular type as the alveoli became fully aerated.

CASE 2.—A healthy young man, 23 years of age, who was accustomed to play Rugby football, and therefore presumably had sound lungs, was admitted to hospital with all the features of an acute appendicitis of 36 hours' duration. Examination of the chest before operation found lessened movement at the right base, normal percussion note, but some weakness of the breath sounds; there were no adventitious sounds. The cardiac impulse was easily found in the normal position, $3\frac{1}{2}$ inches from the mid line. Temperature 100° F., pulse 96, and respiration 24. Not X rayed.

Spinal anæsthesia, the exact height of which was not recorded, was produced by stovaine, and a gangrenous appendix was removed from the outer side of the cæcum. The abdominal wound was closed except for two tubes and a gauze plug. 36 hours later the temperature had risen to 100·2°, the pulse to 104, but the respirations remained at 24. Moist sounds were heard scattered over both lungs. Ten hours later the patient began to suffer from shortness of breath, and for about an hour his respirations numbered 40, with pulse 116 and temperature 102°. During this hour he suffered discomfort, but had no real pain or cyanosis.

In the morning the chest was examined. By percussion the left limit of cardiac dulness was only half an inch to the left of the sternum (verified by Sir Rickman Godlee), and the cardiac impulse could not be localised, though auscultation placed it to the right of the sternum. The right side of the chest was dull up to the fourth rib, while vocal resonance and breath sounds were both much weakened. The sputum was thick and muco-purulent. In four days the heart had returned to its normal position, and the signs had all vanished from the right lung. The abdominal wound drained well throughout, and the temperature became normal on the tenth day after the operation.

Since an X ray examination was not made, it remains uncertain whether the collapse was due to inhibition of the diaphragm or to paralysis of the intercostals by the stovaine; but it is not probable that the latter effect would have been produced on one side only. On theoretical grounds one might have expected that spinal anæsthesia, reaching up in all probability to the third or fourth intercostal space, would have blocked for some time the sensory impulses from the abdomen which are supposed to cause reflexly the inhibition of the diaphragm.

A feature common to these and all our other cases was the presence of muco-purulent expectoration, often in abundance and in three instances of a slightly offensive odour. This we regard not only as a point of diagnostic importance, since it is unlike the sputum of pneumonia, but also as good evidence of the nature of the changes within the lung that induced the collapse. The cause of such infective bronchitis after ether or chloroform inhalation may easily be conjectured, but it is odd that it should have developed also in the patient with spinal anæsthesia.

The Nature of the Change.

The teaching of the earlier pathologists established the belief that the alternating areas of collapse and emphysema in the lobe of a lung affected by bronchitis are caused by the bronchial plugs, which either act as ball valves, allowing the air to escape but not to enter the alveoli, or close the air way altogether so that the alveoli collapse as the air imprisoned within them is gradually absorbed by the blood. Such collapse is *passive*. Dr. Pasteur argued that his cases should be ascribed to an *active* collapse, due to some deflating force, whether elastic or muscular, which compresses and empties the lungs *in the absence of any obstruction of the air way.* This hypothetical force comes into play when the ordinary inspiratory muscles cease to act and inflate the lung. It is quite distinct from the definite deflating forces of external pressure which lead to collapse with a pleural effusion or a subphrenic abscess. His suggestion was that the first step in the process is a reflex inhibition of the diaphragm, the muscle which is concerned especially with the aeration of the lower lobe of the lungs, and that this reflex is originated in most cases by irritation of afferent nerves from the peritoneum as the result of the operation. Next to this would follow an active deflation of the lung by some force, either muscular and external to the lung, or elastic, that is, internal. The air is supposed to be squeezed out of the whole mass of the lung instead of being slowly absorbed from each alveolus.

Certain facts limit the discussion of these probabilities. In the first place, there can be no doubt that the diaphragm is immobile, and that the failure of its action is associated with collapse of the lower lobe of the lung. The rhythmic movement is inhibited, but whether the muscle itself remains contracted or truly inhibited and relaxed is a question that is unanswered. For various reasons we were unable to examine more than one of our cases with the X rays during the acute attack, and so the position of the diaphragm in general was not ascertained. From the usual increase in tone of muscles in reflexes to deep-seated pain or inflammation, it would be natural to assume that the diaphragm would be fixed rigidly in slight contraction, only its rhythm and not the muscle tone inhibited. That is the condition around joints, or over local peritonitis, and probably, too, in the immobility of the intercostals caused by pleurisy. The point is of some importance, because complete inhibition of the dome of the diaphragm on one side would allow the abdominal pressure to tell directly upon the base of the lung and supply a slight deflating force.

Not only the condition of the muscle, but the source of the reflex is uncertain. As a rule the collapse occurs on the same side as the abdominal incision, so that it might be assumed to originate in the abdomen. Yet the condition is seen in cases where the patient has had no consciousness of abdominal pain. Moreover, rigidity or inhibition of the diaphragm is not a common reflex from pain in the abdomen. We have X rayed before operation several cases of appendicitis, simple, gangrenous, with local abscess, and with general peritonitis. In some of these the abdominal wall showed local rigidity, but in all the diaphragm was moving equally on both sides. An acute pleurisy does certainly lead to immobility of the diaphragm as well as of the chest wall, and the same result may be seen with deeper inflammations of the lung, such as gangrene or pneumonia. Further observations are therefore needed to determine whether the source of the reflex concerned in this post-operative collapse lies above or below the diaphragm.

The second point that is certain is the displacement of the heart to the affected side. This was clearly seen under the X rays. The lung was collapsed.

The various conditions which might conceivably expel or exhaust the air from the alveoli and induce collapse of the lungs are as follows:—A. By active compression, through—(i) pressure from outside the lungs; (ii) the elasticity of the alveolar wall; (iii) a hypothetical quasi-muscular contractile power of the alveolar wall. B. By absorption of the air, when the bronchioles are obstructed owing to—(i) inflammatory œdema and secretion; (ii) spasmodic contraction of the bronchiole muscles.

Now such an active deflating force as that of A (i) or A (ii) carries with it inevitably the deduction that the pressure about the lung must be higher on the affected than on the normal side. This is self-evident for A (i), and it is equally certain for A (ii). The elastic tissue of the alveolar wall is expanded by the pull of the negative intrathoracic pressure, and unless endowed with an active power like that of muscle it cannot squeeze the air out of the lung until it is freed from this external distending pull. Consequently, if either external muscular force or internal elasticity is to effect the collapse the intrapleural pressure must be raised from negative towards zero; and in that case the heart would be sucked away from the collapsed side into the contralateral area of greater negative pressure. Actually the displacement is in the opposite direction. Realising this difficulty, Dr. Pasteur suggested that the displacement may be more apparent than real, the left side of the heart being perhaps masked by acutely emphysematous lung and the right heart dilated by pulmonary obstruction. But our examination with the X ray proved the displacement to be very real and considerable. The condition must in consequence be one in which the lung collapse is associated with, though obviously not caused by, a tendency to an increase of the negative intrapleural pressure on the affected side; and this naturally explains the displacement of the heart and mediastinum and the acute distension of the contralateral lung. Compensatory emphysema of the opposite lung could not push the heart across into the area of collapse. The displacement must be the outcome of the increased negative pressure, which is caused by the reduction in volume of the collapsed lung and sucks both heart and contralateral lung across to the side of collapse.

The question is whether this can occur without local obstruction of the air passages. The only possible explanation left along these lines is that of A (iii), which supposes the alveolar wall to have active contractile power like that of muscle, and this assumption finds no ground for its support in the facts of present physiological knowledge.

We are therefore compelled to choose B as the greater probability. Local obstruction of the capillary bronchioles, either by muscular contraction or by blockage with secretion, would satisfy all the conditions named in the state of collapse. It has been shown in recent work on the nature of anaphylactic death in the guinea-pig that the bronchiole muscles are capable of such forcible closure that the animal dies in asphyxia. In man incomplete constriction of the bronchioles from various reflexes is probably responsible for the phenomena of asthma. So we may assume that the bronchiole muscles are strong enough to cut off the air entry to the alveoli. But it is most unlikely that they would be excited to such a reflex action locally and cause lobar collapse; nor would the condition be established without a preceding phase of asthma. Hence B (ii) may be set aside, and we are left with B (i) as the last explanation. In all our cases there was the possibility of such local obstruction, for every patient had muco-purulent expectoration before or immediately after the onset of collapse. We regard this as the essential cause of the phenomena, because the tubes are more quickly blocked by secretion when they are deprived of the ventilating current from the diaphragm's action.

Experimentally, the process has been admirably illustrated by the observations of Lichtheim[4] in 1878, which are further discussed in Cohnheim's lectures on General Pathology (Vol. III.). Lichtheim obstructed a bronchus in rabbits by the introduction of a laminaria plug without opening the thorax. As the plug swelled the lung beyond collapsed; and the animals sometimes died from acute emphysema of the contralateral lung, which was so extreme as to prevent the circulation through it, or even to rupture and form a pneumothorax. Collapse did not occur when the bloodvessels to the lung were tied, and so it was clear that the alveoli were closed passively by absorption of their contained air into the circulating blood. The vacuum produced by the absorption of these gases sucks, to phrase it roughly, on the surrounding organs, causing the liver to rise, the heart to be dislocated, and the contralateral lung to become emphysematous. We think that this was the condition in each of the 11 cases of post-operative collapse that we have observed, for in all there were thick muco-purulent expectoration and fever preceding the symptoms of collapse. The immobility of the diaphragm allowed the secretion to block the smaller bronchioles—it would be too imaginative an inquiry to consider a possible inactivity of the ciliated epithelium—and then collapse ensued precisely as when the obstruction was caused by the laminaria plug. The consequent emphysema of the other side and the dislocation of the heart obstruct the pulmonary circulation, partly by kinking the great veins, partly by compression of the inter-alveolar capillaries. Cyanosis results and dyspnœa. The pain may arise from distension of the heart, or more probably from the strain upon the mediastinal tissues (cp. "drawing pain behind the xiphisternum").

Lichtheim's experiments are so complete that we did not desire to repeat them. Some observations were made by one of us to investigate the possibility of such an active collapse as Pasteur postulated in the absence of obstruction to the air way.

In a rabbit and a cat under ether the phrenic nerve was divided on one side in the neck. The animals were kept alive under ether for six hours, the movements of the diaphragm and the transparency of the lungs being observed by X rays before section of the nerve and subsequently. The diaphragm was fully paralysed, and it only showed slight oscillations as the result of the tug transmitted through the central tendon from the other side. No loss of transparency was seen in the lungs. Finally, the animals were killed by clamping the trachea and at once dividing the carotids. All the lobes of the lungs were found to be equally distended with air.

In two other experiments on cats a wider paralysis of the inspiratory muscles was caused by hemisection of the spinal cord at the second and third cervical segments respectively. Intercostals as well as the diaphragm on one side became immobile. Under X rays the chest looked smaller and slightly less translucent on the paralysed side. After intervals of two and three days respectively each animal was again etherised. The abdomen was opened and the paralysis of the diaphragm confirmed by inspection; the cat was then killed and the lungs examined as in the first experiment. No collapse had occurred.

This result makes an active deflation, as the result of simple paralysis of inspiratory muscles, and in the absence of obvious external pressure, seem to be improbable. And, indeed, the fact that the lungs are not found to be collapsed in ordinary post-mortem examinations points in the same way to the unlikelihood of the supposed deflating force. Surgeons have recently divided the phrenic nerve for the purpose of resting diseased lungs. So far as we can discover from the published papers[5] the resulting paralysis of the diaphragm does not cause collapse of the base of the lung when the disease is early and confined to the apex.

We therefore think that so far as our own cases are concerned the most satisfactory explanation is that which regards the collapse as being the result of an inflammatory obstruction of the smaller air tubes. It is true that objections can be raised to this on clinical grounds. Rhonchi and coarse râles are not often heard elsewhere in the chest, so that it is necessary to suppose that the inflammation is confined to the smallest tubes. The expectoration, though not aerated, is muco-purulent and thick, characters that suggest the infection which is confirmed by the microscopic examination. Since the condition develops rapidly, one may suppose that there is considerable œdema of the smaller bronchioles, though inflammation within the alveoli cannot be in any sense massive, because the collapsed lung is so much reduced in bulk. The collapse would be hastened by immobility of the diaphragm, but it should be remembered that such immobility has only been demonstrated after the collapse has occurred, and that it is not certain that the diaphragm is altogether inactive before this moment. Rapid collapse of a lung, when produced artificially by negative suction from its bronchus, has been proved by physiologists to induce a reflex setting of the diaphragm in a persistent inspiratory contraction, and it may be that such a thoracic reflex contributes to the final standstill.

It must be understood that the explanation we adopt applies only to those cases which we had the chance to observe. Dr. Pasteur described a cleaner type in which the onset was rapid, pyrexia succeeded the collapse and lasted only for 24 hours, while expectoration was practically absent. Perhaps this example may have been governed by another mechanism. Our cases all belonged to the group of infective bronchitis.

To recapitulate.—The 11 cases of post-operative collapse which we observed agreed closely with Pasteur's description. One feature he laid little stress on—and that we regard as critical. All had muco-purulent expectoration and fever, 101° to 103° F., preceding the collapse. There is no reason why fever should develop in a simple non-septic case with reflex inhibition and "active collapse." This fever, which makes the resemblance to pneumonia all the closer, is caused by a purulent bronchitis that is perhaps determined by a preceding infection of the air tubes. Together with this some unknown cause, either thoracic or abdominal, produces a reflex immobility of the diaphragm, and as the combined result of these two disorders of respiration the lower lobe of the lung undergoes passive collapse throughout its mass. This may occur at any time in the first week after the operation.

Since the volume of the collapsed lung is much reduced, movements occur to restore the balance of intrapleural pressures and the heart is displaced to the affected side, while the contralateral lung is overdistended. Pain and cyanosis develop when the displacement is rapid and extreme. At first there are immobility, dulness of percussion note, and weakness of breath sounds on the collapsed side, whereas the other may be so hyperresonant as to resemble the state of pneumothorax. Later, as the bronchial air way opens up, the breath sounds become tubular with ægophony and whispering pectoriloquy. All the signs vanish in two or three days if the right diagnosis is made and active treatment adopted. Otherwise the collapse may persist, the infection spread through the lung, and pleurisy or true pneumonic consolidation develop as a complication. The chief criteria are fever, the greenish muco-purulent sputum, and the displacement of the heart. These together give the distinction from pneumonia or pulmonary embolism, the latter disaster being in the worst cases suggested by the acute onset of pain and cyanosis.

The aim of treatment is to open up the lung before infection spreads into its substance. Expectorants are given with potassium iodide; the patient is encouraged to make full inspiratory efforts, especially of an abdominal type, and if possible for five minutes every hour despite pain that may be felt from the abdominal stitches. If the abdomen has been tightly bandaged this impediment to breathing should be slackened. It is conceivable that the worst cases of cyanosis and pain might be relieved by an intrapleural injection of oxygen, in order to restore the balance of volume and push back the displaced heart and the over-distended lung. Fortunately, these urgent conditions are rare, and we have had no occasion to try this method since the possibility of such a line of treatment occurred to us.

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TUMOURS OF THE URINARY BLADDER.[1]

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I HAVE chosen this subject because I have found that not only may difficulty arise in the diagnosis of vesical tumours, but there is still a good deal of misconception as to the true nature of many of them. Recent surgical and pathological work has shown that in dealing with tumours in the bladder the difference between innocent and malignant growths is less defined than in other regions of the body, and rather than discuss the usual text-book descriptions I shall attempt to put forward some points which have helped me in my personal experience of these cases, of which I have now records of 58 under my own observation.

Etiology.

Of the etiology of tumours of the bladder practically little is known. It has been asserted that cystitis or some form of chronic irritation of the bladder may predispose to the formation of a tumour in the same way as it may on the tongue or elsewhere; certainly cystitis frequently accompanies a malignant vesical growth, but it is the ulceration of the latter that produces the cystitis. There is no doubt that the presence of bilharzial ova in the bladder is occasionally accompanied by a papillary growth; and it has been maintained by Wendel that workers in aniline dye [illegible] often subjects of bladder tumours owing to some irritable product discharged in the urine. This cause can hardly hold good, as the vast majority of bladder growths commence just above and outside the ureteric orifices, whereas if the irritation of urine were the cause they should be placed where the urine would impinge—namely, just below and inside the ureteric orifice.

Classification.

Tumours of the bladder may be classified according to their histological characters into the following groups:—

1. Epithelial new growths:
   - Benign ... ... Papilloma (villous). Adenoma.
   - Malignant... ... Villous carcinoma. Nodular carcinoma. Epithelioma.
2. Connective tissue new growth:
   - Benign ... ... Fibroma. Myoma. Angioma.
   - Malignant... ... Sarcoma.

Of these tumours, the villous papilloma and the forms of carcinoma are of much greater frequency than the others, which may all be described as rare tumours. I have notes of one case of sarcoma and I remember seeing another operated upon when I was a student, but the others may be looked upon more as pathological curiosities and I shall content myself with a description of the papilloma and the carcinomata.

Villous Papilloma.

These tumours form distinct outgrowths from the vesical mucous membrane projecting into the cavity of the bladder and covered by fragile, villous processes. They may be single or multiple, and may be pedunculated or sessile. They are usually situated about the base of the bladder, above and outside the ureteric orifices or close to the internal urethral orifice. They vary in size considerably, but even when quite small may produce copious hæmaturia; in one case under my care I had great difficulty in finding a small villous tumour which I had seen with a cystoscope even when I had the bladder fully laid open.

The villous papilloma of the bladder has been hitherto regarded as an innocent benign tumour, but it has several characteristics in which it differs from other benign growths. The frequent multiplicity of these tumours, not only in the immediate vicinity of the original tumour but in areas of the bladder which may become opposed to the tumour as the viscus empties, shows a tendency to growth by direct implantation. There is a marked tendency to recurrence of the tumour after removal, either in the area of the original growth or about the previous cystotomy wound, which cannot be explained entirely by an incomplete removal of the primary tumour, but rather by a local implantation at the time of the operation or by some minute growths which had commenced but had not been discovered. I have seen a recurrence of a villous growth in the bladder after nine years, and in two other cases a recurrence occurred in the cystotomy scar in the fundus of the bladder, one after four years and the other after 18 months. I wish, however, to put particular stress upon another feature of these growths, and this is their marked tendency to assume definite malignant characters, not only in the original, but in the recurrent tumours. We have in our museum a remarkable specimen removed by the late Mr. Cecil Leaf of multiple papillomata of the rectum and pelvic colon in which two separate and quite distant tumours have undergone carcinomatous changes, and I suppose similar changes may take place in vesical papillomata. At all events, it is quite frequent for a villous papilloma to remain more or less quiescent for many months or years and then become malignant, or for a recurrent growth to be malignant when the primary operation has been for a pedunculated papilloma, and in which microscopic examination has shown no evidence of infiltration of the base of the tumour.

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[1] A post-graduate lecture delivered at the Cancer Hospital, Brompton, S.W., on Feb. [illegible], 1914.

However, one must be careful not to fall into the error in mistaking the original tumour for a papilloma when it may have been malignant from the start, and this brings me to the point in the microscopic examination of these tumours—that is, always have the base of the growth examined for evidence of infiltration. In one case under my care I operated upon a patient who had been troubled with hæmaturia for five years at intervals, and first removed an enormous papilloma the size of a large tangerine orange attached by a small pedicle which showed no sign of malignancy on section. Eighteen months later he again had hæmaturia, and I found several small pedunculated growths on the lateral wall of the bladder which I extensively resected, but no sign of malignancy could be detected in any part of it. Nine months later he came to see me, when I found he had an obvious malignant growth infiltrating the cystotomy wound and the surrounding abdominal wall which grew rapidly. I have records of cases in which carcinoma was found in the bladder following operations for villous papilloma after intervals of 8, 4, and 1½ years, and two cases after 1 year, and another in which attacks of painless hæmaturia had been present for five years before any frequency of micturition commenced, and the growth was then found to be malignant. Thus there is good evidence that a villous tumour of the bladder shows a distinct tendency to become malignant, and cannot be looked upon as a wholly innocent tumour, a point which must influence us in our treatment and in our prognosis.

Symptoms.—The chief and often only symptom of villous papilloma is hæmaturia. This may occur suddenly without any traumatism or apparent cause, usually surprising the patient by its appearance, and is often profuse. It may last for one or two occasions of micturition or for a day or so, and usually stops as suddenly as it commenced, to recur after an interval of weeks or months in the same character. In a case under my care the patient had had attacks of hæmaturia at intervals of about three months for 16 years. Three separate and distinct papillomata were removed, and there has been no recurrence up to two and a half years. The blood is intimately mixed with the urine throughout micturition, or if only slight may be more marked in the last few drops of urine. Occasionally it may be so profuse as to clot in the bladder, when flat clots may be passed per urethram. The presence of clots in the bladder may give rise to a certain amount of vesical tenesmus, but apart from this pain is infrequent. In the intervals between the attacks the urine is normal, and it is one of the points of distinction between a papilloma and a carcinoma that in the latter cystitis occurs frequently, whereas it is uncommon in papilloma unless some instrumentation has caused it. There are a few other symptoms which may occasionally be present; there may be a sudden stoppage in the stream of urine during micturition, accompanied by penile pain, from the plugging of the internal urethral orifice by a piece of growth, or there may be aching in the loin due to increased intrarenal pressure from a slight obstruction to the ureteric orifice on that side. Occasionally the kidney may be definitely enlarged, and in one case under my care, in which an enlarged kidney was accompanied by attacks of profuse hæmaturia, I was asked to remove the kidney under the assumption that it contained a hypernephroma. I was able to prove by the cystoscope the presence of a villous papilloma covering the ureteric orifice, and after the removal of this tumour the renal swelling entirely subsided. I have seen this patient recently, and find he has a recurrence of the papilloma in the same position nine years after his operation, but the kidney remains of normal size.

Occasionally small pieces of epithelial tissue may be passed in the urine. These appear as pinkish, gelatinous fragments, showing a villous formation when floating in water. They are not common, although their presence is always suggestive of vesical tumour; but I would ask you to bear in mind that microscopic examination of the surface fragment will give no indication whatever whether it arises from a simple papilloma or from a villous carcinoma.

Diagnosis.—The recurrence of attacks of profuse, painless hæmaturia in a comparatively young patient is always suggestive of vesical papilloma, but it is necessary to diagnose it from other conditions. A renal papilloma or hypernephroma may produce profuse hæmaturia, and the former may cause fragments of papillomatous tissue to be voided in the urine; a renal papilloma is, however, very rare, and hypernephroma occurs, as a rule, after the age of 55 years. In either case worm-like clots from formation in the ureter may be present, whilst their passage usually gives rise to pain simulating renal colic.

Renal tuberculosis may exceptionally give rise to profuse hæmaturia, but will be distinguished by the increased frequency of micturition, pyuria, the frequent slight hæmaturia, and the palpation of a thickened ureter per rectum.

Vesical tuberculosis is almost always a descending infection from a renal focus and will be readily distinguished by the increased frequency of micturition, pain, and pyuria, whilst vesical calculus will be diagnosed from the increase in pain and frequency during movement.

By far the most ready means of diagnosis, however, remains with the cystoscope, for not only can the vesical lesion be determined with accuracy, but the character, size, exact position, and multiplicity of the growth be seen. I prefer to cystoscope these cases during an interval of freedom from bleeding, when the bladder can be more readily examined, but in some cases where the opportunity does not occur it must be done whilst hæmaturia is present. In these cases a medium clear enough to see through can usually be obtained by first washing out the bladder with silver nitrate 1:4000 or adrenalin 1:2000. In some cases of painless hæmaturia it may be an advantage to cystoscope during an attack of bleeding, for should the hæmorrhage be renal in origin this will be seen as well as the side from which it occurs.

A papilloma of the bladder appears as a rounded tumour, covered by some translucent villous processes in which the central vessel may often be seen, varying from delicate, elongated, feathery processes which float about like those of a sea anemone and are stirred by the swirl of urine ejected from a ureteric orifice, to short, stunted, or mere rounded processes presenting a coarsely mammillated appearance These are usually situated about the base just outside the trigonal area, and may be attached by a delicate stalk or be sessile. They frequently hide the neighbouring ureteric orifice, and may be accompanied by smaller papillomata in the surrounding area. Occasionally the growth may attain such a size that the beak of the cystoscope passes into it so that no view can be obtained, as happened in two of my cases.

Treatment.—I have no doubt that in view of the tendency to recurrence and to become malignant, the ideal treatment of a villous papilloma of the bladder is to remove it by a complete resection, including the area of mucous membrane from which it grows. I am sure that the old-fashioned operation of opening the bladder and twisting the growth off its pedicle was not only incomplete, but was frequently followed by recurrence, whilst removal of the growth by a lithotrite or by an operating cystoscope is not radical for the same reason. The bladder after irrigation should be distended and opened in the mid-suprapubic line, and the base may be well displayed by packing a large gauze swab under a broad-bladed retractor at the upper angle of the wound. The use of the Trendelenburg position and of an electric head-lamp greatly facilitates the operation. The ureteric orifice near the tumour is identified, and if close to the pedicle it is often useful to pass a fine catheter into it as a guide. The tumour is then raised from the bladder and a small thread suture passed through the mucous membrane of the bladder on each side of the growth to mark the extent of removal necessary. Slight traction is made on these two sutures, as well as upon the tumour, and an incision carried around the base through the mucous membrane exposing the muscular layer of the bladder wall. After removal of the papilloma, together with a healthy area of mucous membrane, bleeding is arrested and the edges of the incision approximated with fine catgut sutures. In sessile growths exactly similar procedure is adopted, but in these cases a larger area of mucous membrane must be resected, and in one case I was obliged to resect the terminal three-quarters of an inch of the ureter and transplant it into the upper part of my vesical incision, owing to the implication of the orifice in the growth. In another case in which multiple papillomata recurred 18 months after the removal of a large villous tumour, I had to resect a large portion of the lateral wall of the bladder, and this case is of especial interest in that the specimen removed showed no signs of malignancy, but yet a year later the patient had a diffuse carcinomatous growth about the abdominal incision. During the operation the utmost care should be taken to prevent soiling of the operation area by the growth, and it is important to swab out thoroughly the area with saline or weak nitrate of silver solution with a view to prevent *reinfection* taking place. When all bleeding is stopped I sew up the bladder wound with fine catgut, leaving a small drainage-tube in the prevesical space, and drain the bladder by means of a catheter retained in the urethra.

In 13 cases of villous papilloma 11 were operated upon. One died from uræmia three days after the operation; 3 cannot be traced; 3 recurred, one after nine years, one after three years, and one in 15 months. The remaining 4 are free from recurrence after intervals of 7, 5, 4, and 2½ years.

In some cases of multiple growths studded over the vesical surface a radical operation is out of the question, and though these cases are probably malignant in origin an attempt may be made to slough off the exuberant growth by means of daily irrigations with increasing strength solutions of silver nitrate up to 1:500, as recommended by Herring, or by an open operation to remove the growths separately and to cauterise the base with a fine electric cautery point or nitrate of silver.

In cases in which a radical operation is not contemplated symptoms may arise which require treatment. Hæmorrhage may be severe, but is seldom enough to endanger life. In cases of hæmorrhage the patient should be kept in bed, and morphia given with calcium lactate in gr. xx. doses; if the bleeding is not arrested by these means a full-sized catheter should be passed and the bladder gently irrigated with hot saline solution (115°F.) or with hot solution of nitrate of silver (1:5000). In some cases a small quantity of silver nitrate (1:1000) or adrenalin (1:1000) may be run into the bladder and drawn off after a few minutes. Should clotting of blood have occurred in the bladder, the clots should be extracted by a large evacuating cannula attached to a rubber bulb as used after litholapaxy. If there is severe vesical tenesmus, it is probable that cystitis is superadded upon the tumour, and suitable treatment adopted. Suppositories of morphia and belladonna will relieve the pain or a suprapubic fistula may be made.

Carcinoma of the Bladder.

This is in my experience more than three times as common as papilloma (44 to 13). It occurs in different forms in which both the pathological and microscopic characters differ markedly. For purely clinical purposes they may be divided into a papillomatous or fungating group and an infiltrating sessile group. In the former group the tendency is for the growth to exuberate into the cavity of the bladder, forming large masses of soft, friable growth very similar in appearance to the papilloma, but in which the villous processes are more stunted or rounded and more irregular in shape, whilst the pedicle is thicker, firmer, and adherent to the submucous tissue. Microscopically the base shows that epithelial cells are invading the lymph spaces, and later may infiltrate the muscular wall of the bladder. In some cases the surface of the tumour may be devoid of villous processes, appearing as a raised nodule projecting into the bladder, with comparatively smooth surface which may be ulcerated in parts. The base of these growths shows marked infiltration with proliferating epithelial cells. In the infiltrating group of vesical carcinoma the growth presents the appearance of an ordinary epithelioma with a central depressed ulcer surrounded by heaped-up, friable nodules of growth and deeply infiltrating the deeper structures of the bladder wall. The two forms occur with about equal frequency (21 : 23).

As I have stated above, a carcinoma of the bladder may commence in an old-standing villous papilloma or in the recurrence of a papilloma, in which case it usually takes the form of a fungating growth, or it may arise without previous existing disease. It is certainly more common than papilloma, and I am inclined to think that many cases which have in the past been looked upon as villous papillomata were in reality villous carcinomata. This may in part account for the early recurrent cases, and I look with extreme suspicion on any vesical papilloma which is covered with stunted villi or which has any but a very delicate pedicle. Even in the absence of any microscopic infiltration of the base by epithelial elements, I should look upon these tumours as malignant. Possibly I am inclined to look upon these cases as more commonly malignant owing to the number which are sent to this hospital in advanced stages of carcinoma which have been treated elsewhere.

Lines of spread of the disease.—Before we discuss the symptoms and course of carcinoma of the bladder let us for a moment consider the lines of spread of the disease. In the first place a malignant growth may spread in the bladder, small implantation growths arising in the vicinity of the primary tumour or in that part of the bladder wall which comes into contact with it when the bladder is emptied. There is also a distinct intramural spread, the growth infiltrating the muscular coats in the lymphatic spaces to a wider area than that occupied in the mucous layer. At the same time the growth penetrates through the vesical wall and may cause adhesions (and later direct infiltration into) to the rectum, vagina, or small intestine. In one remarkable case of a villous carcinoma in a young man the growth recurred very rapidly after removal, and the patient died in eight months. I made a post-mortem examination and found an enormous mass of growth extending from the bladder and directly invading the recti abdominis muscles; it extended laterally and directly infiltrated the pelvic bones, extending on the left side into the acetabulum, and on both sides bulging through the obturator foramina and invading the origins of the adductor muscles; on the left side it invaded the sacro-iliac joint and the gluteal muscles covering it. No other secondary deposits were found in the viscera or skeleton. This very rapid spread is most exceptional. Finally, the growth may spread by lymphatic extension following the trunks to the glands about both the internal and external iliac arteries, and in this situation may cause pressure upon nerves.

Symptoms.—The symptoms of vesical carcinoma vary somewhat with the character of the growth, and naturally with the extent of the infiltration. Hæmaturia is usually the first sign and may come on similarly to the papilloma as a profuse hæmorrhage, lasting a day or so and then recurring. With carcinoma the intervals between the hæmorrhages are less than in papilloma, and there is a much greater tendency to a more or less continuous slight hæmaturia. Another feature is that the blood is often more marked at the end of micturition, the last few drops of urine being more deeply stained than the earlier urine.

Increased frequency of micturition is another early symptom of carcinoma, coming on at first gradually, both during the day and the night, and increasing until it reaches as often as every quarter or half hour. Increased frequency is always more marked in the infiltrating than in the papillary carcinoma, and may occur whilst the urine remains clear, but is aggravated by the occurrence of cystitis.

Pain is usually present with carcinoma of the bladder. At first it is felt in the suprapubic area when desire to micturate becomes marked, and also in the perineum and terminal part of the penis when the bladder empties. It is also aggravated when cystitis is present, and may in some cases be due to obstruction of the internal urethral orifice by growth or by blood clot. There may be aching in the lumbar region, either from direct obstruction to the ureteric orifice from the growth or to ascending septic infection of the kidney. In later cases in which the pelvic glands have become affected by growth there may be pain along the course of the sciatic, crural, or obturator nerves from pressure.

The urine, apart from the presence of blood, may at first show little change, but as the growth progresses ulceration is produced, and the urine then contains pus, blood, and excess of mucus with the presence of cystitis. Later the urine becomes ammoniacal and foul, and may contain small conical-shaped masses of phosphatic material which has become loosened from the surface of the growth. Small masses of growth may also be passed in the urine, but too much stress must not be placed on the apparently benign appearance of these under the microscope as they are usually pieces from the surface of a fungating growth.

Diagnosis.—In cases commencing with hæmaturia difficulty may arise in the diagnosis. In speaking of the diagnosis of a villous papilloma, I pointed out the great advantage of a cystoscopic examination, which not only shows at once whether the bleeding is vesical or renal in origin, but will also demonstrate in the former the presence of a growth or some other lesion. Of these, tuberculous disease occurs in younger patients, is nearly always secondary to renal tuberculosis, so that distinct evidence is present in one ureteric orifice, the ureter may be felt to be thickened per rectum or per vaginam, and other evidence may be found of tuberculosis elsewhere in the body (prostate, testes, &c.). Bilharzia may cause hæmaturia and a sessile fungating mass in the bladder, but will be recognised by the presence of the characteristic ova in the urine, but the great difficulty may arise in the diagnosis between a simple villous papilloma and a villous carcinoma. In cases in which the tumours show on cystoscopic examination long, delicate, feathery processes springing from a small pedicle, the growth is probably innocent, but when the villi are stunted and rounded, the pedicle short and broad, and the immediate area of the attachment of the pedicle shows elevation or thickening of the vesical mucous membrane, or the surface of the tumour shows a fleshy mammillated appearance, then suspicion should at once be aroused of a malignant tumour. In some cases, owing to the hæmorrhage or to the size of the tumour, a cystoscopic examination may be unsatisfactory and our diagnosis must rest upon the clinical evidence, and I would say at once that the presence of increased frequency of micturition or of pain following micturition is strong evidence of malignancy. Cystitis, apart from any instrumental infection, is very uncommon in benign tumours, but frequent with carcinoma. A further important piece of evidence may be obtained from a careful rectal examination; with villous papilloma nothing abnormal will be felt unless the growth is large, and then only a soft mass in the bladder on bimanual examination; but in malignant disease an increased resistance may often be felt in the bladder base on one side of the middle line, whilst a thickening may often be detected extending outwards towards the pelvic wall from the upper and outer part of the prostate due to extension in the lymphatic system.

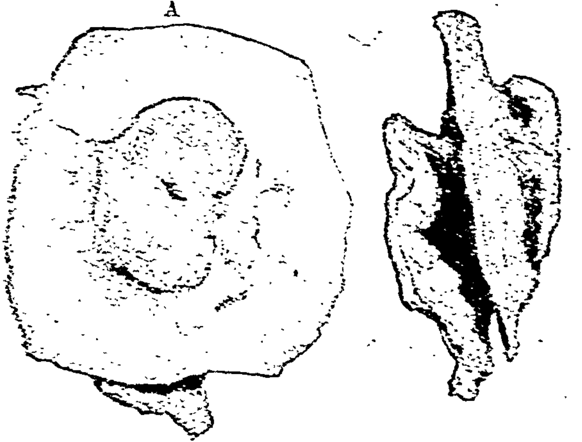
In other cases in which hæmaturia is slight, but in which increased frequency of micturition and pain are the predominant features, the diagnosis must be made from vesical calculus, from prostatic enlargement, and from cystitis. In calculus the pain is more marked at the termination of micturition, and in the absence of marked cystitis the increased frequency of micturition only occurs in the daytime, and is increased by movement. In prostatic enlargement the onset is more gradual and hæmaturia is less common. Pain may be marked in prostatic carcinoma, but in each case a rectal examination will determine the presence of a prostatic tumour. I have had recently two cases under my care which caused some trouble in diagnosis. In the first, a stout gentleman, aged 71, had had increased frequency of micturition for three years together with some difficulty in micturition. Three months before he had had hæmaturia, which had recurred at the time I was asked to see him. I found that he had 9 ounces of residual urine in the bladder, and I was unable to get a satisfactory view with a cystoscope owing to bleeding from the prostatic urethra in passing the instrument. Per rectum there was a very large, soft, adenomatous prostate, for which I recommended removal. On opening the bladder a few days later for this purpose I was surprised to find, in addition to the enlarged prostate, a hard infiltrating epithelioma of the right lateral wall of the bladder, ulcerated at the upper end and too extensive to remove. In the second case a cystoscopic examination demonstrated a nodular, ulcerated growth on the right of the bladder base, but on rectal examination the prostate was found to be slightly enlarged, very hard, nodular, and fixed, extending as a broad infiltration into the bladder base and towards the right pelvic wall. In this case I think the growth was primarily in the prostate with direct spread to the bladder.

In the infiltrating growths the cystoscope shows an ulcerated area surrounded by irregularly placed, raised nodules of growth, and per rectum a hard plaque may be felt in the bladder base.

Treatment.—The treatment of carcinoma of the bladder depends upon the local condition present, the amount of apparent extension of the growth, and the physical condition of the patient. If the growth is small and, as far as can be ascertained, is confined to the bladder, and the patient's condition enough to warrant a severe operation, an attempt at complete removal should be made. These conditions are but rarely fulfilled, as the cases are so often seen when extravesical spread has already occurred that any attempt at radical removal is unjustifiable. Should, however, an attempt be made to remove the growth the bladder should be opened above the pubes and the area surveyed. When the exact condition has been determined, a small bougie should be passed into the ureter if the growth approximates the latter, and the vesical incision extended into the peritoneal cavity and the intestines packed off by flat swabs, the high Trendelenburg position helping in this. The steps of the resection depend upon the position of the growth, but in all cases the bladder wall must be removed wide of the base of the tumour. If the ureteric orifice is placed within the area required to be resected I have no hesitation in removing it. The incision should be deepened on either aspect of the ureter and the latter identified in the extravesical tissues and separated. After the whole growth and surrounding area of bladder wall have been separated the ureter is divided and the proximal end brought up and sutured into the upper angle of the deep vesical incision by three sutures of fine catgut before the wound is approximated. I have had occasion to remove the terminal portion of the ureter in six cases, once for epithelioma, four times in villous carcinoma, and once in papilloma, and only in one of these cases has there been any aching in the loin following it. I never completely close the suprapubic wound after the removal of a malignant growth, but prefer to drain the bladder for some 10 to 12 days by a rubber drainage-tube.

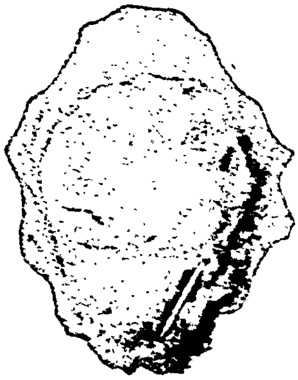
In some cases of multiple malignant tumours radical resection cannot be performed, but the condition may be considerably alleviated by the local removal of each fungating growth and the cauterisation of the pedicle. For some cases complete removal of the bladder after implantation of the ureters into the rectum or vagina or after bilateral nephrostomy has been recommended, but I have no experience of it, and the statistics of recorded cases are by no means encouraging. In my own cases, in which 23 were epitheliomatous, I operated upon seven, but in only two was I able to complete a resection. In one case of an apical epithelioma (Fig. 1) there was no recurrence in the bladder, but recurrence took place in the pelvic and lumbar glands in 18 months, accompanied by nerve-pressure symptoms, and the patient eventually died. In the other (Fig. 2), in which I removed the growth with the terminal portion of the ureter, recurrence occurred in the pelvic glands in 20

FIG. 1.



Epithelioma of anterior wall of bladder, resected with whole thickness of bladder wall. A, Surface view. B, Lateral view showing raised epithelium with subjacent muscular and peritoneal layers.

FIG. 2.



Epithelioma of base of bladder, resected with terminal end of ureter, latter transplanted. A rod is passed into ureteric orifice.

months, soon followed by metastatic deposits in the liver, death ensuing in 28 months after the operation.

In the villous carcinoma the prognosis is more hopeful. In my series of 21 cases, 5 were too extensive for any operation owing to the extent of the extravesical infiltration, but in 6 I performed a palliative operation to remove the exuberant masses of growth in the bladder either for hæmorrhage or for obstruction. In each of these recurrence took place rapidly. In the remaining 10 cases I resected the growths widely in the absence of any apparent extravesical spread of the disease, and in 4 was obliged to resect a part of the terminal portion of the ureter. Of these 4, 2 are alive and well after 4 years and 2½ years, but the two others recurred after 1 year and 1½ years with glandular deposits. In the remaining six cases, 2 are alive and well, 1 after 4 years and 1 after 1 year; 2 rapidly recurred in the bladder, and 2 cannot be traced. In one of the recurrent cases of this last group I operated a second time, removing a large piece of bladder wall, but recurrence again occurred in a year, and the patient refuses further operative treatment.

In cases of carcinoma of the bladder in which radical treatment cannot be carried out, it may be necessary to provide treatment for the more urgent symptoms. If hæmaturia is severe similar treatment to that recommended in villous papilloma should be tried—namely, complete rest under morphia, with ergot and calcium lactate in large doses; irrigation of the bladder with hot silver nitrate solution 1 : 5000 at 115° F., or with adrenalin 1 : 2000. If there be clotting in the bladder an attempt should be made to extract it by an evacuating cannula and bag, and should the hæmorrhage not yield to these measures a suprapubic cystotomy should be done, any fungating growth removed, and the base treated with the cautery.

Pain and increased frequency of micturition may become very distressing in vesical carcinoma, and often in part are caused by accompanying cystitis. Sandalwood oil and urinary disinfectants should be given, and the bladder irrigated with hydrogen peroxide (one volume) or weak nitrate of silver solution; suppositories of belladonna and morphia or a small enema containing tinct. opii ♏ xx. may relieve it. In several cases under my care I have opened the bladder above the pubes, removed any fungating growth, and provided a permanent suprapubic fistula with great relief to the unfortunate patient.

Finally, I have tried the effect of placing a tube containing 50 mgrm. of radium into the bladder for periods of from 12 to 24 hours, but I cannot say that I have found any relief from pain from its use nor any diminution in the size of the growth. The bladder is often so intolerant that the presence of the tube causes pain, but I think further trial should be given to radium in these cases so that experience may be gained in the proper dosage, &c. We must not expect radium to do all the wonders in cancer that the lay press would have us believe, especially where the malignant process has spread beyond the bounds of its original focus, but in a few cases of carcinoma in other regions I have undoubtedly seen good results from it, and so shall persevere with it when the opportunity arises and when radical operative measures are contraindicated.

Wimpole-street, W.

DEATH FROM HYPERACUTE STREPTOCOCCAL INFECTION (STREPTICÆMIA)

FOLLOWING RADICAL REMOVAL OF CERVICAL TUBERCULOUS GLANDS WITH SINUSES.

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LATE SENIOR HOUSE SURGEON AND ASSISTANT ANÆSTHETIST, MANCHESTER ROYAL INFIRMARY; AND DEMONSTRATOR OF ANATOMY IN THE UNIVERSITY OF MANCHESTER.

THE two cases which I report below are of sufficient interest to have attention drawn to them. They present a possibility of which I had been unaware—namely, death within a few hours of radical removal of tuberculous glands. Moreover, I have been unable to find any reference to such an occurrence in the literature, and though I have since heard of such cases in conversation they were regarded as very mysterious and the true import of them had not been appreciated. I regret that only the second case was adequately inquired into after the warning given by the first case, but the clinical details corresponded so closely in both that one cannot but believe that they were both victims of the same disaster.

CASE 1.—The patient was a male aged 1 year and 10 months. He was a very big boy for his age, fat and chubby, but a little rickety. There was a family history of consumption on the father's side. Six and a half weeks before admission to the Victoria Hospital for Children, Chelsea, lumps appeared on the left side of his neck in the occipital region. These went down of their own accord. One week previously a lump had appeared in the upper cervical region of the same side. This lump became red and inflamed owing, his mother said, to a knock received in bed. On admission there was a red fluctuating gland adherent to the skin in the left upper cervical region. There were one or two large glands deep to it. On Oct. 21st, 1912, the gland was incised, but was found to contain nothing but soft, grey, tuberculous-looking material without caseation. It was scraped out and this gland was found to lead into a deep one, which was similarly treated. The wound refused to heal, and protuberant pale granulations sprouted from it. After nearly a month of trying to accelerate healing a radical operation was decided upon. This I performed on Nov. 18th. The old scar was excised, and a complete removal of the enlarged glands on the left side of the neck was carried out. They were very adherent to the sterno-mastoid (which had to be divided) and also to the carotid sheath. A mass of glands extending from the clavicle to the angle of the jaw was removed. The wound was closed with a continuous suture and a drain inserted through a separate puncture hole in the skin flap. All went well until 1 A.M. the following day. The child had seemed very well considering the severity of the operation. His pulse, however, suddenly rose to 160 and became full and bounding. His temperature rose from 98° to 102° F., and the face became flushed and blue. The patient was now unconscious. There was no hæmorrhage from the wound, which was opened up and washed out. Saline was administered and stimulants and heat supplied, but he died two hours later—12 hours after operation. He vomited only once, shortly before death. The urine was free from acetone or diacetic acid.

CASE 2.—The patient was a female aged 3 years and 8 months. There was a family history of pulmonary phthisis on the father's side. A lump appeared on the right side of the neck 18 months previously when the child was in South America. This swelling was allowed to burst; it discharged pus for some time after. There had been a small sinus over the gland ever since with a slight discharge which during the last three weeks had been worse. On admission the patient was found to have a typical tuberculous sinus leading down to a deep gland, with which was associated considerable peri-adenitis. On Jan. 16th, 1913, I performed a radical operation for removal of the glands on he right side of the neck. A long incision was carried long the anterior border of the sterno-mastoid in the usual manner, commencing below and behind the mastoid above nd ending immediately above the clavicle. The incision ncircled the sinus in such a manner that this was removed *n bloc* with the glands. Care was taken to remove the chain f small glands along the outer aspect of the jugular vein. The wound was closed and a drain inserted as in Case 1. The child seemed very well on the evening of the operation, but about 4 o'clock the next morning she woke up with a cream and had a rigor. Her pulse was found to be 160 and her temperature 106° F. She was unconscious and lay muttering to herself. She was a little restless at first, with witchings of her limbs. She presented signs of an acute toxæmia with her high temperature, rapid bounding pulse, lushed rather cyanosed face, and unconsciousness. There was no acetone or diacetic acid in the urine, and no vomiting. She was kept warm by means of a 16-candle power lamp in the bed in the manner employed as a routine at the Victoria Hospital. Strychnine and digitalin were administered as the heart flagged, and finally an intravenous injection of sodium bicarbonate was given in deference to the opinion of one who believed the condition to be an acidosis. The patient died at 12 noon—20 hours after the operation.

The cause of death.—Unfortunately no post-mortem examination was permitted in either case, but in the second I obtained a specimen of the heart's blood by puncture soon after death. A swab was also taken from the wound, and these two were sent to the Lister Institute for bacteriological examination. They reported the presence in the blood and on the swab of "a short-chained streptococcus, presumably the same family in both instances." There can be little doubt that the cause of death in this second case was a hyperacute invasion by streptococci, and I am equally convinced, from the similarity of the clinical pictures, that this was the cause of death in the first case also. There were none of the classical signs—vomiting, extreme restlessness, and acetonuria—of a delayed chloroform poisoning, though this drug was used as the anæsthetic in both cases. The suddenness of the onset rather favoured embolism, and in the absence of a post-mortem examination this cannot be absolutely negatived. However, the pyrexia, the full bounding pulse, and the flushed, rather cyanosed, face were indicative of a severe blood infection rather than a massive infarct. Further, the wounds were thoroughly opened up during life, and there was seen to be no sign of thrombosis in the jugular vein.

Origin of the infection.—It is extremely improbable that the streptococcus was extraneously carried into the wound through imperfect operative technique. I think that this source can be ruled out at the outset. It is almost certain, however, that the operation lighted up a smouldering infection. In this connexion it will be remembered that sinuses were present in both these cases. In the first case this followed aseptic incision and curettage and had been antiseptically treated in the wards till the time of the second operation. Nevertheless there had been an inflammation in the gland, non-pyogenic, and therefore very likely a mild or thwarted streptococcus infection. The sinus in Case 2 had been present for some 18 months, and had had household treatment only for some time previously. It is highly probable that organisms were already lurking in the sinus, and probably in the gland tissue and lymphatics also. The manipulation necessary for the removal of the glands would very likely cause a spilling of infective material into what is really a very large open wound. Absorption would very readily take place directly into the blood or *viâ* the deep lymphatics and thoracic duct (Thiele[1]).

Dr. A. Stanley Griffith, of the Field Laboratories, Cambridge, to whom the glands of Case 2 were submitted as material for his research upon the varieties of tubercle bacilli found in cervical glands, did not find any streptococci in the glands themselves. But as he said in a letter: "I am afraid my investigation, confined as it is to the purely tuberculous tissue, will not be of much help to you in deciding whether the streptococcus infection started before or after the operation." However, his examination of the glands from this case is so interesting that I cannot do better than quote his notes at length.

> The material consisted of a group of glands and several separate ones. The group was attached to a diamond-shaped piece of skin, in the centre of which was a sinus. The latter was found to end in dense fibrous tissue which was apparently the remains of a tuberculous gland, the contents of which had been evacuated. Below this fibrous patch were two enlarged glands which contained dry caseo-calcareous masses which readily shelled out from a fibrous capsule; a third small gland contained a caseo-calcareous tubercle. The other (separate) glands appeared slightly enlarged, but were not obviously tuberculous. An emulsion was made of the caseo-calcareous substance and inoculated into guinea-pigs. Cultures were also sown with the caseo-calcareous substance, but these have so far remained sterile; no streptococci have grown. I found no organisms of any sort in a smear preparation of the emulsion. ...... Two guinea-pigs were inoculated with an emulsion from two glands and neither of them developed tuberculosis. All the cultures sown with the emulsion remained sterile. There were therefore no streptococci or living tubercle bacilli in the material investigated.

Hence we see that the caseous material at least was found sterile. Whether the sinus would have been found sterile or not is another matter. And the same is true of the organised material removed—the capsules of the glands, the fibrous tissue, and lymphatics. In these cases with sinuses there is probably a fairly rich bacterial flora in the sinus walls and in the numberless lymphatics which are necessarily cut across at operation.

Other cases.—In looking through the records of the Victoria Hospital, Chelsea, for the past 25 years I found but four deaths in 533 operations on tuberculous glands, a mortality of 0·75 per cent. The four deaths were these:—

1. Died eight days after from tuberculous meningitis.
2. Tuberculous abscess with sinus; curettage; death from erysipelas.
3. The notes state that after liberating pus "breaking-down gland tissue extending in all directions ...... was with difficulty and violence scraped away, a large ragged cavity finally remaining." The child died the following evening with a temperature of 107·8° F.
4. At operation hæmorrhage was severe; wound opened and packed after four dressings. Frequent coffee-ground vomiting; pain in abdomen. Diacetic acid in the urine. Temperature rose to 105·2°. Child died just over 24 hours after operation (typical delayed chloroform poisoning; excluded in my cases).

These four cases represent practically the only four possibilities of death following operation on cervical glands. Presumably Cases 2 and 3 are both deaths from acute streptococcal infection, but of a grosser and more obvious nature than the two cases I have reported above. The medical profession has been wont to regard the operation of removal of tuberculous cervical glands as safe if tedious.

Prophylaxis.—The lesson to be learned from the above rather bitter experiences is that careful attention must be paid to sinuses for a few days before operation. They should be well swabbed out daily with iodine or carbolic alcohol. It would be well in most cases to obtain a culture from the sinus before determining the date of operation. As for treatment, once the bacteriæmia has set in probably no remedial measures will be of avail. The wounds were opened and flushed out with saline in both cases without success. In these hyperacute infections little can be expected from anything but intravenous anti-serum, and little enough from that. The body weight of these victims is so small that a comparatively small dose of streptococci will be lethal.

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[1] F. H. Thiele: Channels of Spread of Bacterial Infection, Royal Society of Medicine, 1913 (Thiele and Embleton).

Finally, a note on the operation itself. It is now customary to remove all the glands of the affected side of the neck in a manner only slightly less thorough than if they were malignant. There can be no doubt but that this is the ideal method of treatment (Müller[2]), as by this means not only the obviously affected glands but also those which are in the incipient stage are thoroughly removed. Close attention should be paid to the small glands on the outer side of the carotid sheath, as these are very liable to become affected and spread the trouble into the posterior triangle. Indeed, Judd[3] plans his incision entirely in the posterior triangle so as to remove the "Fettpolster" of Merkel, and goes on to strip the deep cervical chain from behind.

Summary and conclusion.—1. The radical removal of tuberculous glands in the neck, whilst the only rational procedure, is not unfraught with danger. 2. This is especially the case in the presence of a sinus. 3. Two cases operated upon by me died from a fulminating streptococcal infection, one 12 hours, the other 20 hours after operation. 4. The exact source of infection was not discovered, but was probably the walls of the sinuses present. 5. Prophylactic treatment should be carried out for a few days before operation—the sinuses should be well swabbed out with iodine or similar antiseptic. 6. The wound should be well washed out with saline before it is closed and drainage employed, preferably through a separate stab wound in the skin flap. 7. In children at least probably no treatment will avail when once the bacteriæmia is established.

I desire to express my indebtedness to Mr. Joseph Cunning, whose house surgeon at Tite-street I was, and who very kindly allowed me to operate upon and report these two cases. I am also indebted to Dr. Griffith for the excellent report he so courteously furnished me with.

Victoria, British Columbia.

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[2] G. P. Müller: Treatment of Tuberculous Cervical Lymphadenitis, Annals of Surgery, 1913.

[3] Starr Judd: Collected papers of Mayo Clinic, 1910-11.

CAMBRIDGE RESEARCH HOSPITAL.—The studies which are being carried on at the Cambridge Research Hospital in connexion with rheumatoid arthritis and allied diseases have reached a stage at which it is essential that those working at the hospital should be provided with a properly equipped operating theatre, in order that more advanced research may be undertaken into the cause and treatment of these diseases. As there is no room suitable in the present building it will be necessary to build, and Mr. Otto Beit has generously promised the sum of £700 for the erection of this building, and has further promised the sum of £100 per annum for the next ten years towards the general maintenance of the hospital.

CONGENITAL ICTERUS.[1]

By SPENCER SHEILL, F.R.C.P. IREL.,
LATE EXAMINER IN MIDWIFERY AND GYNÆCOLOGY TO THE CONJOINT BOARD OF IRELAND; EX-ASSISTANT MASTER, COOMBE MATERNITY HOSPITAL, ETC.

IN his "Lectures on Diseases of Children" Dr. R. Hutchison aptly states that "so soon as the child is born it meets with various adverse influences which may render it the subject of disease before it has hardly begun to live." Had he said, "So soon as the seed is sown, or earlier than this, adverse influences are frequently active in harm for the future generation," he would have been equally correct and his words would have carried a greater significance. In the subject under consideration—congenital icterus—post-natal influences are of small moment, for the factors which are working to produce the abnormalities observed in such cases exert their principal energy during intra-uterine life, and they may even be hereditary.

Let me first very briefly compare the various forms of icterus neonatorum so that there will be no misconception as to the particular form to which I wish to draw the attention of the section. The simple jaundice so often met with occurring during the first week of life is really better called pseudo-jaundice. It is generally believed by the best observers to be due to inability of the liver to discharge sufficiently rapidly *viâ* the bile the products of red-cell disintegration. This red-cell destruction is, as you are aware, a normal process in the new-born, the child born with 5½ or 6 million red corpuscles per c.mm. and 110 per cent. of hæmoglobin having normally at about the end of the second week but the usual 5 million cells of the adult. It is believed that the débris so created renders the bile unduly viscid; that the bile capillaries become over-filled, and reabsorption follows stagnation of bile with consequent jaundice. In this form the conjunctiva is not injected, and the stools are not clay coloured. The trouble is transient and always benign. The blood origin of the affection has set some observers carefully comparing the effect upon the infant, as regards jaundice, of early and late ligature of the umbilical cord, with the result that a larger percentage of infants were found jaundiced when the cord was ligated late, thereby permitting more placental blood to reach the child.

The form of jaundice in which the conjunctiva is deeply injected, the stools colourless, the urine loaded with bile-pigment, and the child unduly drowsy, is said by some to be due to similar causes as the pseudo form, but in more marked degree; by others to be due to patency of the ductus venosus with lowered tension in the portal circulation and increased tension in the bile capillaries: but whatever its origin it seldom progresses to convulsions, coma, and death.

I need say little about the septic form of jaundice due to cord infection—its pathology is well known and its prevention simple. Syphilitic disease is usually recognisable by other signs and symptoms, and if liver degeneration is not too far advanced appropriate treatment is effective.

There remain, then, two forms of icterus—excluding Winckel's disease and Buhl's disease—to be discussed: namely, congenital abnormalities of the bile passages and familial jaundice. In the former there may be a defective development of the cystic or hepatic ducts early in intra-uterine life, creating a sluggish discharge of bile and followed by irritation of the ducts, then catarrh, and finally obliteration. The process is slow and may be completed during intra-uterine life, or not until a few weeks or months after birth. One can say with some certainty whether obliteration has occurred early or late by observing the meconium voided, which is normal if the obstruction has taken place late in intra-uterine life or after birth.

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[1] A paper read before the Obstetrical Section of the Royal Academy of Medicine in Ireland on April 3rd, 1914.

The treatment of this form of jaundice is, of course, early operation, but there is always the difficulty of recognising the obstruction sufficiently early to ensure a good result, for the signs and symptoms are so similar to those of simple or pseudo-jaundice that the affection may have progressed beyond the possibility of recovery ere the obstruction be suspected, and one cannot always palpate with certainty a dilated gall-bladder. Moreover, the obstruction is not always amenable to operation as the process may have spread deeply through the liver itself. The family history of these cases helps us but little, and it is the same with the familial or hereditary form of jaundice—a rare form, the pathology of which is far from being clearly understood.

In looking through the scanty literature on the subject one finds the following points standing prominent: 1. The parents are usually healthy, and syphilis is not an important factor. 2. A tendency for several children of the same family to be similarly affected. 3. Other children of a family in which a fatal case of jaundice has occurred have been affected with infantile jaundice, or were unduly subject to digestive disturbances. 4. Boys were more frequently affected than girls.

In familial jaundice there is a tendency to spontaneous hæmorrhages from the umbilicus, bowels, or nose. The hæmorrhages are alleged to be due to the effect upon the blood-vessels of ptomaines circulating in the blood in quantity, following upon derangement of liver function, but they may be due also to an anæmic condition sometimes found in these cases. But whatever be their cause they are of ill omen, the little patient usually dying in coma or convulsions. Treatment would appear to be useless, and seeing our ignorance of the pathology this is not to be wondered at. A case of this nature recently came under my care, and the following brief sketch of it may be of interest.

The mother was hardly what one would call perfectly healthy, for she suffered from time to time from what she called "liver attacks." Appendicitis, gall-stones, and liver chills were prominent amongst the names of her ailments as diagnosed by various medical men. There can be no doubt, however, that she suffered from aggravated constipation for years, and as cause or effect her colon was chronically much dilated. She came to me first, when pregnant about five months, with a history of losing two infants shortly after birth from jaundice. Questioning her husband or herself elicited no information of any value. She had several "liver attacks" during this pregnancy, and she was very "nervy" at times, and prone to faintness when in a warm atmosphere, such as the kitchen. Her heart was sound, and the urine contained no abnormality at any time while under observation. Epigastric pain was a fairly frequent and annoying symptom.

After an easy normal labour, at the end of which a little chloroform was administered, I delivered her of an apparently perfectly normal male child. The infant showed a faint icteric tinge in the skin at birth, and this became rapidly deeper and deeper to the end. The child was very cross and fretful, and cried feebly most of the time. After 48 hours, as the little patient appeared to be going the way of its predecessors, I asked for a consultation with a surgeon, as a result of which he operated on the infant immediately in order to relieve what was diagnosed as obstruction to the outlet of bile. On opening the abdomen the gall-bladder was found moderately distended with very viscid bile. The ducts were patent, but the lumen could hardly admit of the passage of so thick a fluid as the bile found in the gall-bladder. The gall-bladder was drained, but the infant died about nine hours later. No post-mortem examination was permitted, but the weight of evidence indicated that we were dealing with a case of "familial jaundice," that the disease was antenatal, and that the abnormality lay in the bile itself rather than in the bile passages.

Naturally, in view of these facts, one is bound to ask, What is the cause of this unduly viscid bile? And if that question is answered by saying, what I believe to be the case, that it is due to a hereditary tendency to hæmolysis more precocious and more marked than is normal, then we must go further and seek a cause for the advanced hæmolysis. Some of these cases show a profound anæmia with a large percentage of megaloblasts. My case was anæmic, but not to a marked degree.

In spite of the fact that John Thomson, Summons, and others have found the parents mostly healthy in these cases, I feel unwilling to dissociate the fact of the mother's tendency to "liver attacks" in my case from the fatal icterus of the infants. One such case can prove nothing, but other observers have suggested that "familial icterus" is due to a poison circulating in the maternal blood, and the point is undoubtedly well worth investigating.

My special regret regarding this case is the incompleteness of my observations upon it and the inability to examine the cadaver. May I suggest that in the blood, and in the organs associated with the making and purifying of the blood, of both mother and infant much hidden information may lurk, and that we should in all suspicious cases thoroughly, *and above all early*, make a complete microscopic investigation of the blood.

Dublin.

THE RÔLE OF THE CRUCIAL LIGAMENTS IN HÆMARTHRUS AND INJURIES TO THE KNEE.[1]

BY EDRED M. CORNER, M.C. CANTAB., F.R.C.S. ENG.,
SURGEON TO ST. THOMAS'S HOSPITAL AND THE CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.

I PARTICULARLY wish to demonstrate the case of this young man. He injured his knee some four weeks ago whilst playing football, and has come to the hospital now for advice, as the injured knee is slow to get well. The pain, tenderness, and source of disability are placed without hesitation on the inner side of the knee. The rest of the knee is apparently normal and without pain. Thus at a glance the diagnosis is clear: partial rupture of the internal lateral ligament of the knee—partial only and not complete, as the knee does not allow of the leg being abducted at that joint. At the site of the lesion the outlines of the internal condyle of the femur and the tuberosity of the tibia are obscured by a tender swelling—extravasated blood around the ruptured fibres of the ligament. On asking the patient if the knee swelled up after the injury, he answered "Yes," but to no great extent and within a short time of the accident, an hour or two.

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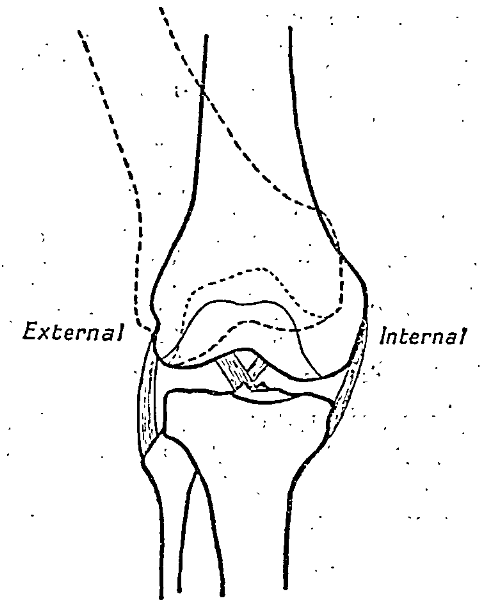
[1] Portions of an address to the Surbiton and Croydon Branches of the British Medical Association.

s the swelling of the joint took place so oon after the accident there can be no doubt iat the fluid within the swollen joint was in rge part blood. Where can this blood have ome from?

The internal lateral ligament was only partially orn, and the synovial membrane of the joint is osely attached there. Hence the synovial membrane would not have been torn with the ligament. as the synovial membrane torn by the movement the internal semilunar cartilage? The extreme calisation of the pain to the side of the joint says No" to this. Had any movement of the cartilage arked enough to tear the synovial membrane ken place, pain would have been felt more teriorly, to the front and side of the joint, and e swelling of the joint after the accident would ve been greater. Where, then, did the blood me from? And why was so easily torn a structre as the internal lateral ligament only partially ptured? The true reason is that the tearing of e lateral ligament was stopped as the strain gan to be taken up by the strong crucial ligaents inside the joint. These latter ligaments thstood the strain, and the internal lateral gament was only partially and not completely ptured. (See figure.) Indeed, complete rupture the internal lateral ligament of the knee is possible without a complete rupture of the cial ligaments, or at least a complete rupture of e anterior crucial ligament.



The illustration shows the knee-joint, its two lateral ligaments, and the crucial ligaments. The dotted outline represents the femur when the joint is bent inward, and serves to show how the crucial ligaments take up the strain as the fibres of the internal lateral ligament yield.

Hence in lateral strains, sprains, or stresses of e knee it can be formulated:—1. Partial rupture the internal lateral ligament is produced by the cial ligaments withstanding the strain of the cident and preventing complete rupture. The ults of treatment will be satisfactory. 2. Comte or severe lacerations of the internal lateral ament will always be accompanied by a lesion of e crucial ligaments, even to the complete rupture the anterior crucial ligament. The results of atment vary *pari passu* with the extent of the laceration of the crucial ligaments. The convalescence may be long and the final result unsatisfactory.

I have spent so much time upon the injury to the crucial ligaments to demonstrate and insist on their almost universal presence in cases of injury to the knee. So that a further statement may be made. The synovial membrane of the knee is tightly bound down to these crucial ligaments, so that when the ligaments bear strain and are stretched the synovial membrane on them is torn, not in one place, but as many small tears. These tears are the main source of blood in the joint after an injury—cases of hæmarthrus. Hence it is found with regard to the patient under consideration—where the crucial ligaments withstood the strain and were not broken, and where the synovial membrane would be but little torn—there was but little early swelling of the joint after the accident. Little blood was poured into the joint as the synovial membrane was little torn. How different this clinical picture is from that of the man who, as was proved by operation, ruptured his anterior crucial ligament. That man's joint swelled up enormously and quickly after the accident. Also the tenderness on the inner side of his knee extended so far forward that a lesion of his internal semilunar cartilage was suspected, the unoffending cartilage being removed at Malta. He is an example of the extremely unsatisfactory result of treating the ruptured internal lateral ligament and excluding all treatment for the coexisting injury to the crucial ligaments—a fact noted by Mr. A. M. Martin, of Newcastle-on-Tyne.[2]

Such reasoning as the above explains the relationship to each other and to injuries of the knee of partial rupture of the internal lateral ligament, complete rupture of the same ligament, partial or complete rupture of the crucial ligaments, and the source of blood in the knee-joint after injury (hæmarthrus). These have many consequences, but the one at present worthy of notice is that very little reference has been made in these clinical observations of injuries to semilunar cartilages. These cartilages move and bear stress in all movements of the joint. But operation, and probably removal of the semilunar cartilage, is not a "cure-all" for troublesome conditions found in knees which have sustained injuries. The popularity of this operation suggests that such may be the opinion, and that this operation is done with as small amount of forethought as is so often given to the operations for the removal of an appendix, varicocele, or hernia sac. The post-operative benefit in these cases is often due to some post-operative stiffness giving the joint an appearance and feeling of strength.

Clinically there is a lesson to be learned. If the early post-traumatic swelling of a joint is slight and symmetrical, there is little intra-articular injury and the patient will do well. If the early post-traumatic swelling of the joint is rapid and great, there is an important intra-articular injury (or injuries) to be found in the neighbourhood of the crucial ligaments. The convalescence of such a case will be long, and the end results of any treatment short of operative treatment unsatisfactory.

It may be asked how such an operation should be done. The answer is, through a median arthrotomy, splitting the patella longitudinally, the knee being flexed to expose the structures at the back of the joint. There is no need to wire the patella after this operation; the split rectus femoris and ligamentum patellæ are sutured.

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[2] Brit. Med. Jour., Oct. 25th, 1913.

And what is the time to operate? As soon as the post-traumatic bleeding has ceased and before any post-traumatic inflammation has begun—that is to say, if circumstances allow, operate a few hours after the injury. Professor Murphy, of Chicago, likes to wait a few days after the injury. During this period he injects some formalin solution into the joint which "coffer-dams" the subsynovial lymphatics and so prevents any infection spreading from the joint.

Harley-street, W.

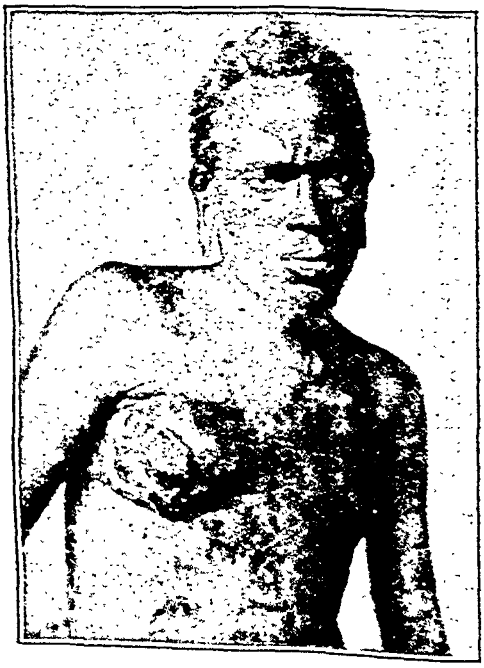
A CASE OF CARCINOMA OF THE BREAST IN A MALE.

By H. V. WELCH, M.B., B.S. LOND.,
MEDICAL OFFICER, BRITISH EAST AFRICA.

THE appended reproductions of photographs of a case of carcinoma of the breast in a male may prove of interest to readers of THE LANCET.

The patient, a Kikuyu, aged 42, first came up to the native hospital at Nairobi, complaining of the pain caused by the growth. The surface of the tumour was very foul and ulcerated. (Fig. 1.) The axillary and supraclavicular glands were hard and enlarged. The patient dated the history back only two months, but I imagine that that was when pain was first troublesome.

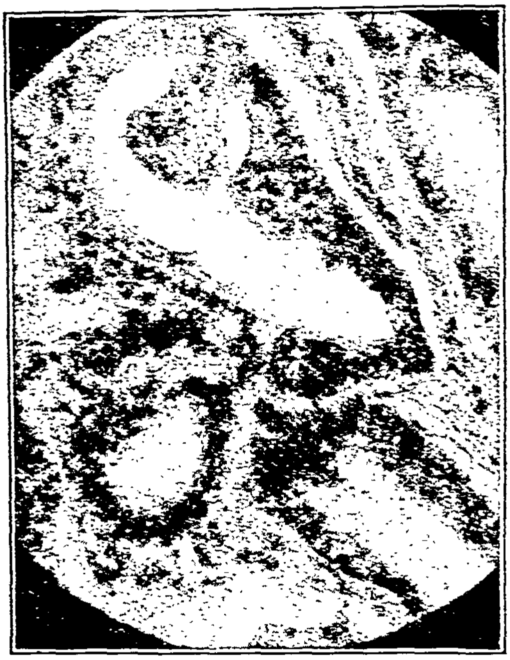
FIG. 1.



Reproduction of photograph of patient showing growth before removal.

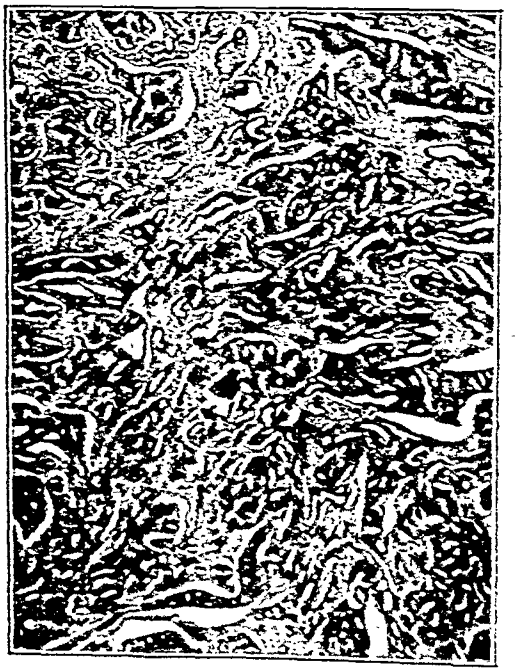
Operation was recommended to ease the pain rather than in hope of cure. Owing to the extent of the growth it was only possible to remove the tumour as widely as possible, and not attempt to clear the axilla. On section the growth showed the typical appearance of adeno-carcinoma. (Figs. 2 and 3.)

FIG. 2.



Microscopical appearance of growth under low power.

FIG. 3.



Microscopical appearance, high power.

Quite apart from the infrequency of breast cancer in a male, malignant disease amongst the natives in this country is extraordinarily rare.

I am indebted to Dr. J. H. H. Pirie for the sections, and to Mr. Crichton for the photographs.

A NOTE ON THE ASPIRATORY FUNCTION OF THE HEART.

BY H. WALTER VERDON, F.R.C.S. ENG.

THE heart is a pump and, like the mechanical pump, possesses aspiratory and propulsive powers—aspiratory power to draw supplies from pulmonary and systemic veins, and propulsive power to discharge the contents of its ventricles into pulmonary and systemic arteries. The heart works in a minus-pressure environment which at the height of inspiration registers 30 to 50 mm. Hg and during expiration falls to half this measure. Since fluids flow in the direction of the least resistance a centripetal current of blood from pulmonary and systemic sources sets in towards the minus-pressure environment of the heart, filling the great tributary veins, the auricles, and the ventricles. Intrathoracic minus pressure thus constitutes a potential aspiratory force which keeps the central venous system perpetually full of blood, and maintains this section of the circulation under favourable conditions for the action of the kinetic aspiratory function of the ventricles.

The kinetic aspiratory function is intermittent and exercises itself only during systole. When the cone of the heart contracts and expels the contents of the ventricles into pulmonary and systemic arteries it vacates a section of the pericardial sac, a space which is instantly filled by the head of the venous column entering and expanding the auricles—the advance movement being rendered imperative by the *vis a tergo* of atmospheric pressure exercised upon the contents of pulmonary and systemic veins lying at the foot of the venous column. The impetus of the moving column of venous blood transmitted to the cone of the heart is felt upon the thoracic wall; hence the quality of the apex beat affords a fair indication of the efficiency of the aspiratory function, a term which denotes and includes both the potential and the kinetic forces of aspiration.

The aspiratory function may be lowered by asthenic states of the myocardium or by reduction of the minus pressure of the environment. The latter event occurs when the fibrous stroma of the lungs loses its elasticity, when the musculature of the diaphragm and the thoracic wall becomes atonic, when intrapleural and intrapericardial effusions accumulate, and when pressure from the abdomen reduces the capacity of the thoracic cavity.

When aspiratory function is lowered certain phenomena occur. *Vis a tergo* of atmospheric pressure loses its potency, and intrathoracic venous circulation languishes. Diastole of the right ventricle and that of the auricles is sluggish, and the current in pulmonary capillary circulation is slow. Congestion of the pulmonary stream and stasis in bronchiolar radicles display themselves in symptomatic expression by asthma and dyspnœa. High peripheral resistance in the pulmonary field leads to high tension in the right ventricle, which, unable to discharge its contents fully, becomes the receptacle of a residual accumulation of blood. The barrel chest of emphysema is the result of attempts made by inspiratory musculature to neutralise the untoward effects of minus-pressure insufficiency.

Contrast circulatory conditions prevailing in states of low intrathoracic minus pressure, as in emphysema, with those obtaining in the incipient stages of fibroid phthisis, when minus pressure is high, owing to contraction occurring in the fibrous stroma of the lungs. In the latter instance the heart is small. Asthma and pulmonary congestion are almost unknown, and the freshness of the complexion as compared with the greyness of the skin of the emphysemic is a matter of note. The falling in of the chest wall at later stages points to the existence of excessive degrees of minus pressure. This condition is also apparent in the well-defined deflexions of the jugular curve, which contrasts sharply with the featureless appearances of the jugular curve of the emphysemic.

In the recumbent posture, when the shoulders are depressed, the diaphragm seeks a high horizontal plane of activity; intrathoracic minus pressure is correspondingly reduced and aspiratory function is lowered. Hence this posture is intolerable to the subject possessed of a weak aspiratory function. When the trunk is upright the liver, attached by its suspensory ligament to the aponeurosis of the diaphragm, seeks a lower situation in the abdominal cavity, drawing down with it the diaphragm, which now engages itself upon a deeper plane of action. For this reason the subject of a weak aspiratory function even during the hours of sleep assumes an upright pose. When the aspiratory function is excessively low the patient stands up, resting and fixing his arms and bent shoulders over some object of support. He thus secures a depending liver, and at the same time obtains a *point d'appui* from which inspiratory muscles attached to the thoracic wall may exercise themselves with effect. By this means the fullest measure of intrathoracic minus pressure is secured.

To speak of the limitation of the movements of the heart through the direct effects of abdominal pressure is incorrect. The heart is suspended in a bony cage, and the arching of the diaphragm is limited by unyielding aponeurotic structures. Thus when the diaphragm has attained its highest plane of elevation ample room remains for the heart to disport itself without let or hindrance. Nevertheless the heart is affected by intragastric and intra-abdominal hyper-pressure—the one condition determining sympathetic acceleration or vagal inhibition, the other inefficiency of the aspiratory function.

The object of this paper is to draw the attention of the practitioner of medicine to a subject of clinical importance, and one having a bearing upon treatment—a subject which has suffered strange neglect at the hands of the cardiologist. Upon turning over the pages of several recent works upon heart disease I have not found so far even bare mention of the subject.

Streatham hill, S.W.

LECTURES ON MEDICAL HYDROLOGY.—A course of lectures on Medical Hydrology (Hydrotherapy and Medicinal Springs) will be delivered at the Post-Graduate Medical College and Polyclinic, Chenies-street, London, W.C., on May 11th, 12th, 13th, and 14th, at 5.15 P.M., by Dr. R. Fortescue Fox. The lectures will deal with the effects of heat and cold, the principles of hydrotherapy and its application to acute and chronic disease; the rationale of bathing procedures—cooling, sedative, thermal, and hyperthermal—employed both at home and at medical baths; medicinal springs and baths, and the choice of health resorts; and indications for hydrological treatment. All medical practitioners interested in hydrology are invited to attend

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF MEDICINE.

Observations on CO_2 in Alveolar Air of Diabetics.—Aplastic Anæmia.—Multiple Superficial Ulceration of the Stomach.—A Pedunculated Intrabronchial Tumour (Sarcoma) causing Bronchiectasis.

A MEETING of this section was held on April 28th, Dr. SAMUEL WEST, the President, being in the chair.

Dr. E. P. POULTON read a paper on Observations on CO_2 in the Alveolar Air of Diabetics, especially in relation to the onset of Coma, and demonstrated Fridericia's method of measuring it clinically. He said that Beddard, Pembrey, and Spriggs were the first to draw attention to the fact that the partial pressure of CO_2 in the alveolar air of diabetics fell with increasing acidosis to reach a very low point in coma. When low the alveolar CO_2 could be raised by the administration of sodium bicarbonate. Straub and Fridericia had both confirmed their results. In the present communication stress was laid on the importance of measuring the alveolar CO_2 as a guide to treatment and prognosis in diabetes. The advantage of using this method was that the results gave a measure of the actual acidosis—i.e., of the amount of β-oxybutyric and diacetic acids present in the arterial blood at the moment. A clinical apparatus devised by Fridericia had been used for these determinations, and gave satisfactory results for clinical purposes. The method only took about ten minutes to accomplish. The normal values in healthy individuals for the alveolar CO_2 usually lay between 5 and 6 per cent. The same values were obtained in mild diabetes, where the acidosis was at a minimum. However, values down to 4 per cent. indicated that the patient was perfectly secure against the onset of coma for the time being. Values between 3 and 4 per cent. indicated the presence of danger, and it was important to take measures to raise the value if possible above 4 per cent. In none of the cases examined had coma supervened in less than two days after a reading of between 3 and 4 per cent. had been obtained. There was thus plenty of warning. Values of from 2 to 2·5 per cent. indicated the rapid onset of coma, probably within 24 hours, unless immediate improvement occurred. The values obtained actually during coma varied from 0·8 to 1·5 per cent. These values could, of course, only be measured by special methods—i.e., Pembrey's or Hasselbalch's modifications of the Haldane-Priestley method. The clinical method was inapplicable. Detailed charts of the values of nine cases of diabetic coma were shown and of six milder cases of diabetes.

Dr. F. PARKES WEBER read a paper on a case of Acute Aplastic Anæmia, with a Note on the Nomenclature of Plastic and Aplastic Anæmias. He said that the chief points of the case might be summed up as follows. A young man, who had previously enjoyed apparently fair health, though he had (as the necropsy showed) formerly had a slight tuberculous affection of the apices of the lungs, suddenly contracted some kind of microbic infection of the mouth, showing itself by gingival stomatitis, a phlegmonous induration of the right cheek, and considerable pyrexia. From all this he completely recovered, but with the onset of the mouth disease there was associated a grave form of anæmia, which proved rapidly progressive, and in spite of the improvement in his mouth condition ended fatally in ten weeks from the apparent onset. This anæmia differed from typical so-called "pernicious anæmia" and from grave secondary anæmias in its being much more pernicious and much more rapidly fatal. Blood examinations showed the almost complete absence of any "megaloblastic reaction" and of the blood-regenerative changes, generally so much dreaded as a characteristic sign of the presence of pernicious or of grave secondary anæmias. In the present case poikilocytosis, anisocytosis, and polychromatophilia were absent or only slightly marked, even when the total number of erythrocytes fell to below 1,000,000 in the cubic millimetre of blood. There was never decided megalocytosis, and still less was there any megaloblastic reaction such as is characteristic in pernicious anæmia; in fact, there were few megalocytes, and nucleated red cells (erythroblasts) were almost completely absent. The colour index of the red cells varied greatly (from about ½ to 1), but it was usually much lower than 1 instead of being higher than 1, as it would probably often be in characteristic cases of pernicious anæmia. Simultaneously with the fall in the red cells there was likewise a great reduction in the number of the white cells (leucopenia), which were only about 2000 instead of the normal 5000–8000 in the cubic millimetre of blood. Of the white cells the lymphocytes were least affected, and all the differential counts of white cells showed a decided relative lymphocytosis; but this was only relative, for the total lymphocytes numbered only 814–1550 in the cubic millimetre of blood, instead of the normal average—namely, about 1400–2000. The white cells particularly reduced in number were those derived from the bone-marrow, notably the polymorphonuclear neutrophiles, which at one count numbered about 1000, instead of the normal 4000–6000, in the cubic millimetre of blood. The quantity of blood platelets was decidedly diminished below the normal standard. The clot which forms in the watery blood from cases like the present one was said by French observers not to retract normally, but this was not tested in the present case. The main features of the disease were accounted for as those of an anæmia due to blood destruction, almost entirely unaccompanied by conservative blood-regenerative changes on the part of the hæmopoietic tissue of the bone-marrow. The condition might therefore justly be termed, as it was termed, "acute aplastic anæmia." Genuine examples of acute aplastic anæmia were probably invariably rapidly fatal like the present one, but conditions of chronic aplastic anæmia, characterised by a variable chronic anæmia with deficient signs of blood regeneration, likewise existed, which belonged to a different category. One suggestion was that cases of acute aplastic anæmia were due to the initial infection being of a peculiar nature, the resulting toxins in the blood having the power more or less completely to paralyse or destroy the hæmopoietic functions of the bone-marrow. But the initial infection need apparently not always be a severe one, and it could obviously be argued that the severity and peculiar fatal character of acute aplastic anæmia were due to some preceding, though possibly hitherto latent, peculiarity of the affected person—a peculiarity manifesting itself by the inability of his hæmopoietic bone-marrow to react efficiently in response to even moderately urgent demands on it. Be that as it might, whether the condition was due to some exceedingly virulent septic infection or to some unknown and rare infection (which had the power of paralysing or destroying the hæmopoietic functions of the infected individual), or due to an idiosyncrasy or a temporary or chronic peculiarity (deficiency in hæmopoietic response) on the part of the affected individuals, the clinical features of a case of "acute aplastic anæmia" were sufficiently striking to give it a place by itself amongst the rarest diseases or symptom-complexes of the blood and blood-forming apparatus. This rapidly fatal kind of "aplastic anæmia" might well be termed "aplastikæmia."[1] On the other hand, the chronic form of aplastic anæmia to which he had already alluded might be called "hypoplastikæmia," since it was really a chronic hypoplastic anæmia, due to congenital or acquired inability of the hæmopoietic tissues (under normal or slightly pathological conditions) to maintain the normal standard of blood quality (blood equilibrium); in other words, the hæmopoietic tissues in such chronic cases gave a deficient regenerative response to normal and pathological stimuli. Other anæmic cases of various kinds showing the ordinary characteristics of blood regeneration (cases of "plastic" anæmia as opposed to "aplastic" or "hypoplastic anæmia") could, of course, be divided into groups which might by the same method of nomenclature be headed "orthoplastikæmia" and "metaplastikæmia." These conditions of "aplastikæmia," "hypoplastikæmia," &c., might furthermore be contrasted to a state of what might be termed temporary or permanent "hyperplastikæmia," including cases of erythræmia (polycythæmia rubra) and some cases of erythrocytosis (secondary polycythæmia rubra), in which the hæmopoietic response of the bone-marrow to normal and pathological stimuli was excessive.

Dr. WEBER also described a case of Multiple Acute Ulceration of the Stomach. The patient, aged 47 years, was admitted to the German Hospital in February, 1914, in a very feeble, cyanosed, and dyspnœic state, not unconscious, but with her sensorium somewhat dulled. The history was that for 20 years she had been subject to winter cough and bronchitis, and that she had been more or less constantly ailing for the past two years. In June, 1913, she had been knocked down in the road by a cyclist. The present illness was said to have commenced with bronchitic symptoms about two weeks before admission. No special gastric symptoms had been noted, and there was no history of hæmatemesis, epistaxis, hæmoptysis, or melæna. In the hospital sharp crepitations were heard over the upper front part of the right lung. The other organs of the thorax and abdomen showed nothing remarkable. There was some œdema of the feet. The urine was scanty and contained a trace of albumin; no sugar. The respirations varied between 44 and 60 per minute, and the pulse between 112 and 130. The body temperature was never above 99° F. and never below 97°. In spite of treatment (oxygen inhalation, digalen, diuretin, ipecacuanha, subcutaneous injection of camphor oil) the patient died about 42 hours after admission. At the necropsy the upper part of the right lung was found to be in a condition of "tense œdema." There was some fresh pleuritic adhesion on the right side, with about 300 c.c. of clear serous pleuritic effusion. Microscopical sections of the affected part of the lung showed catarrhal and extreme emphysematous changes, and the presence of coagulated œdema fluid in the pulmonary vesicles made the sections appear under the microscope as if they had been cut in celloidin. No Gram-positive organisms were found. The right side of the heart was somewhat engorged. The spleen was of average size, and of hard rather than soft consistence. In the liver there was a transverse groove across the lower part of the front, such as is caused by "tight-lacing," and microscopically there was evidence of chronic passive congestion. In the remaining organs nothing specially noteworthy was observed excepting in the stomach. There was no ascites, and from the outer side (before it was opened) the stomach did not appear to be diseased. On opening it the mucous membrane was seen to be hyperæmic and thrown into longitudinal folds or "rugæ" by the contracted state of the muscular walls of the organ. There were no submucous or subserous hæmorrhages (nor was there any pus such as may be found in cases of "phlegmonous" gastritis). The unexpected feature was the presence of a great number of sharply cut ("punched-out") ulcers in the mucous membrane. At least 100 of these ulcers were counted, but there had probably been considerably more, as some of them appeared to have been formed by the coalescence of two or more smaller ones. They were distributed over all parts of the gastric mucosa, but were chiefly arranged in longitudinal lines on the projecting ridges or folds (rugæ). Some of them formed uneven slit-like depressions of considerable length on the convexity of these ridges. Some of the longer (linear) ulcers were possibly formed by the coalescence of smaller ones, but their slit-like appearance was, doubtless, in part due to the state of circular contraction of the muscular walls of the stomach. In the first part of the duodenum there was some hyperæmia but no ulceration. Microscopical examination of two of the ulcers in the stomach showed that they were superficial, the deepest part of the gastric mucosa remaining undestroyed and forming the ulcer floor. The mucous membrane, especially the ulcerated region, was moderately infiltrated with lymphocytes and polymorphonuclear cells, proving the ante-mortem nature of the change. The ulcers were, however, doubtless acute, as no signs of chronic inflammation were observable. No Gram positive organisms were found in the sections. There could be no doubt that the multiple acute superficial ulcers were in the present case of recent formation. They constituted, in fact, practically a "terminal" phenomenon, and probably both they and the local pulmonary œdema were due to the same infective agent (whatever the microbe in question might have been). Dr. Charles Bolton in his recent work on "Ulcer of the Stomach" had referred to two cases of multiple acute gastric ulceration of infective origin. In the stomach of one of these patients 431 ulcers, or lesions about to become ulcers, were found, whilst in the other patient's stomach there were about 250. Dr. Weber was indebted to his house physician, Dr. Sons, for much help in the examination of the present case, and to Mr. S. G. Shattock for kindly assisting in the microscopical examination.

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[1] The spelling should of course really be "aplastichæmia," but it is the custom to write "leukæmia" instead of "leuchæmia."

Dr. J. A. BRAXTON HICKS described a case of Pedunculated Intrabronchial Tumour (Sarcoma) causing Bronchiectasis. His paper will be published in full in an early issue of THE LANCET.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Introductory Address.—Prognosis in Incipient Opacities of Lens.—Pigment in Iris of Child.—Flat Sarcoma of Choroid.—Microphthalmia.—Papillœdema in Disseminated Sclerosis.—Dressings and Antiseptic Methods in Ocular Operations.—Treatment of Dislocated Lens.—Post-operative Complications of Cataract Extractions.—Optic Neuritis and Spinal Myelitis.—Irido-sclerotomy in Glaucoma.—Diseases of the Eye in Animals.—Senile Cataract with Two Nuclei.—Death following Open Evisceration.—Exhibition of Cases, &c.

THE annual congress of the Ophthalmological Society was held at the rooms of the Royal Society of Medicine, Wimpole-street, on Thursday, Friday, and Saturday, April 23rd–25th, while a clinical meeting was held at the Central London Ophthalmic Hospital, Judd-street, W.C., on Friday afternoon. The chair was occupied by Mr. F. RICHARDSON CROSS, the President, and among the distinguished visitors were Professor Uhthoff, of Breslau, Professor Straub, of Amsterdam, and Professor Landolt, of Paris.

The PRESIDENT, in the course of a short introductory address, reminded members of the distinguished work of his predecessors in the chair—Bowman, Hutchinson, Hulke, Hughlings Jackson, Argyll Robertson, Berry, Sir Henry Swanzy, David Little, Priestley Smith, Nettleship, Tweedy, and Lawford—and expressed congratulation on behalf of the society to the Royal Society of Medicine on the success achieved by the Section of Ophthalmology. He referred to his investigations on the question of factory lighting, undertaken at the request of the Royal College of Surgeons of England, and thanked members for the help they had given him on the subject. Most of the replies, however, from members who practised in industrial localities showed that there were few ailments which could be attributed to the insufficient or bad lighting of factories; but the inquiry did not include such special work as glass making, or working on red hot or white hot conditions of metal, testing arc lamps, &c. Any injury done by excessive artificial lighting seemed to be attributable to the ultra-violet rays, as in the case of snow blindness; but the wearing of any glasses largely protected the eyes from the ultra-violet rays. The negative results of this inquiry did not lessen the necessity for aiming at a perfect form of lighting, which was an economic question, concerning not only the best results of work, but the hygiene of vision. There still remained much to be learnt as to the causation and treatment of eye diseases. All kinds of abnormal conditions of blood and system generally might set up inflammation of the intraocular blood-vessels, such as iritis, uveitis, episcleritis, retinitis, &c. He referred to the suggestion of Mr. Basil Hughes that instead of rheumatic iritis the term "metastatic iritis" should be used. It was very necessary to determine the etiological cause of the condition seen, for then measures could be taken to increase the patient's resistance to the particular organism, and of course any focus of disease must be energetically treated. He proceeded to speak of the selection shown by certain bacteria for particular localities, and said there was reason to believe that bacteria flourishing in their own particular locality might produce different strains showing a selection for other tissues. The view that there were evolutionary developments of bacteria seemed well justified. He also referred to the value of diphtheria antitoxin and the various hormones in ophthalmic work, as also the serum therapy which was so well initiated by Sir Almroth Wright. He spoke of the gonococcus being the most widespread cause of infectious diseases, and pointed out that the organism might remain latent in the body for years. He referred to the work of Carl Browning showing the close relationship between syphilis and interstitial keratitis, and primary optic atrophy, general paralysis of the insane, and locomotor ataxy, while half of the cases of iritis and one-fourth of the cases of choroiditis were shown to be syphilitic. The good effects of salvarsan and neo-salvarsan in eye disease, he said, were very marked. Dealing with the history of the Ophthalmological Society, the President reminded members that in 1880 a committee was appointed to consider defects of sight in relation to public safety, with authority to communicate thereupon with the Government on the part of the society if thought fit. In the following year an international committee, 14 nations being represented, was appointed "to deliberate concerning the tests of vision and colour sense most applicable to persons employed in working or observing signals by land or sea when the lives of others are involved." In the second volume of the society's Transactions appeared the resolutions arrived at, indicating how unsatisfactory the matter was at that time. If the advice tendered 30 years ago had been taken advantage of many disasters would have been prevented. The society also took an important step in 1884 in connexion with the prevention of blindness from ophthalmia neonatorum, and a special committee appointed brought forward certain resolutions, which were adopted. But the Local Government Board, Whitehall, declined to act on the suggestion that printed instructions as to the dangers should be handed to each person registering a birth, and despite several attempts it has not yet been possible to bring this about, notwithstanding the large number of cases of blindness due to this cause. But quite recently discretion was given to town councils and county councils to make the disease notifiable if they thought fit, and now ophthalmia in infants had become notifiable. It was, said the President, terrible to reflect on the number of people whose sight might have been saved if adequate measures had been taken so long ago.

Mr. W. H. H. Jessop read a paper entitled "The Prognosis in Incipient Opacities of the Lens."—Sir Anderson Critchett expressed his agreement with Mr. Jessop's remarks, and related the case of a clergyman, aged 48, who, when he consulted a young oculist, was told he had cataract, and so nervous was he in consequence that he insisted on presenting himself for examination every few months, fearing that he would be losing his sight. But his sight continued good, except for a slowly progressing presbyopia, until he was 86.—Professor Landolt agreed that cases such as those described by Mr. Jessop were often met with, and he thought the term "cataract" should be restricted to cases in which there was serious impairment of vision which finally required removal of the lens.—Mr. J. B. Story (Dublin) also expressed agreement, and suggested that the term "cataract" should not be used when, in the opinion of the observer, the condition was not progressive.—Mr. Leslie J. Paton described cases similar to those related by Mr. Jessop, and Dr. G. F. Alexander thought that the fine spicules often seen in the eyes of young people were congenital and had persisted throughout life.—Mr. S. Johnson Taylor (Norwich) also described such a case in which he was able to prevent a fruitless operation for a condition which was not progressive or detrimental to the sight.—Dr. George Mackay (Edinburgh), Mr. John Rowan (Glasgow), and Mr. C. Wray (Croydon) also discussed the paper, and Mr. Jessop replied.

Mr. N. Bishop Harman read a paper entitled "The Appearance of Pigment in the Iris of the Child." The observations were made on white children, the offspring of a blue-eyed, fair-haired father and a brown-eyed, dark-haired mother. At birth in each case the irides were of the usual dull slaty-blue colour, and the iris tissues were obscured as though coated in some smooth fine-textured material. Clearing of the iris stroma was noted from the third to the sixth week of life. Two children developed blue eyes, one blue with the suggestion of violet, due to rims of finer darker stroma at the margins. The other blue became bright and cold in tint owing to a marked thickening of the stroma in the intermediate zone. Two children developed brown irides. The first sign of brown pigment was noted at the sixth week. The pigment was in broad irregular patches extending from the basal margin; it looked just as though the iris had been touched with brown ink which was soaking through to the surface and towards the pupillary border. The development was earliest in the temporal half of the iris. The patches extended and fused until the whole was brown. The tint became full and pure in one child; in the other there remained at the age of 2 years some suggestion of bluish or greenish tint at the depth of the crypts of the iris. In none of these cases was there any of the fine scattered pigment that is so common a feature of the hazel and dirty blue irides, and which forms an irregular ring about the pupillary margin. From a few observations it was thought that this surface pigment spread from the pupillary margin at a later date, and from a secondary pigmentation.

Dr. Gordon M. Holmes and Mr. R. A. Greeves communicated a paper on Flat Sarcoma of the Choroid, with Multiple Metastases. It was a case in which the trouble commenced with external rectus palsy, and later there was severe pain in the right forehead, and examination revealed considerable sensory loss in the distribution of the first division of the right trigeminal nerve. Still later there was complete loss of tactile sensibility, and partial palsy of all external muscles innervated by the right oculo-motor nerve. The pupils, however, continued to react well to light, but he subsequently developed marked optic neuritis. Death occurred 5½ years after the commencement of the symptoms. —Mr. Leslie Paton discussed the case.

Mr. R. A. Greeves read a paper on Two Cases of Microphthalmia, and Mr. Leslie Paton a paper on Papillœdema in Disseminated Sclerosis. In 100 cases Mr. Paton had met with five which showed evidence of past neuritis. In one case 18 months after the optic neuritis had been present in one eye there were normal fundi without atrophy and with normal visual fields, vision being 6/9 in one eye and 6/6 in the other. He related a number of cases supporting his thesis.

Lieutenant-Colonel R. H. Elliot, I.M.S., read a communication on Dressings and Antiseptic Methods in Ocular Operations. The paper was concerned with attention to minute details to ensure scrupulous cleanliness in operations; and incidentally the author criticised some thoughtless procedures which he had seen in certain clinics. Referring to the recommendation of Lieutenant-Colonel H. Herbert, I.M.S. (retired), for irrigation of the conjunctiva with 1 in 3000 perchloride, he said that since 1907 he (the speaker) had not had one case of post-operative panophthalmitis. —Professor Landolt, in discussing the paper, expressed the opinion that boiling cutting instruments spoilt the cutting edge, an important matter seeing that a clean-cut wound was very much more satisfactory than one which was not made with a very sharp instrument. He therefore used and recommended dry heat—viz., up to 150° F.—keeping the instrument in that for 20 minutes. He believed he had never had a case of infection from instruments. His practice was, when using atropine, to use a fresh ampulla each time. He objected to an irrigator.—Mr. Jessop referred to the danger of using long indiarubber tubes in connexion with operations; several which were bacteriologically examined at a large hospital were found to be teeming with micro-organisms.—Professor Straub pointed out that most of the infections at operations arose from the spread of organisms which were already resident in the eye. His practice was to carry out the sterilising and cleansing procedure on the patient for three days before operating.

Mr. C. Wray read a paper on the Treating of Dislocated Lens. He said he did not consider needling was a form of treatment of dislocated lens. If the lens were very much displaced, iridectomy might be the right thing to do, but he did not think it was generally sufficiently displaced to justify that procedure. If the natural tendency of the lens was to become dislocated, he did not hesitate to do couching.—The paper was discussed by Professor Landolt, Mr. Story, Mr. Priestley Smith, Lieutenant-Colonel Elliot, Mr. Rowan, Professor Straub, and Mr. J. Gray Clegg.

Friday morning was devoted to the subject of Post-operative Complications of Cataract Extractions. The discussion was opened by Mr. E. Treacher Collins, and he treated it chiefly from the pathological point of view. He first of all called attention to the difference noticed in the healing of extraction wounds after the different forms of incision made by different operators, and he described how some incisions healed much better than others. He greatly favoured the incision which aimed at the cutting of a conjunctival flap. If the wound did not heal readily it was possible for a down growth of epithelium to take place, and this might spread over the whole of the anterior chamber, and be the cause of blocking of the angle of the anterior chamber, and thus of causing a condition of glaucoma. He discussed the effect of delayed union of the posterior lip of the wound and the cause of striated opacities of the cornea after extraction. Prolapse of the iris causing a bulging cystoid scar sometimes led to a late suppurative condition of the uveal tract which might occur months or even years after the healing of the wound. Astigmatism varied enormously in amount after extraction, and largely depended on the healing of the wound and the way in which the flap was in apposition. Suppurative inflammation of the cornea was most often caused by the pneumococcus, but the frequency of this had been greatly diminished by aseptic precautions, as sterilisation of instruments. Thus in a series of Moorfields cases published in 1876 the percentage of eyes lost from this cause was 6·2. In another series published in 1894 it was 1·7, and in Mr. Collins's own cases done between 1900 and 1912 it was 1·15 per cent. No sterilisation of instruments was done at this hospital previous to 1883. He advocated the use of the galvano-cautery in such cases, and he had also seen good results follow the use of vaccines, but as other local treatment was always carried out it was difficult to say how much good really resulted from the injections. In some cases posterior synechia developed in quite quiet eyes, and these he did not look upon as being septic; in like manner non-septic "keratitis punctata," which was certainly non-septic, could often be found in cases running a normal course if these dots were really looked for. He thought it quite a fallacy to think that the mere presence of soft lens matter in the anterior chamber was capable of producing iritis, but when it was mixed with aqueous it certainly formed a very good nutrient medium for the growth of organisms if any were allowed to be present. With regard to the development of sympathetic ophthalmitis he had seen several cases which had greatly benefited by the use of salvarsan, and he also alluded to the information to be derived in dangerous cases by having a blood count done. He discussed in detail the way in which glaucoma was produced after an extraction or a needling of capsule and the ways of treating them. He finally dealt with expulsive hæmorrhage, detachment of the choroid, opaque membranes, vitreous opacities, and detachment of the retina.—Lieutenant-Colonel **HERBERT** dealt with the subject from the clinical side. He said that the most serious after-complication of cataract extraction was that due to infection. He strongly advocated the very thorough irrigation of the conjunctiva with perchloride of mercury, and gave statistics showing how in India suppuration became all but unknown after this was carried out in a thorough and systematic manner. The usual strength he used was 1 in 3000. This certainly had the drawback that it did irritate the conjunctiva and subsequently led to a further development of micro-organisms than would otherwise have been the case, though by this time the wound had healed; but it should be taken into consideration if it were contemplated to do a further operation within the first two weeks, such as very early needling. He was strongly in favour of making a large conjunctival flap with the original incision for the extraction.—Sir **ANDERSON CRITCHETT** considered that Mr. Treacher Collins had placed upon a firm pathological ground questions upon which the profession was previously in a condition of uncertainty. He described what he considered to be the best procedure in complicated cases of cataract where the iris had been drawn up into the wound or where there was a dense capsular membrane. No class of case required greater experience, and he discouraged the slightest empiricism, advocating eclecticism, adopting the procedure found suitable to each particular case.—Mr. **SIDNEY H. BROWNING** read an interesting communication on the subject, in which he said that out of hundreds of cases examined at Moorfields Hospital before the cataract operation only one case was pronounced bacteriologically clean which subsequently became infected after operation. Three of the 14 unsatisfactory cases during the last four years had been in eyes which had been reported unfit for operation, but were nevertheless operated upon. All these eyes were lost. Some of the chronic cases of low virulence responded to vaccine treatment, some yielded to salvarsan and neosalvarsan, He suggested that causes for sepsis should be searched for further afield than in the eye itself—viz., in the gums, nose, throat, &c. Many of the infections he had found to be endogenous, not arising in the conjunctival or lacrymal sac. The practice of bandaging the eye for 24 hours previous to operation and deciding whether the eye was fit for operation by the comparative absence of pus on the bandage he considered to be bad from a bacteriological point of view, for in several cases examined carefully the organisms present had increased during the time the bandage was in position, and some forms of virulent organisms were present after the bandaging which had not been detected before.—Mr. C. **KILLICK** described his results in 101 serial cases, one of which suppurated. During three years in his own practice he had had only three cases of suppuration after cataract extraction out of 1000 cases. One eye in each of these three cases was restored to sight. He also described the varieties of "after-cataract," and said he had had to needle 28 times in all his cases for capsular proliferation.—Mr. C. A. **WORTH** spoke of hæmorrhage occurring into the anterior chamber five days after the operation, and he regarded that as peculiar to the operation on the conjunctival flap; he had not seen it where the incision had been corneal, and it probably occurred after some movement on the part of the patient, not necessarily a blow. This hæmorrhage retarded convalescence. He had adopted a conjunctival flap in all cases and keeping the patient quietly in bed for a longer time than for corneal discission. He also spoke of the accident of vitreous coming forward into the anterior chamber through the discission of the membrane. At the time of the extraction he always divided the capsule straight across; he made no attempt at the V-shaped opening, so that in most of the cases there was an anterior capsule left in the line of the pupil.—Mr. A. W. **ORMOND** read notes of two cases in which post-operative complications occurred after removal of lens. Both were endogenous infections.—Mr. **STORY** said he had been able to assist some cases of wound infection by the application of the electro-cautery to the edges of the wound and by a subconjunctival injection of cyanide of mercury. He believed in the majority of cases of inflammation after cataract extraction it was an exogenous infection, and it had long been his practice before operation to make careful examination not only of the eye, but also of the nose and mouth. If there were many organisms operation was deferred, and the patient submitted to a cleansing and fortifying treatment.—Dr. G. F. **ALEXANDER** spoke of the great instruction he had received from operating in Lieutenant-Colonel Elliot's clinique at Madras, and related some of the impressions he had derived from the wealth of material available therein.—Lieutenant-Colonel **ELLIOT** spoke in high praise of Mr. Collins's contribution to this subject, and declared that there was no ophthalmologist for whose work the younger practitioners in India had a more profound admiration. He also thanked him for the generous terms in which he had acknowledged Colonel Herbert's valuable work in the same direction. He (the speaker) had himself worked hard for a number of years on the subject of post-operative astigmatism, and Mr. Collins's present paper had been most valuable to him. He supported Mr. Collins's remarks about the influence of traumatism on the appearance of post-operative opacities. Where there was a large lens which had to be delivered through a tight wound there was apt to be striated keratitis. For non-inflammatory cataract he used two needles; for inflammatory cataract he used the knife, and if that failed he opened the chamber; he did not cut the capsule, but cut the healthy iris.—Professor **LANDOLT** expressed his great satisfaction with the statistical contributions of the openers, and said his experience had led him to the same conclusions. One of the most dreaded complications, apart from sepsis, was prolapse of the iris. To avoid this he always performed iridectomy with the cataract extraction, excising the iris widely, often in two cuts, so that after the section it retracted by its own elasticity. If part of the iris were entangled in the scar he would cauterise it with the galvano-cautery, afterwards covering with a flap of conjunctiva. He had always been sceptical as to the use of the preliminary bandaging; and he proceeded on the assumption that no conjunctival sac was free from pathogenic germs. Moreover, danger of infection persisted so long as the wound remained open. He pictured it as a race between the development of noxious germs and the closure of the wound. If the eye were tied up 24 hours before operation the development of these germs was favoured and the patient's recovery handicapped. He did not agree with the use of strong antiseptics for cleansing afterwards, though in conjunctivitis he would even use nitrate of silver. He showed his forceps for the purpose of dealing with secondary cataract.—Dr. G. MACKAY asked whether some weaker preparation than 1 in 3000 perchloride would not do. He had given up strong solutions because of the frequency of posterior corneal opacities. His preparation of the patient consisted of regular douching of the conjunctiva with sterile saline or boric lotion. In this connexion argyrol was also useful, employed two or three times a day.—Professor UHTHOFF also described his methods and experiences in the operation, and was followed by Mr. THOMSON HENDERSON.—Professor STRAUB spoke of the chronic inflammation which commenced in the second week after operation, and said he had not seen this occur when the toilet after the operation had been well and carefully done. He also detailed his method for preventing squeezing of the eye, this squeezing sometimes accounting for the loss of the eye.—The PRESIDENT said they all realised that the essential necessity was the production of absolute local asepsis, or antisepsis, the most rigorous cleanliness of instruments, patient, and person. Most of the cases of sepsis he regarded as exogenous, but there were cases of endogenous infection. Cases such as Mr. Ormond related he considered to be gouty, using that term in its generic sense. He referred to the possibility of sepsis from the teeth and from metastatic inflammation. He related some cases.—The openers of the discussion briefly replied.

On Friday afternoon a clinical meeting was held at the Central London Ophthalmic Hospital, when the following cases were demonstrated and discussed.

Mr. F. A. JULER: 1. Hyaline Bodies on the Optic Disc. 2. Congenital Ophthalmoplegia.

Mr. LESLIE PATON: Congenital Malformation of the Disc.

Mr. M. S. MAYOU: 1. ? Tuberculous Mass in the Optic Nerve Sheath. 2. ? Inflammatory or Congenital Mass around the Nerve Head.

Mr. CECIL GRAHAM and Mr. LESLIE PATON: Cases of West's Operation for Lacrymal Obstruction.

Mr. TREACHER COLLINS: Concussion Injury with Rupture Extending Across the Optic Disc.

Mr. C. WRAY: 1. Coloured drawing of the "Rare Cases of Corneal Disease" shown at the last meeting. 2. Two cases of Ectopia Lentis. 3. Case of Intra-orbital Neoplasm. 4. Lenticonus. 5. Case of 6D. of Hypermetropic Astigmatism cured by the cautery: vision 6/6.

Mr. SYDNEY STEPHENSON: Case of Sympathetic Ophthalmitis treated by six injections of neosalvarsan.

Mr. R. R. JAMES: 1. Massive Tubercle of the Iris. 2. Crater-like Hole at the Disc, with Macular Changes.

Mr. G. COATS showed and described a case of Congenital Partial Paralysis of the Oculo-motor Nerve, with cyclical contraction and dilatation of the pupil. The condition was observed in the left eye of a girl aged 10, and had been present since birth. The signs of oculo-motor paralysis were: partial ptosis, divergence, abolition of upward, and limitation of inward and downward movement. The cycle of pupillary phenomena consisted of a relatively rapid contraction, followed by a more gradual dilatation. The movements were not strictly rhythmical, and movement of the eye to the right, whether on convergence or conjugately, tended to induce contraction and render the phase of dilatation more intermittent and less complete; relaxation of the internal rectus had the opposite effect, but the play of the pupil continued even when the adducted or abducted position was continuously maintained. During contraction the pupil was immobile; during dilatation it responded to light and consensually. In ordinary circumstances the stage of myosis was accompanied by a contraction of the ciliary muscle and by slight raising of the lid. The eye was astigmatic and amblyopic, the other being slightly hypermetropic. Some 19 cases of this affection had been recorded, most of them in recent years. Characteristic of the group was a partial third nerve paralysis, usually, but not always, congenital, and interrupted by periods of activity in the internal rectus, levator palpebræ, sphincter pupillæ, and ciliary muscle. The suggested explanation of Salus was stated and discussed—that during the repair of a lesion of the third nerve some of the axis cylinders sprouting from the central end made a kind of "false junction" and so connected a given nerve centre with a muscle or group of muscles not belonging to it. If, for instance, all the fibres which should go to the internal rectus were diverted to the sphincter, then an effort at adduction would result only in a contraction of the pupil, and a partial side-tracking of these fibres would produce partial phenomena of the same nature. This hypothesis, however, did not readily explain why the false junction should invariably take place between the internal rectus fibres (occasionally *also* the inferior and superior rectus fibres) and the pupillary and levator fibres—why, for instance, the attempt to look inwards was never associated with a movement upwards of the globe; something a little more haphazard might be expected in the case of nerve fibres finding their way at random through a mass of inflammatory material.

On Saturday morning Mr. THOMSON HENDERSON demonstrated and described a pressure gauge which he had devised for measuring changes in the intraocular pressure instead of the digital pressure in order to test the intraocular tension.

Mr. C. B. GOULDEN read an instructive paper on Optic Neuritis and Spinal Myelitis, describing a number of cases which illustrated the usual progress of the disease.—Mr. J. B. LAWFORD, who discussed the paper, described a case in 1884. He remarked that the profession remained as ill informed as to the causation of the disease as it was 30 years ago. He hoped a similarly careful investigation of future cases would be made as that by Mr. Goulden.—Dr. GORDON HOLMES related three cases of the condition, one of whom recovered completely after being as desperately ill as possible. In the cases which he had examined post mortem the most extensive lesion was in the chiasma or in the optic nerve. There was considerable disintegration of nervous substance. Axis cylinders remained practically intact. The actual infecting agent was not yet known.

Mr. G. T. BROOKSBANK JAMES read a paper on Iridosclerotomy in Glaucoma. Having referred to previous communications on the subject he described the operation that he adopted. A large conjunctival flap was turned down well over the corneal margin consisting only of the superficial part of that structure. An incision was then made transversely close up to the reflected conjunctiva, being about 1 mm. within the limbus. A second incision was commenced at one extremity of the first, and diverging somewhat finished close to the other extremity, and included about ½ or ¾ mm. of scleral tissue at this extremity of the incision. The anterior chamber was then opened by deepening the central portion of the first incision. After the aqueous had slowly escaped the incision was enlarged to its extremities. A repositor being used to free the flap from any deep attachments, it was separated through the length of the wound and turned outwards. A medium-sized iridectomy was performed and the conjunctival flap was then replaced. He claimed for the operation that the conjunctival flap was a great safeguard and was necessary to allow of filtration. The opening in the sclera was a chink instead of a hole and facilitated the escape of fluid all along the wound. The iridectomy was always satisfactory and he had never known impaction of the iris tissue. The safety of the operation was due to the position of the incision and to the fact that the aqueous escaped very slowly. Having compared the results of his operation with trephining, he far preferred the operation he had described for the permanent relief of tension. He showed some of his cases illustrating the method.

Dr. C. O. HAWTHORNE showed a number of Perimeter Charts taken from cases in which homonymous hemianopia was the principal or only evidence of intracranial disease. In his first group he placed cases of cardio-vascular degeneration with or without renal disease, the hemianopia here being due presumably to arterial obstruction or rupture. In a second group were described cases of homonymous hemianopia occurring in young women free from all evidences of cardio-vascular or renal disease but the subjects of anæmia or chlorosis, and in these cases it was argued that the hemianopia was probably due to venous or sinus thrombosis within the skull. Rarely a similar condition developed in epilepsy, and here also it might be possible to hold that sustained arterial spasm might lead to capillary and venous thrombosis, which, occurring in the visual tract posterior to the optic commissure, would be sufficient to account for the homonymous hemianopia.—The paper was discussed by Mr. BROOKSBANK JAMES, Mr. D. LEIGHTON DAVIES, Dr. ALEXANDER, Professor LANDOLT, Professor condition all cleared up.—Dr. Knowsley Sibley showed a girl, aged 19, who was born with Ichthyosis. Four other members of the family were *similarly* affected. There was *also* an eczematous condition of the right nipple, and an *areola* which was hypertrophied with oozing. The breast was painful. A section had been taken which resembled the description of an early stage of *Paget's disease*, but the age of the patient was against this.—Dr. R. Prosser White read a paper entitled "Some *Dermatological* Problems," in which he discussed the action of certain irritants to the skin which were responsible for trade dermatitis. He also mentioned a case of milk erythema that was set up in a child, aged 6 months, from simply touching the skin with cow's milk.—Dr. Griffith and Mr. H. C. Samuel joined in a lengthy discussion and Dr. Prosser White replied.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held in Manchester on April 17th, Dr. J. H. Willett, the *President*, being in the chair.—Dr. W. A. MacKay (Southport) exhibited a post-mortem specimen of Ruptured Tubal Pregnancy, the symptoms suggesting irritant poisoning. Sixteen hours after a meal containing bloater paste the patient had severe abdominal pain, vomiting, and diarrhœa; she became collapsed and died five hours later. Post mortem a ruptured right tube with a *six weeks'* fœtus was discovered.—Dr. W. E. Fothergill (Manchester) exhibited a specimen of Perithelioma of the Ovary, about the *size of a fœtal* head, removed from a woman aged 38 years.—Dr. J. Oldfield (Leeds) exhibited four specimens of Mesothelioma—one in the uterus, forming a tumour of the size of a full-term pregnancy; *the second a pelvic mass consisting* of uterus, both ovaries, and a retrocæcal mass; the third in the ovary; and the fourth in the kidney.—Dr. Fothergill and Dr. D. Dougal (Manchester) showed a specimen of Aneurysm of the Internal Iliac Artery. Cæsarean section had been performed for contracted pelvis ten months previously, and the aneurysm was first noticed three weeks after this operation. There seemed to be no connexion between the two, and they were of opinion that the lesion was present before the patient came under their observation.—*Dr.* W. K. Walls (Manchester) exhibited a specimen from a case of Cæsarean section and Wertheim's *hysterectomy for Pregnancy*, with Carcinoma of the Cervix and *Double* Papillomatous *Ovarian* Cysts. The patient was seven *months* pregnant, with fairly advanced carcinoma of the cervix. *Both ovaries* were cystic and lined with *papillæ*, one being of the size of a fœtal head and the other of an orange.—Dr. Oldfield read the notes of three cases of Ovarian Tumour Obstructing Labour. One child was delivered by Cæsarean section; in the second case abdominal section was performed and the obstructing tumour removed, by which time the child's head was on the perineum, so was extracted with forceps; and in the third case the cord was prolapsed and only *feebly* pulsating, the child being delivered by craniotomy and the tumour removed *at a later date.—Dr.* H. Clifford (Manchester) *reported* a case of Concealed Accidental Hæmorrhage recently treated by him in which he performed Cæsarean section followed by supravaginal hysterectomy. The patient was in an exceedingly serious condition, being so anæmic and so collapsed that neither the incision in the abdominal wall nor that in the uterus bled at all. The patient made a good recovery.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held at the Royal Infirmary on April 21st, Dr. Sykes being in the chair.—Dr. F. W. Eurich gave a microscopical demonstration.—Dr. W. Mitchell gave a demonstration of X Ray Plates, showing particularly the size and shape and position of the stomach in health and disease. The plates were taken at varying intervals after a barium meal, and showed especially how long a time it takes for the atonic and dilated stomach of pyloric obstruction to empty itself of its contents.—Dr. J. R. Gilmour read a paper on Mental Disease from the General Practitioner's Standpoint. He regretted that general practitioners took so little interest in their mental patients. If the medical man would only examine his mental cases in the same way as he examined an ordinary medical case, Dr. Gilmour was convinced of the enormous benefit which would accrue not only to the patient but also to the practitioner. Many cases now sent to the asylum could very well be *treated at home* and the patient saved the objectionable stigma of having been an inmate of an *asylum*. Dr. Gilmour gave several very interesting cases illustrating this point, and showed how entirely wrong it was to send every patient with mental symptoms straight to the asylum without first investigating the cause of those symptoms. He pleaded strongly for the establishment of "half-way houses" or nursing homes, where mental patients could be treated *pending* a definite decision as to whether such patients really required asylum treatment. He felt convinced that many cases *in which a definite cause* for the symptoms could be found—e.g., *tumours* of the breast, acute appendicitis, pyorrhœa, cases following *influenza*, &c.—recovered permanently and completely, and that it was utterly wrong to cast the *slur* of the asylum on them. In conclusion, he tabulated mental diseases as far as they concern the general practitioner as follows: (1) infective—e.g., influenza, pyorrhœa, cholecystitis; (2) circulatory—e.g., middle age, *muscle* weakness, especially of heart; (3) biochemical—e.g., exophthalmic goitre, uræmia, diabetes; (4) *arterio-sclerosis*; (5) alcohol.—Dr. Eurich, in discussing the paper, agreed in the main with what Dr. Gilmour said, but pointed out the difficulties of carrying out a thorough examination on a *wildly* maniacal patient.

Reviews and Notices of Books.

Die Vitamine: ihre Bedeutung für die Physiologie und Pathologie, mit besonderer Berücksichtigung der Avitaminosen (Beri-Beri, Skorbut, Pellagra, Rachitis). Anhang: Die Wachstumsubstanz und das Krebsproblem.

Von CASIMIR FUNK, Cancer Hospital Research Institute, London. Mit 38 Abbildungen im Text und 2 Tafeln. Wiesbaden: J. B. Bergmann. 1914. Pp. 194. Price 8.60 marks.

THE author states that this publication is the first attempt at a representation of our knowledge about vitamines and avitaminoses. In addition to the author's own work and views it includes much that is fragmentary and also much that is purely hypothetical. Many facts are still wanting, but it is a step in the direction of elucidating the physiology and pathology of such diseases as beri-beri, scurvy, pellagra, and rickets. By the word avitaminoses, coined by the author, is understood what is called in English "deficiency diseases."

Beginning with beri-beri and experimental beri-beri in animals, the author points *out* that though this disease has keenly interested observers for the last 20 years, mostly in countries where rice formed the chief diet of the people, it is only comparatively recently that this disease in man and polyneuritis in fowls or pigeons have been known to be associated with the use of polished rice as the chief food. With the introduction of mechanical mills *and other* means for polishing rice in Eastern *countries* the disease increased. When in 1882 *Takaki introduced* a mixed diet for use in the Japanese navy beri-beri practically disappeared.[1] In *Java* in 1895–96 Vordermann proved that the disease was associated with, and was due to, the continued use of polished rice, while in 1897 Eijkman showed that in polished rice that part of the rice which protects from the disease is lost, while Fraser and Stanton showed that the protective substance *lies in the* surface layers of rice grain. Then *follows an account* of the geographical distribution of *beri-beri, its pathology*, and its *symptomatology* in its *atrophic*, paralytic, and dropsical forms.

The experimental production of the disease in fowls (polyneuritis) is next considered and illustrated by many photographs of fowls and pigeons. A long account is given of the author's experiments to isolate and determine the nature of the protective or healing substance—the vitamine—that occurs in the outer layers. Vitamines occur in many foods besides rice, and they have been specially investigated in yeast by the author. An account of his methods is given.

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[1] THE LANCET, May 26th, 1906, p. 1451

Next the author deals with the scorbutus group, including experimental scurvy in animals and Barlow's disease, which are discussed on the same lines as in the case of beri-beri. The vitamines of milk are specially considered, and then the intimate relations between beri-beri and scorbutus are discussed. Pellagra and sprue are next considered, and then the prophylaxis, pathogenesis, and therapeutics of pellagra in the light of the vitamine theory. The consideration of rickets, osteomalacia, and spasmophilia occupies the fourth section. Disturbances of nutrition in infants are then passed in review and linked up with deficiency diseases. A short account is given of the chemistry of growth in plants with remarks on growth and the cancer problem, and the author brings his treatise to a close by a discussion of vitamines in their relation to the phenomena and doctrines of nutrition, metabolism, and internal secretions.

Altogether this is a most interesting and suggestive treatise—a pioneer work opening up many new fields of research of great practical importance, not only to inhabitants of the tropics, but to those who live in temperate climes as well. We hope the author will see his way to publish it in an English garb. The literature is fully given and is already extensive. With regard to recent contributions on the subject in THE LANCET, we may refer to Dr. Casimir Funk's own paper on "Studies of Growth: The Influence of Diet on Growth, Normal and Malignant," which appeared on Jan. 10th, 1914; to a paper on "Unpolished Rice and Beri-Beri," by Dr. Henry Fraser and Dr. A. Stanton in the same issue; to an annotation on March 21st; and to letters by Professor W. D. Halliburton (March 28th), and Professor Leonard Hill and Dr. Ralph Vincent (April 4th).

Minor Medicine: A Treatise on the Nature and Treatment of Common Ailments.

By WALTER ESSEX WYNTER, M.D., B.S. Lond., F.R.C.P., F.R.C.S. Eng., Physician to the Middlesex Hospital and Lecturer on Medicine in the Medical School. Second edition. London and New York: D. Appleton and Co. 1914. Pp. 275. Price 6s.

IN our review of the first edition of this work we expressed the favourable opinion we had formed of it, and a perusal of this edition has corroborated our previous impression.

Dr. Wynter has now prefaced the book by an "introduction" which contains many sapient and suggestive remarks. He points out the difficulty of steering a middle course between indispositions too trifling or familiar to deserve mention and those which already receive ample attention in more serious books on medicine. We entirely agree with him that still more formidable is the danger of including among trifling ailments phenomena which, though apparently of slight importance, may belong to really serious disease. He discusses some of the difficulties which may arise, and amongst other considerations points out that persistence or increase in any local sign or symptom suggests some underlying cause, and that the coincident occurrence of what is termed bodily illness goes far to confirm the suspicion of actual constitutional disease. He gives as an apt illustration the outbreak of warts, which in a young robust individual is a matter of small concern, but in an elderly person exhibiting cachexia and pigmentation may indicate that rare form of malignant disease, acanthosis nigricans. Dr. Wynter then proceeds to a survey of some points in the development, growth, maintenance, and decay of the human organism, which may be regarded as representing natural phases in the course of life, and he draws attention to the diet which is suitable at each age and to physiological changes which may possibly be exaggerated, so producing unnatural or morbid phenomena.

The general scope of the work remains as before, but the book has been revised and some additions have been made. It is a manual which will be found of value to medical men engaged in the general practice of their profession, for it contains, in a form that lends itself to easy reference, a large amount of information and numerous hints which are not met with in the usual text-books on medicine and therapeutics.

A Handbook for the Post-mortem Room.

By ALEXANDER G. GIBSON, D.M. Oxon., F.R.C.P. Lond., University Demonstrator in Pathology, Oxford, and Honorary Assistant Pathologist to the Radcliffe Infirmary, Oxford. London: Oxford University Press. 1914. Pp. 140. Price 3s. 6d.

THIS is just the handy little volume that the student should be encouraged to slip into his pocket when on his way to the post-mortem room. It is clear and terse and practical from beginning to end. No attempt is made to describe the pathological conditions met with. Instead the author has contented himself with a careful and lucid explanation of how each and every organ and structure can best be got at and removed for the purpose of complete investigation; how the various organs can best be examined after removal, and in each instance the chief points upon which attention should be focused; what to look for in the body cavities when emptied of their contents and how to examine the sense organs; how to make special necropsies, bacteriological and medico-legal; and—a somewhat important matter—how when the necropsy is completed the normal appearance of the body can best be restored.

We have nothing but praise for the matter contained in this small volume and the way in which it is presented, and regard the work as a useful addition to the Oxford Medical Series.

Materia Medica, Pharmacy, Pharmacology, and Therapeutics.

By W. HALE WHITE, M.D. Lond., Senior Physician to, and Lecturer on Medicine at, Guy's Hospital. Thirteenth edition. London: J. and A. Churchill. 1914. Pp. 695. Price 6s. 6d.

IN our review on March 9th, 1912, p. 654, of the twelfth edition of this work we remarked that Dr. Hale White's book has been found to be one of the very best treatises on these subjects which has been written, and we again endorse this opinion. It contains a vast amount of information which makes the book of value both as a text-book and as a work of reference.

In preparing this edition every care has evidently been taken to bring it up to date, and descriptions of several new drugs have been added, amongst which we note medinal, omnopon, and adalin. Medinal is sodium-veronal and adalin bromodiethyl-acetyl-urea, and both are stated to be useful hypnotics. Omnopon is a solution of the total alkaloids of opium as hydrochlorides, and freed from meconic acids, gums, and resins; it is of value in relieving purposeless coughing.

We once again express our appreciation of this excellent manual.

Ophthalmoscopic Diagnosis Based on Typical Pictures of the Fundus of the Eye, with Special Reference to the Needs of General Practitioners and Students.

By Dr. C. ADAM, Assistant at the Kgl. Univ. Augenklinik, Berlin. Translated by MATTHIAS LANCKTON FOSTER, M.D., Ophthalmic Surgeon to the New Rochelle Hospital; Member of the American Ophthalmological Society; Member of the American Academy of Ophthalmology and Otolaryngology. With 86 coloured pictures on 48 plates and 18 illustrations in the text. London: William Heinemann (Rebman, Limited). 1914. Pp. 229. Price 25*s.* net.

THE German edition of this book was reviewed in THE LANCET of Dec. 14th, 1912, and we were able to recommend it warmly as an excellent and cheap ophthalmoscopic atlas. Dr. Lanckton Foster is an excellent translator of German, and has carried out his part of the work well.

The author emphasises the real purpose of the book—that of serving as a systematic guide to diagnosis—and the text presents the subject matter from a different point of view to that of the ordinary text-book. It will be the more useful for this reason, and will form an invaluable aid to the student in the course of his clinical work. A few pages are devoted to the technique of the examination with the ophthalmoscope. Then follow in order the normal papilla and the normal fundus, conus and staphyloma, atrophy of the optic nerve, neuritis, the retinal vessels, the retina, and the choroid. The discussions of the various points of differential diagnosis are admirably treated, with frequent references to the excellent plates. In places the rather irritating method of question and answer, reminiscent of Mrs. Markham's history, is employed, but this is a venial fault. Sufficient attention is directed to the anatomical and pathological bases underlying the ophthalmoscopic appearances. Besides the brief general discussions each plate is fully described.

The work can be warmly commended, and Dr. Foster is to be thanked for rendering it more fully available to English-speaking students.

Ueber den Extrakardialen Kreislauf des Blutes vom Standpunkt der Physiologie, Pathologie, und Therapie.

Von Dr. KARL HASEBROCK, leit. Arzt des Hamburger Medico-mechanischen Zanderinstitutes. Mit 20 Abbildungen im Text. Jena: Gustav Fischer. 1914. Pp. 346.

THE author exposes an idea he has entertained for the last 20 years—viz., the great importance of the extracardiac circulation considered in its physiological, pathological, and therapeutical relations. As he is the chief medical officer of a medico-mechanical Zander institute, naturally this subject is one in which he takes a direct interest.

While admitting that the heart is, and must remain, the dominant apparatus of the circulation, the author lays great stress on the independence of the extracardiac circulatory apparatus. He argues for the existence of independent pulsatile movements of the blood-vessels, and he discourses on the existence of a pulsatile electrical action-current of the arteries—electro-angiogram—comparable to an electrocardiogram. According to him the effect of injurious agents falls first on the peripheral vascular system. There is a good deal of not too illuminating writing about aspiration at the extreme periphery of the vascular system. An account is given of the circulation in the capillaries, arteries, and veins, the significance of what is called the "diastole-systole" of the vessels as regards resistance and propulsion, the action of hormones, and of vaso-motor nerves. Attention is given to arterial blood pressure and its significance in nephritis and to some other diseases. Arterio-sclerosis is considered, and the remaining chapters deal with the significance of the extracardiac circulation in relation to "functional diagnosis," muscular work *in games, training,* and over-strain during severe muscular work, also in regard to gymnastic muscular work as a therapeutic cardiac agent. Finally, there is a short chapter on the neuroses of over-exertion and "fatigue of the circulation," "fatigue of the heart," and sclerosis.

Perhaps this book will interest most those who are concerned with the therapeutics of gymnastics and training generally.

LIBRARY TABLE.

A Short Practice of Midwifery for Nurses, Embodying the Treatment Adopted in the Rotunda Hospital, Dublin. By HENRY JELLETT, M.D., B.A.O. Dub., Master of the Rotunda Hospital, Dublin. Sixth edition. London: J. and A. Churchill. 1914. Pp. 508. Six coloured plates and 169 illustrations. Price 7*s.* 6*d.* net.—This edition has been carefully revised and brought into conformity with the existing practice of the Rotunda Hospital. A chapter has been added on obstructed labour, and in it the different causes of obstruction during labour are described. Little recommendation on our part is required of a book which is so well known as this small manual, and which has reached its sixth edition and fourteenth thousand. The book contains all that a nurse need know, and this is one of the best works of its kind.

Electro-pathology and Therapeutics. By ARTHUR E. BAINES and F. H. BOWMANN, D.Sc., F.R.S. Edin., &c. London: Ewart, Seymour, and Co. 1914. Pp. 120. Price 5*s.* net.—The first part of this book is stated to be a prefatory address on the nervous system in its relation to neuro-electricity. *The term* "neuro-electricity" is introduced, without definition or description of its meaning, into an account of the nervous system, which contains many inaccuracies and incorrect statements. The "neuro-electricity" is stated to be generated in the brain, while nerve currents are said to act on the ionised cell contents in the living portion of the body, and to be the cause of metabolic activity. The second part commences with a criticism of the results obtained by physiologists (the results are not *stated*) as *erroneous* and misleading. The deflections of an astatic mirror galvanometer are supposed to be caused by the "nerve currents," the amount of the deflection being altered in disease and the rapidity is said to enable the observer to *form* an estimate of the gravity of the disease. The "electro-pathology of inflammation," according to the authors, is the action of the temperature on the nerve sheath and possibly on the vessel walls, and the breaking down of the resistance of either or both, so as to cause a leakage or short circuit of neuro-electrical current in the part affected. The treatment described by the authors is the application of a fluid (its formula is not given) which has great penetrative powers, reaching the seat of the inflammation and stopping the leak—a fluid which can be taken internally and cannot fail to be of value in appendicitis and gastritis. The results of the authors' researches are presented to the medical profession and the general public. From what has been mentioned above, any criticism will, to qualified medical practitioners, be superfluous; but seeing that treatment of patients by electrical methods is so largely practised by people without medical qualification, it is regrettable that such teaching, plausible enough as it may seem to those who have little accurate physiological and clinical knowledge, should appear, and under such a title.

General and Practical Optics. By LIONEL LAURANCE. London: Published by the Author, Temple House, Temple-avenue. Second and revised edition. 1914. Pp. 363. Price 10s. 6*d.* net.—This book has been written by an optician for opticians. As such, it includes all the most valuable information on geometrical optics for the ophthalmic surgeon. It is accurate and well arranged. It collects in one volume many facts which must otherwise be sought in general treatises on optics, and which will often be found only with difficulty. The reader will require an elementary knowledge of mathematics to cope with the formulæ, but this should not debar the earnest ophthalmic student from attaining a thorough knowledge of so essential a branch of his subject.

Index Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Second series. Vol. XVIII. Tetamore-Tzschirner. Washington, 1912.—The eighteenth volume of this remarkable work, the assiduous and patient labour of which lays all medical scholars under a debt to the Government of the United States, contains 3865 author titles, representing 4117 volumes and 2693 pamphlets. It also contains 5223 subject titles in separate books and pamphlets, and 45,525 titles of articles in periodicals. The Surgeon-General's Library now contains 182,984 bound volumes and 320,343 pamphlets, and 110 new titles of medical periodicals have been added to the list of those indexed. The present volume bears the signature of Lieutenant-Colonel C. C. McCulloch, Junr., of the Medical Corps, U.S. Army, now librarian of the Surgeon-General's Office in succession to Lieutenant-Colonel W. D. McCaw. The most extensive article is that on Tuberculosis, which (with Tuberculin) occupies no fewer than 856 columns. Other extensive articles are those on Tetanus, which occupies more than 74 columns, Therapeutics (70 columns), Thrombosis (28), Thyroid Gland (51), Tongue (46), Tonsils (63), Trypanosoma and Trypanosomiasis (41), and Tumours (124).

MISCELLANEOUS VOLUMES.

OUR miscellaneous books for this week include an account of medical missionary work in India, a quasi-historical work dealing with hygienic matters in the past, a little book discussing some questions connected with blind deaf mutes, and additions to Shakespeareana and the table-talk order of book.

In the first named, *Jungle Days, Being the Experiences of a Woman Doctor in India* (London and New York: D. Appleton and Co. 1914. Pp. 227. Price 10*s.* 6*d.* net), Dr. ARLEY MUNSON describes how she felt a call to go to India to help her suffering sisters. Accordingly, having completed her medical studies in New York, she sailed for Bombay, and after a short stay at Sholapur was called to the post of medical superintendent of the Wesleyan Mission at Medak, Hyderabad. Dr. Munson does not say very much about her medical work, but writes pleasantly of the scenery and peoples she encountered in her various tours. One case which she mentions fills us with astonishment. On p. 64 she gives an account of a child of two, "whose eyelid healed well although it was gashed in half a dozen places by the horn of an angry bull. Mercifully the eye was spared." It seems to us that either the eyelid or the bull must have been of a size very different from the normal.——In *Le Passé Anecdotique* (Paris: Albin Michel), ERNEST LAUT discourses in a breezy way upon the hygiene (or absence thereof) in past times, and upon medical manners and customs from mediæval times down to 1830, when Victor Hugo, says M. Laut, left on record some scathing lines in an inn at Geneva as to its fleas, dirt, and general discomfort. In the eighteenth century it was common for inns to have two or three beds in a room, which travellers shared in common, a custom which gave rise to such situations as Sterne describes with his usual sardonic humour in the "Sentimental Journey." The condition of the streets in Paris and many other large towns was appalling as late as the end of the eighteenth century. Madrid had the worst reputation, as is shown by several travellers whom M. Laut quotes, and the same thing is testified to in a recently published work by Paul Fould, "Un Diplomate au Dix-Huitième Siècle" (Paris: Plon-Nourrit. 1914). The diplomat was Louis Augustin-Blondel, who, among other impressions of Madrid, has left the following: "Il n'y avait dans la ville ni chaise percée ni lieux." No wonder that further on he describes the town as "très malpropre."——In *Man's Miracle, the Story of Helen Keller and her European Sisters, from the French of Gerard Harry* (London: William Heinemann. 1914. Pp. 197. Price 3*s.* 6*d.* net), M. HARRY describes the life and practical new birth of Helen Keller, who became deaf, dumb, and blind at the age of 19 months, and of Marthe and Marie Heurtin, of Poitou, who were born deaf, dumb, and blind. M. Harry argues, from the wonderful results which careful teaching has achieved in these sadly afflicted beings, that in humanity there is some "invisible mental spring" which does not exist in the lower animals. As to the Creator of this spring he will not give an opinion. But to many minds the case of Helen Keller, and still more of the two Heurtins, will go to prove the existence of that "particle of Divine breath" mentioned by Horace, of that "sense sent down from the heavenly citadel," of which Juvenal talks in the noble close to his XV. Satire. In the book just discussed we see how beings apparently completely isolated, except by touch, from their fellows can be taught, made able to communicate with those around them, and how their higher faculties can be nurtured and used.

Lovers of Shakespeare—and surely where shall they be found more numerous than in the profession which beyond all others holds fast to the rule, *nihil humani a me alienum puto ?*—will gratefully welcome the posthumous publication by his daughter, Miss Rosaline Masson, of Professor DAVID MASSON'S "Shakespeare Lectures," which formed part of his professorial course on English literature at Edinburgh University. *Shakespeare Personally* is the title of the book (London: Smith, Elder, and Co. 1914. Pp. 242. Price 6*s.*), and it is an answer, to quote Professor Masson, to "that extreme compliment which it seems to be the whim of human nature to pay, at some time or other, to each one of those few personages of the past, the dimensions of whose existence have approached the enormous"—viz., that "enormously great existence is inconceivable except as non-existence." Professor Masson combines the actual knowledge of Shakespeare from external sources—and it is not a little greater than is commonly believed—with the portrait that may be conceived of him through a careful study of his writings, and succeeds in presenting us with a picture in which all the parts are complementary and in harmony. He traces the progress in Shakespeare's moods—first, the "Romeo-Proteus-Biron" mood, compounded of the passionate impetuosity, the all-for-love recklessness of Romeo, the instability and variability of Proteus, the wit, irony, and sharp-sightedness of Biron, characteristic of the centrifugal character of youth; then the "Jaques-Hamlet" mood, which combines the moralising and sadness of Jaques with the speculation, self-communings, and inaction of Hamlet, the centripetal reaction from the preceding; the "high-tragic" mood, envisaging the high tragedy of tremendous moral realities of passions, fates, and frenzies of the full-grown man with its reactionary subjectivity of the "Coriolanus-Timon" mood, the mood that is apt in later middle age to follow the aggressive zeal to right this topsy-turvey world—the mood expressed so forcibly by Horace, *Odi profanum vulgus et arceo*, sick of the fruitless turmoils of the fickle multitude; and finally the "Prospero" mood, the balanced judgment of mature experience, viewing from the heights, with expanded view and more enlightened understanding, the "alarums and excursions" in the plains below. Survey follows of Shakespeare's "recurrences"—repetitions of word, phrase, verbal or formal tropes, ideas and sentiments—and "fervours"—magnificent bursts of expression, which render Shakespeare the great fount of quotation, the armamentarium of the declaimer. The volume closes with an analysis of Shakespeare's self-revelation in the sonnets. Altogether a noteworthy study.——*Pot Pourri Mixed by Two* (London: Smith, Elder and Co. 1914. Pp. 456. Price 6*s.* net), by Mrs. C. W. EARLE and Miss ETHEL CASE, is a volume of discursive correspondence between two amiable ladies, arranged in 12 articles, one for each month of the year, every article consisting of a letter from each correspondent. The book would have been the better for the services of a judicious editor. It contains much that is good sound sense, a great deal that is very interesting in the table talk way, but unfortunately not a little that is rather silly. It may be described as a package of mental sandwiches, the insides of which are "scientific diet," vegetarianism, and total abstinence from "alcohol and other stimulants, especially tea" (p. 34), the substantial covering of the sandwich consisting of botanical and other "nature studies," and the garnishings of such aromatics as poetical selections of unequal quality, and historical, archæological, and travel notes. As an example of balanced good sense (and there is plenty of such in the book) may be cited the very thoughtful views on the position of the "caged daughters." But above all, reference must not be overlooked to the excellent collection of vegetable recipes, at the end of each month, selected with due reference to those vegetables that are then in season. It is by no means necessary that one should be a vegetarian to appreciate adequately these excellent recipes.

JOURNALS AND MAGAZINES.

Quarterly Journal of Experimental Physiology. Editors: E. A. SCHÄFER, W. D. HALLIBURTON, C. S. SHERRINGTON, E. H. STARLING, and A. D. WALLER. Vol. VIII., No. 1. London: Charles Griffin and Co., Limited. 1914. Pp. 102. Price 7*s.* 6*d.*—The Self-regulation of the Acidity of the Gastric Contents and the real Acidity of the Gastric Juice, by Professor W. Boldyreff (Kasan). A sharp distinction must be drawn between the acidity of the gastric juice itself and the acidity of the gastric contents. The author finds that the acidity of freshly secreted gastric juice is constant (0·5 per cent. HCl). In the gastric contents, however, this acidity is rapidly lowered to a level which oscillates between 0·15 to 0·2 per cent. HCl, and the same thing happens when any acids foreign to the stomach are introduced into it. The interesting point is the mechanism by means of which this "levelling" result is brought about. The partial neutralisation appears to be due to the reflux into the stomach of alkaline juices from the duodenum, the pancreatic juice being the most important factor. The mechanism for maintaining the optimum level of acidity (0·15 to 0·2 per cent. HCl.) the author calls "the self-regulation of the acidity of the contents of the stomach."—The Nitrogen Excretion of Fasting Sheep, by Andrew Hunter. The Influence of Early Removal of the Thyroid and Parathyroid Gland upon Nitrogenous Metabolism in the Sheep, by Andrew Hunter. These two papers must be taken together. In the first the author seeks to determine the distribution of nitrogen in the urine of normal sheep, upon which it appears there are practically no data of value recorded in the text-books. For the second article the author made use of the thyroidectomised lambs used by Sutherland Simpson.[1] The author finds that sheep deprived at an early age of thyroid, and somewhat later of parathyroids, (1) excrete during a fast rather more nitrogen and rather more purin derivatives in relation to body weight than do normal animals, and that they are liable to succumb very early to the effects of inanition; (2) they excrete while fasting urine which is generally acid and never alkaline; (3) they invariably react to the withdrawal of food by the excretion of creatine in excess of creatinine and have a degree of sugar tolerance which is almost certainly above the normal.—The Nervous Mechanism of Micturition, by F. J. F. Barrington. This is a very elaborate paper, in which the author first describes the peripheral nerves to the bladder in the cat. It is illustrated by many figures and some X ray photographs of the bladder after filling the bladder with a warm 20 per cent. solution of colloid silver. The cats, all females, were anæsthetised. The tonic influence of the nervous system on the bladder and urethra is described and experiments are cited. Reflex micturition and interference with micturition by nervous lesions are next described. It appears that in the cat micturition is a highly specialised act. The bladder is relatively very large, and micturition occurs infrequently—once or twice in 24 hours—and urine never escapes from the urethra apart from micturition. The effects of division of the peripheral nerves, division of the sacral posterior dorsal roots, transection of the cord between the seventh and twelfth thoracic roots, were then studied, and finally the mechanism of closure of the urethra. It is generally stated that micturition is dependent on the integrity of a centre in the lumbo-sacral region of the cord and on the connexions of this with the bladder and urethra, and that micturition takes place when this part of the cord is isolated from the parts of the central nervous system above it. In the cat after division of the sacral posterior roots micturition is permanently abolished. There seems to be no mechanism for this coördinate act existing below the lower thoracic region.—M. Dresbach describes an Improved Form of Apparatus for Perfusion of the Excised Mammalian Heart.—The Motor Areas and Pyramid Tract in the Canadian Porcupine, by Sutherland Simpson. In a historical introduction the author briefly describes the course of the pyramid fibres in the primates, carnivora, ungulata, cetaceæ, marsupialia, insectivora, cheiroptera, and rodentia. Six full-grown porcupines were used for his experiments. After being anæsthetised the position of their cerebral motor areas was determined, and then the results of a typical extirpation experiment are discussed. In the porcupine there are four pyramidal tracts entering the cord—the crossed dorsal pyramid tract, the crossed lateral pyramid tract, the direct dorsal and the direct ventral pyramid tracts.

Brain: a Journal of Neurology. Edited by HENRY HEAD, M.D., F.R.S. Vol. XXXVI., Part 2.—This number appears soon after the last, and it contains four papers of much interest. The first is by C. T. Van Valkenburg, on the Corpus Callosum, with experimental and pathologico-anatomical researches on this part of the brain. The reader interested in the subject must be referred to the article, which does not easily lend itself to abridgment.—Dr. Saunders contributes an article on the Sensory Changes in Friedreich's Ataxy, in which he shows clearly that sensory changes, slight but distinct, are much more common in the disease than has hitherto been recognised.—The third article by Dr. Fildes and Dr. McIntosh is on the Application of the Wassermann Reaction to Neurology, and the technique described is well worth the careful attention of all neurologists.—The fourth article on the Bulbar Nuclei, with special references to the existence of a salivary centre in man, has already been the subject of an annotation in these columns. The present number of *Brain* is quite up to the high standard we have been taught to expect from this journal.

American Journal of Roentgenology.—We note that the American Roentgen Ray Society has decided to issue its official publication as a monthly periodical instead of quarterly as formerly. It has seemed, in a country where radiology has made such rapid and brilliant strides, more or less anomalous, that no monthly journal should be forthcoming, and in congratulating the society upon their courage in filling this gap in current medical literature we may express the opinion that the step is one that has every prospect of success. The monthly issue began in November last under the editorship of Dr. P. M. Hickey, of Detroit, with Dr. F. C. Zapffe, of Chicago, as associate editor. The first number is a memorial to the late Dr. Lester Leonard, one of the most recent martyrs to the baneful influence of the X rays, and to whose untimely death we had occasion to refer in these columns. It will be remembered that Dr. Leonard was selected as chief reporter on the radiography of the stomach and intestines at the International Congress of Medicine in London last August, and his report forms the chief part of this number.—In the November issue there are papers on the Treatment of Uterine Fibroids and other Gynæcological Conditions, by Dr. A. F. Holding and Dr. G. E. Pfahler, among others. The new X ray tube is described by the inventor, Mr. W. D. Coolidge, and some notes on its practical application are given by Dr. Lewis Gregory Cole in the January number.—In the February issue there is an interesting contribution on the Possible Relation between the Pituitary Gland and Epilepsy, by Dr. G. C. Johnston, of Pittsburg. These are only a few of many interesting and valuable articles to be found in this valuable journal. Several of a more technical character but of the highest importance to radiologists are also given; these deal with such questions as X ray measurement, management and control of X ray tubes, the use of intensifying screens, and other subjects of a similar nature. The journal is printed on a specially good paper with a clear type that is a pleasure to read. The excellence of the illustrations calls for special comment. They are from half-tone blocks, in the preparation of which a very fine screen has been used, with a final effect that is very pleasing. We also notice that many of these are the same as the original negatives, in that the bones, for instance, are white, not black as in a print or other reproduction. If this can be done with less, or at least no more loss of fine details than in the more usual reproductions, it is probable that the change will be welcomed by radiologists who are accustomed to examine the original plates. The innovation is a noteworthy one, and it will be interesting to see how far it will become popular. This journal can be recommended to radiologists, who will be well advised to include it among those they receive regularly.

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[1] *Quarterly Journal of Experimental Physiology*, vol. vi., 1913, and THE LANCET, June 14th, 1913.

British Dental Journal.—The issue for April 15th contains a thoughtful paper by Mr. Alan Forty on Some Ideals of Surgery in Dental Operations. He points out that many operations on the teeth are carried out with a total disregard of their effects on the tissues and their probability of causing sepsis.—There is a paper on School Dentistry, by Mr. C. F. Moxley, in which he gives a record of the work carried out at the Birmingham School Dental Clinics. Over 16,000 extractions were carried out, a little less than one-fifth being under anæsthetics, and over 8000 teeth were saved by filling.—Mr. Hopewell Smith records a case in which the left maxillary canine erupted posterior to the second premolar.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON).—A course of lectures on tuberculosis will begin at this hospital on Monday, May 11th, and will continue during the summer session.

ROYAL MEDICAL BENEVOLENT FUND GUILD.—The fourth annual general meeting of this guild was held recently in the library of University College Hospital Medical School, Viscountess Bryce in the chair. Dr. Mary Scharlieb, honorary treasurer, submitted the balance sheet, and strongly urged the needs of the educational fund which aims at enabling children who are beneficiaries to make a good start in life. In the absence of Lady Tweedy, chairman of council, the annual report was read by Sir John Tweedy. The report states that the formation of new branches, the increase in the number of subscribers, and the keenness with which the work is carried on are highly satisfactory. The objects of the guild are to help the Royal Medical Benevolent Fund by obtaining additional subscriptions to that fund and by making it more widely known; also to assist distressed members of the medical profession, their wives, widows, and families, who are beneficiaries of the Fund, by personal service, provision of clothing, and help in other directions. The adoption of the report and balance sheet was moved by Lady Bryce, seconded by Sir Rickman Godlee, and carried unanimously.

Reports and Analytical Records

FROM

THE LANCET LABORATORY.

LAXAMEL.

(MESSRS. BURROUGHS, WELLCOME, AND CO., SNOW HILL BUILDINGS, LONDON, E.C.)

Laxamel is an almost transparent jelly containing, according to our analysis, as much as 68 per cent. by weight of pure liquid petroleum. This amounts approximately to 80 per cent. by volume. It is quite pleasant to take and is attractive in appearance. Further analysis showed the presence of 11·63 per cent. of sugar and 6·6 per cent. moisture. There was no appreciable quantity of mineral matter present. The combination is designed for the use of patients who have a difficulty in taking raw oil, and it provides, of course, the well-known laxative effects of petroleum.

BIOMALZ.

(MESSRS. PATERMANN BROS., REGENT HOUSE, KINGSWAY, W.C.)

Biomalz is a fluid malt nutrient reinforced with the addition of calcium glycerophosphate. It presents all the nutritive properties of a well-made malt extract. Thus, besides containing malt sugar, there is present also a noteworthy proportion of soluble proteins. According to our analysis the total proteins amounted to 4·26 per cent. This is slightly in excess of the amount of protein contained in milk. Further examination gave the following results: Moisture, 37·83 per cent.; mineral matter, 1·48 per cent.; malt sugar, 44·44 per cent.; and dextrin, 11·99 per cent. In addition to phosphate of potassium always found in malt extract the presence of glycerophosphate of lime was established. On removing the ordinary phosphates with lime water glycerophosphate was found in the filtrate. The preparation is an easily digested food, while the presence of glycerophosphate supplies an approved aid to healthy nutrition.

ISTIN.

(THE BAYER COMPANY, LIMITED, 19, ST. DUNSTAN'S-HILL, LONDON, E.C.)

Istin is described as a synthetic laxative which is closely related to the active cathartic principle of rhubarb or senna. It occurs in the form of yellowish brown tablets containing from 2½ to 7½ grains. A characteristic chemical reaction of istin is the production of a crimson colour with ammonia. It is stated that the action of istin is entirely confined to the large bowel and consists in the stimulation of peristalsis exclusively in that region. It is reported to assist after one dose in restoring normal action.

THE CHANCELLOR GENUINE PURE GRAPE BRANDY.

(MESSRS. H. R. WILLIAMS AND CO., 6, LIME-STREET, LONDON, E.C.)

We have submitted this brandy to analysis, and the results support the claim that it is a pure grape spirit. It is a brown brandy with a matured flavour. Although not produced in the Cognac district, it possesses similar characteristics to the products of the Charente. It is mellow and free from crude products. It contains according to our analysis a maximum of ethers—namely, 105 parts per 100,000 parts of alcohol present. Doubtless its peculiar fragrance is due to some extent to these and allied bodies. Other secondary products were as follows: aldehyde 10·70, furfural 0·54, and higher alcohols 217 parts per 100,000 parts of alcohol. The strength of the spirit amounted to 46·59 per cent. of alcohol, and the total extractives were 0·65 per cent. The acidity of the brandy was inappreciable. It comes well out of comparison with the matured spirit produced from wine distilled in the Cognac district.

SECWA.

(CASEIN, LIMITED, BATTERSEA, LONDON, S.W.)

We find that secwa is correctly described. It is a yellowish-white powder obtained from whey by a special process which, while eliminating the water, leaves the product "live." That is to say, the enzymes are not killed and the milk albumin is not coagulated. Thus a solution of secwa in water on the addition of a little acid gives on heating an abundant coagulum of milk albumin. This, of course, is a valuable protein constituent of milk, and the occurrence of it in a relatively larger quantity in human milk is said to account for the increased digestibility of human milk compared with cow's milk in infant feeding. Our analysis of secwa gave the following results: Moisture, 2.00 per cent.; mineral matter, 9·00 per cent.; milk albumin, 14·50 per cent.; milk sugar, 74·50 per cent. There were only traces of fat present. Secwa is a sound preparation on scientific lines and should have obvious uses in special dietetics.

HEXANATRIN.

(MESSRS. CORBYN, STACEY, AND CO., LIMITED, BRUNTON'S WHARF, 673, COMMERCIAL-ROAD EAST, LONDON, E.)

Hexanatrin is a definite crystalline compound of hexa-methylene-tetramine and acid sodium phosphate. The idea of introducing acid sodium phosphate is to increase the acidity of the urine so that a maximum of latent formaldehyde is set free from the amine. There is thus claimed for the compound an increased power of killing infection. In other words, it is more active and rapid in its action used as an urinary antiseptic than hexa-methylene-tetramine alone.

STERILISED NATURAL MILK.

(NESTLÉ AND ANGLO-SWISS CONDENSED MILK COMPANY, 6 AND 8, EASTCHEAP, LONDON, E.C.)

We found the specimen of this milk which was submitted to us to be in excellent condition and perfectly sweet and fresh tasting. There were no preservatives present, and the milk kept sound for several days after opening. Its composition according to our analysis was as follows: Fat, 3·57 per cent.; casein, 3·68 per cent.; milk sugar, 4·75 per cent.; mineral matter, 0·70 per cent. This analysis evidences good quality, and the milk when taken from the tin was a perfectly homogeneous fluid with no trace of separated solids.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

THE annual meeting of the Governors and General Council of King Edward's Hospital Fund for London to receive the accounts and the report of the General Council for the year 1913 was held at St. James's Palace on April 30th, when the Duke of TECK presided.

Lord ROTHSCHILD, the honorary treasurer, in presenting the account of receipts and expenditure and the balance sheet for the year ending Dec. 31st, 1913, said the total investments of the Fund now exceeded £2,000,000.

The Duke of TECK moved the adoption of the accounts, and the resolution, having been seconded by Lord IVEAGH, was carried unanimously.

Sir SAVILE CROSSLEY, the honorary secretary, presented the draft report of the Council, which stated that the total receipts for the year 1913 were £187,704 18s., made up as follows: donations, £5810 0s. 6d.; contributions to capital, £2346 7s. 10d.; annual subscriptions, £26,187 17s. 9d.; contribution of the League of Mercy, £14,000; from the Lewis estate, £9092 4s. 3d.; legacies, £48,022 1s. 3d.; interest from investments, including property not yet transferred to the Fund, £82,046 6s. 5d.; together with £200 from the trustees of the Bawden Fund. The amount distributed was £157,500, being the same as in 1912. Of this sum the hospitals received £151,000, while the remaining £6500 were distributed amongst consumption sanatoriums and convalescent homes taking London patients. The £151,000 allotted to the London hospitals was directed to be applied as follows: £109,350 to general purposes and maintenance, £6000 towards the liquidation of debts on maintenance account, £1500 to an amalgamation scheme, and £34,150 for additions and improvements to hospitals and their equipment. Of the £6500 given to consumption sanatoriums and convalescent homes, £3800 were allotted in consideration of the allocation of beds for patients to be sent from certain London hospitals. His Majesty the King had continued his annual subscription of £1000, while Queen Mary, Queen Alexandra, the Prince of Wales, and many other members of the Royal Family had also liberally supported the Fund. The list of contributions included annual subscriptions of £5000 from Mr. Walter Morrison, £4000 from the Drapers' Company, £1000 from Mr. William Waldorf Astor, and £1000 from the Merchant Taylors' Company, besides three anonymous donations each of £1000. The legacies received during the year included £25,000 from Sir Julius Wernher, £8471 6s. 4d. on account of the bequest of Lord Lister, £6000 from Mrs. Batchellor, £4622 19s. 4d. from Sir William Dunn, Bart., and £1000 from Mrs. Emma James. In addition to the legacy of £25,000 from the late Sir Julius Wernher, the Fund received securities to the value of £269,644 7s. 2d., being a first instalment of his further legacy left to the capital account of the Fund of one-twelfth of the residue of his estate. A bequest from the late Mr. A. H. Harman, consisting of ground rents amounting to £1382 3s. per annum, was in course of transfer to the Fund at the end of the year. The total amount received in donations and subscriptions as compared with 1912 showed, excluding contributions to capital, a decrease of £5154. Legacies, however, showed an increase of £36,584 9s. 9d. as compared with 1912, or of £9352 14s. 5d. as compared with the average of the five years 1903 to 1912. The annual statistical report on the expenditure of London hospitals during 1912, issued in August, 1913, showed that the cost of working at hospitals had increased since the previous year by about £22,000.

The Duke of TECK, who moved the adoption of the report, read a letter from the King deploring the loss sustained by the death of Lord Strathcona and other benefactors of the Fund, and referring also to the deaths of Sir Trevor Lawrence and Sir Julius Wernher, the munificent bequest of the latter of whom would, by increasing the permanent income of the Fund, do much to ensure the annual distribution against the danger of possible reduction which seemed a year ago to be threatening.

The SPEAKER of the House of Commons seconded the motion, which was carried unanimously.

Sir WILLIAM CHURCH, chairman of the Distribution Committee, moved the adoption of a report of that committee upon the amalgamation of the Hospital for Diseases of the Throat, Golden-square, and the London Throat Hospital, Great Portland-street. The committee recommended that out of the grants of £20,500 promised and set aside for a general amalgamation the following grants be made and promised towards the present partial scheme—namely, a capital grant of £10,000 and an annual maintenance grant (subject to the usual annual inspection) of £900 a year for five years.

The motion was seconded by Mr. FREDERICK M. FRY and carried unanimously.

Other business having been transacted the meeting terminated with a vote of thanks to the chairman.

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THE LANCET.

LONDON: SATURDAY, MAY 9, 1914.

The Budget and the Medical Profession.

THE Chancellor of the Exchequer made his Budget statement in the House of Commons on Monday last and revealed a financial condition of the country that has been realised with mixed feelings, the enormous value of the national resources being counterbalanced by the unprecedented demand upon those resources. We do not attempt to analyse his statement from the standpoint of the financier or the statistician, but propose only to call attention to the features of it which must have particular interest for our readers in the medical profession. How far Mr. LLOYD GEORGE'S intentions are instinct with wide-eyed patriotism and how far they are the offspring of deliberate attempts to win the support of the many by the exploitation of the few can be learned from the columns of the daily press. But if we read the press of one party we learn one thing, and if we read the press of another party we learn another thing, and the net result of such clarification of Mr. LLOYD GEORGE'S alleged obscurity is not informing.

There are designs in the Budget statement which are sure of the approval of the medical profession whatever the party politicians may say of them. The proposal that further and substantial aid should come from the Exchequer to mitigate the burdens put upon local authorities, in their attempts to meet the obligations incurred under legislation to carry on local government, will be regarded by fair-minded people as a move in the right direction, and will receive the endorsement of sanitary authorities. They will be in no trouble to criticise the methods introduced for raising the sums of money required in the indicated direction; it is a case of *non olet pecunia*. The finding of substantial sums, amounting in all to £1,250,000, in aid of the work of the National Insurance Act, will be approved as a whole. The establishment of local clinics to assist panel practitioners, the organisation of health lectures, and the control of malingering (which will require very discreet management), are legitimate outcomes of the working of the Act. That expenditure in suppressing cattle disease should be borne by the Exchequer will seem just, knowing with what difficulty this expenditure has sometimes been met by some localities; and it is good to learn that certain laggard or impoverished counties will be assisted to discharge their duties under the Mental Deficiency Act. The additional contribution from the State towards the maintenance of proper machinery for the promotion of national health and the well-being of the community will be welcomed. The intention will be applauded to provide local authorities with assistance in their endeavours to clear slums and provide better housing accommodation, to deal with the tuberculosis problem, to train an adequate supply of nurses, and to set up laboratories in which can be reinforced the efforts of medical men desirous of fighting disease in a scientific manner. These things are an adjunct to, or an elaboration of, the plans advocated by all our sanitarians; and however the money is raised, so long as the mere raising of it does not paralyse efforts of equal or greater value to the community, we must welcome such projects.

But members of the medical profession have to regard the Budget from the business point of view. As citizens they will take a substantial share in the burden of finding the money whose destination is so worthy. The new graduation of the income-tax in each of its forms cannot be other than irksome to the medical profession. Earned incomes up to £1000 are not interfered with, but from that point the figures are: £1000 to £1500, 10½*d.*; £1500 to £2000, 1*s.*; £2000 to £2500, 1*s.* 2*d.*; £2500 to £3000, 1*s.* 4*d.*; above £3000 and on all unearned incomes, 1*s.* 4*d.* Thriving medical men in every branch of the profession will be affected by the imposition of the higher rate, anyhow between £1000 and £2000; while the raising of the tax on unearned incomes from 1*s.* 2*d.* to 1*s.* 4*d.* will fall particularly hard upon them as investors, because the investments of medical men almost invariably represent their earnings and not their inheritance. The lowering of the line at which super-tax has to be paid, from £5000 to £3000, may only catch the very successful class among us, but hitherto most of these have escaped. The fact, however, that the first £2500 of these large incomes will be exempt from the charge will mitigate the circumstances to the majority of those affected. The medical profession is as ready to pay a high price for a proud citizenship as any section of the community, but it would not be difficult to show that this country is steadily becoming a very expensive one for the professional man. His burdens grow.

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The Narrow Way to Medical Research.

THE reports of the Royal Commission on University Education in London, Mr. ABRAHAM FLEXNER'S Report on Medical Education in Europe, Sir WILLIAM OSLER'S pronouncements on several occasions, and articles in our own columns have of late in different ways brought the academic ideal in medical education to the forefront, and the consideration of it has brought forth many weighty documents. An outstanding principle, that the teaching of a subject such as medicine in all its branches is inextricably bound up with continued research into the scientific problems that progressively unfold themselves, is now fully recognised and is acted on so far as the underlying sciences, both physical and biological, are concerned, but it is not so generally conceded that the same is equally true with regard to medicine itself.

But clinical research can be carried out properly only in an adequately fitted hospital with the necessary laboratory accommodation attached. In this country great public hospitals have for their objective the treatment and care of the sick individual, upon which clinical teaching has in process of time become engrafted by men whose ultimate aim has always been a distinguished career in practice. That up to a certain point these men have nobly fulfilled their secondary task of medical education is amply shown by the general high average standard of competence of the entire body of the British medical profession. That they have further contributed largely—very largely —to the extension of the domains of medical science the history of medicine amply testifies. But as conditions change so must we change with them, and the foreign possessions, so to speak, of the empire of medicine have now become so extensive that they can no longer be administered by those who *sit at home*. *A new race is demanded* which shall go forth into the new possessions, leaving old ties, old familiar aims and pursuits, and the life of the old-established communities behind, there to continue and extend the work in entirely new surroundings and by other means.

The need *for* an extension of medical research being admitted, what are the needs *of* medical research? This question has recently received an exposition and a suggestive answer in a weighty communication to the *Morning Post*.[1] Therein an anonymous writer, under the pseudonym of "Junior" (whose identity, however, may be shrewdly suspected by those who can read the internal evidence of authorship between the lines), speaking from an experience of ten years' engagement in medical research, for six of which it has been his chief object in life, lays down that the primary function of the research worker in medicine "is to supply the practising hygienist and physician with new knowledge of disease; to advance the science of prevention and the art of practice by the whole means in his power." He seeks; finding, he teaches; he teaches the facts he finds; he shows how his new facts link with older knowledge. There ends his task. The very temperaments required respectively for research and practice are opposed—though in rare instances, it is true, they are found combined in a single individual. For the researcher the spirit of hesitancy, of careful and prolonged questioning, of checking, if need be retracing, his steps is imperative, for thus alone will he avoid the pitfalls of premature conclusion. For the practitioner, on the other hand, that way madness lies. For him in most cases the paramount duty is to act—to apply promptly the knowledge he has acquired, groping his way only when he must, cutting across country, relying on his knowledge of the roads when he can, even on his instinct if necessary, so that he may arrive at his destination in time.

The obvious inference is that medical research, in place of being a subordinate occupation, a sort of apprenticeship for certain junior members of the profession, as is the frequent case at present, should constitute a career in itself; it should be an introduction not to practice, but to further research and to special teaching, calling for particular training and intensive study, an intimate knowledge of technique, and above all encyclopædic acquaintance with relevant facts garnered by the allied sciences. If that course were pursued the articles in medical publications would teem less frequently than at present with statements contradictory of settled physiological or physical teaching. At present such workers are for the most part young men on the waiting list of the various hospitals; consequently they have no wards in which to study, for these are all in the hands of their seniors, who have attained or are well on the road to an objective altogether different from that of research—viz., lucrative practice. If research is to have a chance, either teaching hospitals must set apart research wards or special institutes must be provided for research workers. In this connexion it is worth remembering, as "Junior" points out, that a wealth of material goes to waste in the Poor-law infirmaries of London alone, where there are thousands of patients on whom no observations are made. It would be difficult to sum up the whole subject more tersely and yet more forcibly than "Junior" does when he says: "Choose the workers rather than select their work; give them a fair competency; engage them half time or full time as you will; supply their requests for equipment, material, and assistance. They will do the rest." And all experience shows that if care is taken in selecting the men they may be relied on to do it.

Some Modern Theories Concerning Hysteria.

A PERUSAL of Dr. J. A. ORMEROD'S scholarly Lumleian lectures on Some Modern Theories Concerning Hysteria[1] awakens various lines of thought, a consideration of which may be said to exercise both a stimulating and a sobering influence on the mind. On hysteria, as on the whole question of the psychoneuroses, attention in these days is being focused: the problem of their nature and pathogenesis is being attacked with renewed ardour, and that, too, from widely diverging standpoints. The mere fact of this renewal of investigation is an indication of underlying dissatisfaction with the conflict and rivalry of views of hysteria that have hitherto held the field. Even a definition of hysteria to command general acceptance is not yet forthcoming. Yet it is one of the most ancient of diseases; the student of literature and of history can adduce evidence to prove that its symptoms were known before the dawn of our era; while the student of art can point to mosaics, bronzes, and manuscripts, dating as far back as the fifth and sixth centuries, in which characteristic hysterical features are portrayed. Through the Middle Ages hysteria leaves a trail behind it of ghastly misconceptions and of fatal mistakes in diagnosis.

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[1] Research in Medicine, its Position and Needs, Morning Post, April 25th, 1914.

[1] THE LANCET, April 25th (p. 1163), May 2nd (p. 1233), and present issue (p. 1299).

And if to-day the sufferer from hysteria is assured of sympathetic handling, can it be alleged with truth that this is a sequel to greater insight into the mystery of the disease? For all our familiarity with it, no one seems to know where it begins and where it ends: there appears to be finality neither in theory nor in symptomatology. Even the classical stigmata on which the student was wont to depend, and thereby to crystallise his conception of the malady, seem to be vanishing. Dr. BABINSKI assures us that he never meets with hemi-anæsthesia now, while he secures a kinematographic record of *la grande crise hystérique* in case it may possibly prove one day of historical interest. If what Dr. ORMEROD calls the palmy days of hysteria at the Salpêtrière are gone for ever, and the hysteria of CHARCOT is obsolete, will the same be said in days to come of the hysteria of FREUD? Listerism has banished hospital gangrene, which survives merely in name, and we are informed by syphilologists that, for instance, rupia and syphilitic cranial osteitis are now rarities. Advances in medical knowledge and consequent improvement in therapeutic technique have definitely altered the manifestations of certain organic diseases. Has, then, hysteria also changed its guise, and are its once familiar features no longer recognisable? We take leave to doubt it. For those whose mental vision is not distorted by what happens to be the vogue of the moment in hysteria it is a pleasure to follow Dr. ORMEROD's able guidance through the maze of hysterical symptoms, and a delight to note his apt modern illustrations of many of these, which the "advanced" theorist would have us discard altogether. Some of the high priests of the latest cult are as intolerant of what is in their eyes heterodoxy as were their mediæval predecessors, whose *flair* for hysteria still amazes us. It is not so much, we suspect, that hysteria has changed, as that the twentieth century Parisian or Viennese, or the Londoner for that matter, has moved away from his forebears in psychical "make-up" and in reaction to his environment. Hysteria is many-sided, and if certain aspects of its symptomatology are for the time being in greater prominence than others, this only means that it has turned its facets in response to the light of research thrown on it from a new direction.

Man has theorised on the nature of hysteria from the days of belief in demoniacal possession to those of what might not unfairly be described as pansexuality. The literature of hysteria is strewn with the wrecks of theories long since forgotten, as are the very names of their authors. Has the disease not been regarded by one as an affection of the ductless glands, and by another as a sort of secondary sexual character? The same fate, we are afraid, will befall other theories that are but of yesterday. Perhaps the reason may be found in the words of old JOHN WYNTER: "The learned physicians, who observed and followed Nature, painted to the Life, in breathing Images, what their Eyes had seen, and their Fingers felt: whereas the Moderns first frame a System or Hypothesis, and then all Appearances must warp to their Whims, and bow the Knee to the Idol their Brain has set up. Hence some by sinking beneath, and others by soaring above the Works of the great Creator, become rather *Ignes fatui*, than true Lights to the Paths of Physic."

Leaving aside certain theories after brief allusion to them, Dr. ORMEROD concentrates attention on those associated with the names of Professor PIERRE JANET and Professor SIGMUND FREUD, and if, on the whole, as we think, it is the theory of the former which appeals to him, Professor FREUD's wonderfully profound investigations into the problem of hysteria are neither underestimated nor unappreciated. At the same time, the lecturer's keen critical spirit leads him to outline various objections to which they are open and which deserve serious and unbiased consideration. Dr. ORMEROD has little patience for the *Sexualitätsschnüffelei* of the exuberant Freudian; if it is ridicule that kills, it is a sense of humour that saves; and could some of the Freudian school show even traces of the latter they would not expose themselves so fatally to the former. Of the literary charms and graces of the lectures we need say no more than that they are wedded to a ripe scholarship; in these essays Dr. ORMEROD has given us of his best.

RÖNTGEN SOCIETY.—The annual general meeting of this society will take place on June 9th, when an exhibition will be held and several lantern demonstrations given. Members desirous of showing new apparatus, negatives, or lantern slides are requested to communicate with the honorary secretary, Dr. Robert Knox, 7, Harley-street, London, W.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—The next general meeting of this association will be held at 11, Chandos-street, Cavendish-square, London, W., on Tuesday, May 19th, at 3.15 P.M., under the presidency of Dr. James Chambers. A paper will be read by Dr. A. Helen Boyle, entitled "Some Observations on Early Nervous and Mental Cases, with Suggestions as to Possible Improvement in our Methods of Dealing with Them." Members will dine afterwards at the Café Monico at 6.45 for 7 P.M. The cost of dinner, exclusive of wine, will be 5*s*. Morning dress will be worn. The annual meeting of the association will take place at Norwich on Tuesday and Wednesday, July 14th and 15th.

Annotations.

"Ne quid nimis."

THE STATE, THE MOTHER, AND THE CHILD.

As we recently stated in a leading article under this heading, the movement towards more definition for the work which the State can undertake on behalf of the mother and the child is receiving an encouraging reception from the Government. But in view of some misinterpretation which has obviously taken place of the intentions of different Government departments, we think it well to point out that the Board of Education have assuredly no intention of undertaking any work which at present devolves upon the sanitary authorities. The Board have for some time been making grants to schools for mothers and similar agencies, and they hope to be in a position to increase the grants in aid to institutions of this nature with a view to developing such work, making it more educational where desirable, and linking it up with the School Medical Service which begins its operations at the time the child enters the school—that is, from 3 to 5 years of age. The promises of the Budget statement may here be borne in mind. In such endeavours the Board will continue as heretofore to encourage and foster coöperation in each area between the sanitary authority and the local education authority and their various officers. Where the medical officer of health is also school medical officer, no difficulties have been found to arise; and where the two offices are held by different persons there is now, as a rule, effective and cordial coöperation. The point is that the Board of Education have never proposed undertaking work in connexion with the prevention of infant mortality, which devolves upon the sanitary authority, nor is there any proposal such as has been suggested in the lay press that the Board should undertake the establishment or control of maternity clinics dealing with the mother as distinct from the child.

DEATH FOLLOWING THE EXTERNAL APPLICATION OF KEROSENE.

PARAFFIN oil is a popular and efficacious agent for the destruction of pediculi. That it must not be used carelessly is shown by the following case reported in the *Australian Medical Journal* of Feb. 7th by Dr. J. K. Adey. A man, aged 73 years, had been in an asylum for three years in consequence of senile dementia. An attendant noticed some vermin in the axillæ, into which he swabbed, but did not rub, kerosene. Some of the liquid ran down the patient's sides into his groins. The kerosene was not washed off and the patient was clothed in a flannel, a shirt, and outer garments, and was seated in a chair in the sun. Seven hours afterwards he was seen by one of the medical officers in a collapsed condition. Large raw surfaces extended from the axillæ to the groins and there was a raw surface in the lumbar region about 4 by 6 inches. Some of the kerosene evidently had run behind his back. The condition was one of superficial burns for which he was at once treated, but he gradually sank and died three days later. It is remarkable that kerosene, which is frequently used as an external application, should have caused such rapid denudation of the skin. The cuticle had peeled off the affected areas. The severity of the result was probably due to the clothes being put on over the kerosene, which prevented free evaporation and the heat of the sun seemed to have aggravated the effect. There seemed no possibility of the kerosene being contaminated as it was drawn directly from the tin supplied by the dealers. A light could not have been set to it as the clothes were not burnt. The necropsy showed that there was no internal lesion and that the patient, considering his age, was in good physical state. Cases in which kerosene has caused reddening of the skin are not infrequent, but a case of death due to its application is so rare as to be of medico-legal importance.

THE STERILISATION OF MILK BY ELECTRICITY.

WITH regard to the interesting investigations which have been carried out for some years in the Thompson Yates laboratories at the University of Liverpool, in connexion with the possibility of sterilising milk by electrical treatment, some important conclusions have now been reached which are published in a report issued last week by Professor J. M. Beattie, the city bacteriologist. It appears that four main lines of investigation were pursued, which were as follows: 1. The effect of uni-directional currents on milk was tried, when it was found that not only did sterilisation not occur under the conditions of the experiments, but that profound changes were produced in the constitution of the milk. 2. The effect of uni-directional and slowly alternating currents with the addition to the milk of minute quantities of salt was next tested with the object of producing electro-chemical sterilisation. It was found that sterilisation could be brought about by this method, and inoculation of the treated milk showed that the bacillus tuberculosis was destroyed. The milk treated in this way was, however, spoiled from the consumer's point of view, on account of profound changes in the milk, and after many attempts to overcome these disadvantages this method was abandoned. 3. Next was tried the effect of static charges of electricity across a moving film of milk, but no appreciable effect was produced on the bacteria. 4. The effect of using a rapidly alternating current was finally tried, and this proved to be the starting point of a system which was ultimately adopted, for even in the early stages of the work with this method it was shown that the bacterial content of the milk could be reduced to a minimum and that the chemical constitution of the milk was apparently unimpaired. A "lethal apparatus" was ultimately designed, and the next points determined were whether the apparatus could be used for large quantities of milk, and whether its efficiency could be maintained over longer periods than those in which it had been ordinarily employed. In the former experiments we may point out that about 2 litres of milk were passed through the lethal tubes in four minutes—that is to say, at the rate of nearly 7 gallons per hour. With, however, a "non-stop" run of from 1 to 1½ hours 9 gallons of milk were treated and the results were quite as satisfactory. It was at this stage that a report was presented to the health committee in which it was stated that "the invariable result" was the "complete destruction of all colon bacilli and bacilli of similar nature with an enormous reduction in the total number of the bacteria of all kinds." It was further reported that when tuberculous milk was used the bacillus of tuberculosis was destroyed. The results of chemical analysis were also satisfactory, and feeding experiments (on kittens) have shown, so far as they have gone, that the nutritive value of the milk is not impaired. A larger scale plant was then installed dealing with upwards of 100 gallons of diluted milk distributed in about 3000 bottles. A system of bacteriological control was instituted, and there appeared to be little doubt that a practical supply of milk free from pathogenic organisms was obtained. On the face of it these experiments would appear to be conclusive, and the results suggest that we are within reach of a process of milk sterilisation which can be applied to practical affairs. It is possible that a remedy for infected milk has been found. The importance of such a finding cannot be denied; but it is, of course, infinitely more desirable that our hands should be strengthened in the matter of a pure milk-supply, not so much in the direction of sterilising infected milk as of cutting off all possible sources of the infection itself. The discovery of a practicable and effectual sterilising process can never justify a relaxation of measures which insist upon a healthy cow and healthy milk. The obvious danger is that if this discovery should attain a wide practical application, the farmer may be encouraged to take the convenient view that preventive measures are not so necessary in view of a remedy having been found. The distribution of tuberculous milk, of course, cannot be justified on any ground. The report awaits confirmatory trials in other places, but we may point out that it contains no particulars as to the cost of the process, though we can hardly imagine that the authors would bring its advantages forward without having reckoned with economical considerations.

DIPHTHERIA AND THE HEART.

IN two directions may the heart evidence the effects upon it of the diphtheria toxin. There may occur sudden heart failure, and short of or preceding this there may arise disturbances of rhythm. Upon both these points recent observations have been made. W. G. MacCallum, in the *American Journal of Medical Sciences* (1914, vol. cxlvii., p. 37) approached, as he has on other occasions other questions of cardio-pathological interest, from the experimental point of view. He instituted a contrivance whereby the dog's heart and the work demanded of it could be controlled at will by variations of aortic pressure. He cut out, in this way, possible general vasomotor disturbing factors. Some hours before the experiment diphtheria toxin was given intravenously, and the animal was sick. It was found that the actual work of the diphtheria heart was at least as good as that of the normal heart, and this even against high pressure. When the diphtheria toxin was given in perfusion fluid, however, a certain feebleness and tendency to irregularity was noted, but the heart continued to beat long after signs of failure in the body of the dying animal, provided the pressure of nutritional fluid was maintained in the coronaries. The results seem to show fairly well that the death which occurs in the height of an attack of diphtheria is not exclusively the result of direct injury to the heart, although that may play some part in the process. On the question of the significance of the arrhythmia which arises in the clinical course of diphtheria, W. E. Hume in *Heart* (1913, vol. xxv.) has added some important facts. He studied in detail four cases, all in children. Three of them were fatal. But the interest lies in the unusually close similarity of the types of arrhythmia, and also in the order in which they successively arose. In some other respects, too, there was similarity of certain features. Thus, three of the cases were from the same school, and presumably infected from the same source; the duration of the illness was almost identical, death occurring on the thirteenth day in two, in the other on the fifteenth. There was also similarity of general clinical signs. The order of arrhythmia observed in three of the cases was this: (1) auricular extrasystoles; (2) nodal rhythm (synchronous auricular and ventricular contractions) occurring on the tenth day; and lastly (3) auricular flutter, a day or two before death in two of the cases; whilst in the third there arose attacks of paroxysmal tachycardia, a closely allied arrhythmia. Such a careful record of events, gained by polygraphic methods, may help to produce a more rational understanding of the significance and also prognostic value of the irregularities so often met with in diphtheria.

WOMEN'S WORK AND THE SHORTAGE OF NURSES.

AN interesting report upon the causes of the shortage of nurses in children's and fever hospitals was recently presented to the Metropolitan Asylums Board by the principal medical officer, Dr. H. E. Cuff. In response to inquiries as to the experience of other institutions, most of the general hospitals in London replied that there was no falling off in the number or social status of candidates for appointment. Most of the Poor-law infirmaries reported an experience of an opposite kind, and the reason appears to be that infirmaries and fever hospitals draw their recruits from the class which takes up nursing as a means of earning a living and has been attracted to fields of work in which they enjoy more personal freedom. The reports from Scottish fever hospitals were as satisfactory as those from English general hospitals; this was attributed to the fact that there were fewer openings for women in Scotland, and that the educational level was higher among them. Dr. Cuff commented upon the falling off in the number of women candidates for the teaching profession and the scarcity of domestic servants. Women, he said, were turning away from fields of work which were peculiarly their own to others where they obtained more freedom or where the outlook appeared less cramped. In spite of the hard work, 1948 candidates competed recently for 80 vacancies at the General Post Office: the number of women employed in the civil service or engaged in various forms of clerical work has risen from 72,048 in 1901 to 152,970 in 1911. There is a serious loss by emigration; in 1908 the number of women emigrants was 97,174: in 1912 it was 168,352. The fever hospitals also suffer, says Dr. Cuff, because trained nurses have now so many fields of employment—in massage and midwifery, as school nurses, health visitors, tuberculosis nurses, and the like—all of which must appear more attractive than life in an institution, especially a fever hospital. Apart from other disadvantages, fever nursing is regarded as a blind alley as far as professional advancement is concerned. Dr. Cuff states that the salaries at present offered by the Metropolitan Asylums Board are well above the average, and that other conditions compare favourably, but the Board must be prepared to do more than is perhaps necessary in the provinces to attract women to its service, especially having regard to the severe competition in London from other hospitals and other forms of employment. Doubtless bearing in mind the difficulty of persuading local authorities to undertake extra expenditure, Dr. Cuff proposes a scale of increased salaries so moderate as to be, in our opinion, of doubtful efficacy. For probationers, to be accepted at 19 instead of 21 years, he has suggested a commencing salary of £20 a year instead of £18 as at present, rising to £22 instead of £20, with proportionate increases in upper grades and special increments of £2 a year after five and ten years' service. Better food and accommodation for nurses and two alternative schemes for granting extra leave are also proposed. The Hospitals Committee adopted the lesser of these schemes and approved the other proposals. On May 2nd the Board, practically without discussion—although in the interval since their first presentation the new arrangements have been subjected to considerable criticism outside—endorsed the action of the Hospitals Committee.

RIGHT-BRAINEDNESS IN RIGHT-HANDED INDIVIDUALS AND THE QUESTION OF "CROSSED APHASIA."

RIVAL theories of aphasia, whichever they be, have never yet succeeded in explaining those anomalous or "negative" cases of which a fair number of instances are now on record. Almost as many "negative" cases exist, which the theory associated with the name of Professor Pierre Marie fails to explain satisfactorily, as anomalous cases left unelucidated by the classical theory, cases to the solution of which Marie's theory was specially directed. Attention has recently, therefore, turned along rather a different line, and some prominence has been given to the possibility of variations in the localisation of the speech centres in different individuals. It is not intended thereby to depreciate the main and well-established facts of localisation, but merely to suggest that in certain otherwise inexplicable cases variations in the site of the speech faculty may be present. This view was tentatively advanced by more than one of the earlier writers on aphasia, but no instance of such variation that has been put on record can compare with one which has recently been worked out by Dr. Kurt Mendel, of Berlin, and published in the *Neurologisches Centralblatt* of Feb. 15th, 1912, and again, with further details, in the number for March 1st, 1914. The patient was a woman, aged 42, who was certainly right-handed, and in none of whose relatives had left-handedness ever been remarked. As the result of an embolus from cardiac disease she became paralysed on the whole of the left side, and had complete motor aphasia. The lesion was eventually found to be an embolic softening of the right inferior frontal convolution, the right island of Reil, and the right superior temporal convolution. Not content with a macroscopical examination merely, Dr. Mendel has made a microscopical investigation of both hemispheres, and is able to state that the lesion is as above mentioned; the left hemisphere is intact, and the pyramidal paths are normally crossed in the lower part of the medulla oblongata. The case therefore stands on record as one in which the motor speech centres are definitely placed in the right hemisphere in a right-handed woman. But as there was no trace of sensory aphasia in this case and no agraphia, the sensory speech centres must be localised in the left hemisphere, seeing that the right superior temporal gyrus was destroyed. In other words, the case is one of "crossed aphasia," one in which there is a proven dissociation of the motor and sensory speech centres. The importance of the case will be obvious to all who are interested in the problems of cerebral localisation. It is paralleled to some extent by another recent case recorded by Dr. E. Long,[1] in which the motor speech centres were proved to be on the right side, and the sensory speech centres on the left, in a left-handed patient. These and other cases suggest that differing degrees of right- and left-handedness exist, and that corresponding to the intermediate stages between absolute right-handedness and absolute left-handedness are possibly analogous variations in the complete or incomplete representation of the speech centres in one or other hemisphere. If this view is based on evidence which is not as yet very complete, at the least it has much to recommend it, and further investigations calculated to throw light on this important question will be awaited with interest.

ANTITUBERCULOUS VACCINATION.

IN 1913 Professor Maragliano published the latest results of his studies as to immunisation against tubercle by means of the antituberculous vaccine made by him at his institute at Genoa. Since then Dr. Eugenio Curti has performed 586 vaccinations of this kind, and gives his experiences of the method in a paper in the *Gazzetta degli Ospedali* of April 9th. Of the 586 persons vaccinated, about 5 per cent. gave no reaction of any sort either local or general, and these were for the most part robust individuals with good family history. The absence of reaction was attributable to special organic resistance, and not to any error in technique. In 80 per cent. there was sometimes, and after a few hours, slight aching in the arm, accompanied by tingling, and at the site of inoculation first a redness appeared, followed by a pustule which lasted some days, this being followed in its turn by a yellowish scab, which after falling left a hard nodule, and afterwards a dull red stain. These manifestations were accompanied by some local itching and a rise of temperature rarely exceeding 37·5° C., which was not always noticed by the patients, who merely complained of lassitude. This subfebrile state began about 24 hours after the inoculation when the pustule formed and lasted a couple of days. This took place in perfectly normal individuals. In about 15 per cent. there were pustules which assumed the dimensions of a halfpenny, and were accompanied with swollen axillary glands and a febrile reaction of 39°. These patients, however, did not complain of feeling ill, and were not prevented from following their occupation. The local manifestations lasted for ten days also in these cases. A further investigation into the condition and history of such patients showed that they were persons with a bad family history, or who lived with tuberculous people, or had some form of strumous manifestation, or were in such a poor state of health as to warrant the suspicion of a special predisposition to tubercle. When persons with advanced tubercle were vaccinated in this way a strongly marked reaction occurred. It seems, therefore, practically certain that antituberculous vaccination is absolutely innocuous and is useful; moreover, in that it affords, by the intensity of the local manifestations, a criterion by which the greater or less resistance of the patient to tubercle may be judged. What will be the advantages derived from Maragliano's vaccination in the future remains to be seen. Certainly if it were the means of saving not more than 10 per cent. of those predestined to tuberculosis, it would be a victory to be proud of.

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[1] L'Encéphale, June, 1913.

BLINDNESS, SMALL-POX, AND VACCINATION.

THE admirable work done by the United States in the Philippines in the practical stamping out of small-pox, though less spectacular than the elimination of yellow fever from Havana and the Panama Canal Zone, is nevertheless of the utmost value, not only for its immediate results, but in consequence of its demonstration of the efficacy of vaccination when thoroughly and radically enforced. It is well known that before the occupation of the Philippines by the United States small-pox was always endemic; and its exacerbations were frequent and severe. So far back as 1899 Dr. Llewellys F. Barker stated that when the American army first went to Manila it had a large mortality from small-pox, which was as common among the natives as scarlet fever or measles in America, a large proportion of the faces encountered being pitted. Wholesale vaccination by Dr. Bourns with the aid of 18 Filipino physicians had, however, entirely wiped the disease out. It has been for years rarely in evidence in the reports of the principal zymotic diseases in foreign places, published weekly in the United States Public Health Reports; the Report for April 3rd shows for the third quarter of 1913 only 15 cases, while the Report for the fourth quarter shows no cases and no deaths. This valuable official publication for March 27th, 1914, contains an authoritative account of a most interesting investigation regarding the prevalence and causes of blindness in Cebu. Twenty-three towns were visited, of which 12 reported blindness. In all 145 cases were examined, and the chief cause was found to be small-pox, 48 cases. Most of these small-pox cases had been blind for many years, only 3 having occurred in the past five years. The Report adds: "Since the Americans have begun the systematic and compulsory vaccination of all people small-pox is no longer a cause of blindness."

UTERINE ENDOSCOPY.

To the already formidable list of instruments for peering into the recesses of the human body Dr. Alfred Heineberg, a Philadelphia gynæcologist, proposes to add yet another. His preliminary announcement, in the April number of *Surgery, Gynæcology, and Obstetrics*, begins with a recitation of the means hitherto employed for the diagnosis of intra-uterine disease: bimanual palpation of the uterus as a whole, the uterine probe, digital exploration of the uterine cavity, and microscopic examination of curettings from the uterine mucosa. As he points out, the method of curettage, to which most importance is attached in the diagnosis of uterine cancer, yields valuable results, but often disappoints or misleads just in those cases where its help would have been most desirable. He has therefore designed an endoscope for visual examination of the interior of the uterus, consisting of an endoscopic tube, irrigating attachment, obturator, and lighting attachment. He has used it in about 20 cases, in all of which it was proposed to perform dilatation with curettement. By this means it is possible to see the lining membrane of the uterine body as of a velvety appearance and dark red colour. The slightest injury provokes bleeding. The cervical mucosa is pink or yellow according to its vascularity, and the arborising lines can be readily detected. He describes two cases in which facts of diagnostic value were brought to light by this method. In one a patient suspected of malignant disease was found to be suffering from villous endometritis. The other was a case of incomplete abortion; here uteroscopy discovered a piece of fœtal envelope adhering to the fundus, whence it was readily detached with small placental forceps. Hitherto Dr. Heineberg has carried out this procedure under general anæsthesia, but he thinks it will be possible to use local anæsthetics only in certain selected cases. Careful asepsis is, of course, as essential as in any intra-uterine procedure. Acute anteflexions, which might constitute a bar to inspection of the uterine cavity, may be overcome, he thinks, by careful dilatation of the uterine canal with bougies. Profuse bleeding is an absolute obstacle to the application of this method, a circumstance which, if it prove insurmountable, will greatly restrict the value of uterine endoscopy. Moreover, as Dr. Heineberg observes, incautious use of the instrument is capable of inflicting serious injury, especially in cases of acute infection of the genital tract; and in pregnant patients it would, of course, be absolutely inadmissible. It remains to be seen, therefore, whether a method which is subject to so many restrictions will yield information of sufficient importance to justify its application on any considerable scale. Whether or not, it is an interesting venture. The progress and manifold applications of the endoscopic plan of diagnosis during the past 50 years constitute a remarkable illustration of the psychological fact embodied in the popular saying, "Seeing is believing."

PATHOLOGICAL ANTAGONISM IN RELATION TO DIABETES.

IT is a clinical fact, to which, perhaps, too little attention has been paid, that one disease may appear to antagonise another. In this relation erysipelas may afford a striking example, an attack cutting short other conditions. The explanation of these facts is not at present known. There are other ways, too, besides that of one disease by its incidence obliterating the effects of another which demonstrate this antagonism. Thus one disease may replace another when the former is intermittent in incidence; or direct medical intervention, such as a surgical operation, may check an old-standing pre-existing disease, against which such intervention was not primarily directed. H. S. Stark in the *Medical Record* (1914, vol. lxxxv., p. 645) records some interesting observations in relation to diabetes. He recognises three groups in which pathological antagonism can be noted. (*a*) Where an intercurrent symptom checks the glycosuria. In two cases of diabetes an attack of urticaria stopped the excretion of sugar. More interesting than these, perhaps, was a case of diabetes in which the patient contracted syphilis. So long as the Wassermann reaction was positive the glycosuria persisted; when the negative reaction occurred there was cessation of the excretion of sugar. A second case showed similar findings. (*b*) Where an intercurrent disease checks the glycosuria. In this relation he has noted the cessation of the sugar following the advent of pneumonia and also of typhoid fever. (*c*) Following operation, cessation of the sugar excretion. He comments, too, upon the supposed intimate connexion between pulmonary tuberculosis and diabetes. It is held that the diabetic is especially prone to succumb to phthisis. This view requires modification, but it is, conversely, a clinical finding that pulmonary tuberculosis itself appears to lessen the susceptibility to diabetes. Possibly in this connexion there is to be seen a similar pathological antagonism, the onset of tuberculosis in diabetes being explainable solely by the lowered vitality of the diabetic and not by any especial susceptibility which diabetes in itself confers upon the patient. Observations of this general character are favoured by long acquaintance with the patient. Such are not easy to make in general hospital work, and it is probable that additions to our knowledge would be more easily made by the general practitioner with his long individual familiarity with his patients rather than by the hospital physician.

NEURALGIA OF VENOUS ORIGIN.

Professor L. Edinger, of the Neurological Institute in Frankfort, deals with a little recognised, if not infrequent, condition in a recent number of the *Berliner Klinische Wochenschrift* (No. 11, 1914). Many differing morbid changes may produce neuralgic pains in the lower extremities, often grouped indiscriminately as sciatica, and the better acquainted the physician becomes with these the less likely is he, in practice, to meet with cases of neuralgia pure and simple, for the obvious reason that the underlying pathological state does not escape him. Insufficient examination is, however, only too prone to lead to failure in treatment if once so comprehensive a diagnosis as sciatica is made; content with that, the spirit of investigation seems to go to sleep. Professor Edinger describes several cases that have recently come under his notice with a ready-made diagnosis either of sciatica or of crural neuralgia; not the diagnosis, but the failure to effect a cure led to their being sent to him. Yet until the etiology was recognised therapeutic endeavour was necessarily fruitless. One of these cases was that of a healthy man, aged 22, who received a kick on the left shin just below the knee when playing football; unfortunately an iron firescreen fell on exactly the same spot not long after, with the result that, following on a severe local hæmorrhagic effusion, acute pains developed in the limb, on which eight weeks' rest in bed and numerous forms of treatment had little or no effect. For no less than three years the pains continued in spite of every attempt to relieve them. The patient was able to cycle for some distance, but the pains came on if he had to climb an ascent. He was able to ride on horseback, though pressing his knee against the horse's side induced the pain. He could walk upstairs quite well and always felt the pains worse if he stood for any time. The contradictory nature of the complaint, as it appeared to some physicians, had led to a diagnosis of hysteria. There were no signs of organic nervous disease. Professor Edinger noticed on examining the patient that some superficial veins over the calf were dilated, and the idea of a varicose condition of the veins of some nerve trunk, or in the neighbourhood of a nerve trunk, came to him. The simple application of an elastic bandage effected a speedy and permanent recovery. Another case was that of a medical man, aged 56, who, after a chill, developed so-called sciatica in the left leg. Yet the pains were worse on standing or sitting, while walking always relieved them. They were localised mainly on the back of the knee, but were felt also in the buttock; their frequent appearance at the head of the fibula led to a diagnosis of peroneal neuralgia, but this the patient himself would not accept, although it was clear that they began in that region. The whole leg below the knee ached, while pressure on the sciatic nerve at the sciatic notch was painful. The pains were always alleviated by walking upstairs and aggravated by standing or walking slowly. Every conceivable treatment for sciatica was at one or other time utilised, but without result. The patient, however, was one day examined in a standing and not a recumbent attitude, when small varicose veins were noted on the back of the knee and a diagnosis of deep varicose veins made. Treatment along suitable lines at once led to a satisfactory cure. The value of examination in a standing position is emphasised in all the cases here published by Professor Edinger. No doubt pain in association with varicose veins is familiar enough to the clinician, but the possibility of a deep varix, either in or near a nerve trunk in ambiguous cases of crural neuralgia, is well worth keeping in view. Researches by Reinhardt and Spalteholz, using the injection method, show that in its upper part the inferior gluteal vein lies directly on the sciatic nerve; from it the descending vena ischiadica accompanies the nerve, either lying superficially or actually embedded in the nerve. At intervals along the nerve junction is effected with small neighbouring veins, and at the knee there are anastomoses with the small saphenous and the popliteal. Varices are most apt to occur where anastomoses are found. There are in addition, however, much smaller veins running in the nerve trunk itself, a varicose condition of which could not be detected by clinical examination. Professor Edinger's paper serves a useful purpose in directing attention to this aspect of neuralgia of the lower extremities.

CONTROL OF GLANDERS.

THOUGH the number of deaths that are due to glanders is small, yet the almost invariably fatal nature of the malady makes it one which requires the most careful attention from public health authorities, while its incidence on the horse population is a cause of much pecuniary loss to owners and of suffering to the animals. It may, therefore, not be amiss to consider the methods adopted in other countries for the control of this disease. The February Bulletin of the Department of Health of the City of New York is devoted to this subject and gives an account of the methods of diagnosis there employed. Human deaths from glanders in New York average about 3 a year, the highest number recently being 5 in 1912, and the lowest 1 in the following year. When a case of glanders is recognised in a stable, blood is taken from all the other horses and examined by the complement-fixation test. This is analogous to the Wassermann reaction as used in the diagnosis of syphilis, the antigen being prepared from pure cultures of bacillus mallei. If a positive reaction is obtained, the animal from which the blood was taken is then examined further by means of the conjunctival test, analogous to Calmette's reaction in tuberculous human beings, four or five drops of undiluted mallein being dropped into the conjunctival sac. In infected horses a reaction commences within six or eight hours and may last from 36 to 48 hours, the eye becoming inflamed and giving rise to a purulent secretion. These two tests applied together are held to give a certain diagnosis, and animals which react to both are destroyed on the strength of them. Other tests for the disease are the intradermal method of injecting mallein, by which a localised swelling in the skin is produced in infected horses, and the agglutination reaction, in which a positive result in a dilution of 1:1000 or over is held to indicate the existence of glanders. The original method of subcutaneous injection of mallein does not seem to be now so often employed, but with care it is also capable of giving reliable results, a rise of temperature of not less than 2·5° F. being considered positive evidence, the temperature of the horse's body rising to at least 103°. Horses which have been exposed to infection, but which give a negative reaction to the tests used, should be examined again after 15 days' interval. It seems that the agglutinins are the earliest antibodies to appear in the course of the infection, being present within the first four or five days. The specific amboceptors upon which the complement-fixation test depends are likely to appear within a week or ten days after infection, while the conjunctival reaction cannot be relied upon to appear before the lapse of three weeks. It must further be remembered that an injection of mallein for diagnostic purposes may itself give rise to the formation of antibodies, which may remain for six or eight weeks, while a vaccine of glanders bacilli may cause the continued presence of these bodies for a period of three months or more.

A PROVINCIAL SYPHILIS DISPENSARY.

THE account given by Dr. E. Malvoz, in the April number of the *Revue d'Hygiène*, of the organisation and work of the Ehrlich dispensary in Liége will interest many English readers, particularly those who have insisted that action by public authorities in this country to diminish syphilis can be successful without requiring compulsory notification of the disease. The Liége dispensary serves the city and province of that name. It is situated in a quiet corner of the town, on the banks of the Meuse, and contains laboratories at which Wassermann tests and other pathological work are done and injections are prepared, as well as the ordinary equipment of a dispensary. The staff comprises an administrative officer, four physicians, a bacteriologist, and a pharmacist, and the consultation days for men include Sundays at 9 A.M. and Saturdays at 8 P.M. From June, 1912, to December, 1913, 833 persons have been treated at weekly attendances, of whom 479 came from communes in the province outside the city. The great majority have come for treatment in the primary or secondary stage, mainly at the instance of the local practitioners, whose coöperation has been very assiduously sought by the management of the dispensary. The dispensary does not undertake the treatment of locomotor ataxy, general paralysis, or other "parasyphilitic" affections which are referred to other establishments. The salvarsan injections hitherto have been made without any untoward results, and in all cases the patient has been able to return home after the injection. Little difficulty seems to have been found in securing that the patients continue to attend for after-observation, and it is made a strict condition that they will keep in necessary communication with the dispensary for some years, so that the results of the treatment can be properly ascertained. The medical staff, according to the system, at no time know of any patient except under a number given to him on his application. Dr. Malvoz states that the patients are greatly struck with the precautions taken in this respect, and that it is one of the causes of the success of the undertaking. Practically the whole of the expense is defrayed jointly by subventions from the municipality and from the province of Liége. Diagnostic tests are free to everyone on making an application endorsed by a medical practitioner; the treatment so far has been limited to those whom there is reasonable ground to suppose would be unable to afford the cost of a "cure stérilisante." Special arrangements are made for pregnant women. The circulars as to the aim and functions of the dispensary, issued under municipal authority to medical men, local administrative bodies, and the public, are admirably drawn up with a view to encourage application at the earliest time after diagnosis, and the committee of the dispensary has issued a strong appeal to the various insurance societies to reverse their usual practice of withholding benefit from members attacked by syphilis. The progress already made seems sufficiently substantial to make this system of municipal action worthy of the attention of the English Royal Commission from the point of view of its applicability to English local public health administration.

THE annual dinner in London of the Indian Medical Service will be held at the Hotel Cecil on Monday, June 8th, at 7.45 P.M. The Edinburgh dinner of the Indian Medical Service will be held on Friday, May 29th, in the Caledonian United Service Club, Sir Alexander Christison, Bart., in the chair. Application for cards for the Edinburgh dinner should be made to Colonel Arnott, 8, Rothesay-place, Edinburgh.

THE Medical Society of London will hold a conversazione at 11, Chandos-street, Cavendish-square, on Monday evening, May 18th, at 8.30. The annual oration will be delivered by Mr. Robert Jones at 9 P.M. on the Surgical Aspect of Poliomyelitis. During the evening the society's Fothergillian medal will be presented to Professor J. G. Adami, F.R.S., of Montreal.

THE Ingleby lectures for 1914 will be delivered on Thursdays, May 21st and 28th, at 4 P.M. in the Medical Lecture Theatre of the University of Birmingham, by Dr. T. Stacey Wilson, physician to the Birmingham General Hospital, on the subject of Neurasthenia: Its Causes and Cure.

INVALID CHILDREN'S AID ASSOCIATION.—The annual meeting of this association will be held at Seaford House, 37, Belgrave-square, S.W., on May 19th, at 3 P.M. Field-Marshal Lord Methuen will preside, and the Bishop of London and Sir Thomas Barlow will be among the speakers. Application for tickets may be made to the secretary, 69, Denison House, Vauxhall Bridge-road, S.W.

THE INTERNATIONAL SURGICAL ASSOCIATION.

(FROM OUR OWN CORRESPONDENT.)

(Continued from p. 1271.)

THE Congress resumed its sittings, under the presidency of Dr. A. Depage, at the Hotel Astor, New York City, on Tuesday, April 14th. The morning and afternoon sessions were devoted to the reading and discussion of papers on gastric and duodenal ulcers. Wednesday's sessions were given up to papers and discussions on grafts and transplantations, while on Thursday the discussion on the surgery of gastric and duodenal ulcer was concluded.

Gastric and Duodenal Ulcers.

Dr. F. de QUERVAIN (Basle) was on the programme for the first paper, dealing with the diagnosis of gastric and duodenal ulcers. As he was not present his paper was taken as read. His communication dealt in particular with clinical and radiological diagnosis of these conditions and the problems concerned therewith. He affirmed that apart from certain well-established facts there remain a great number of open and controversial questions, and he confined himself to those problems in diagnosis which are still uncertain, in the hope that the Congress would throw some light upon them. The debatable questions selected by him were the following:—1. What is the frequency of spasm in the superficial ulcer of the lesser curvature? 2. Under what conditions does this spasm occur in the absence of any ulcer? 3. What are the surest and most practical distinguishing signs between pyloric spasm and pyloric stenosis in the beginning? 4. What is the diagnostical meaning of the persistent repletion of the duodenal bulb ("gastric bonnet")? 5. What is the symptomatological value of the duodenal movement of the stomach? 6. What differentiation is there between duodenal ulcers encroaching upon the pylorus, true pyloric ulcers, and duodenal ulcers of low situation, from the point of view of their action on the pyloric reflex and on the gastric chemistry? 7. What are the surest radiological signs of adhesions in connexion with the stomach and duodenum?

The next paper was a joint contribution by Dr. H. HARTMANN and Dr. P. LECÈNE (Paris), which was read by Dr. Hartmann. The authors expressed the opinion that while duodenal ulcer was certainly more frequent, its frequency had been exaggerated, and in France, at the very least, they had noticed on an average one ulcer of the duodenum for eight or ten ulcers of the stomach. Moreover, they thought that the clinical criteria and the anatomical characteristics, the situation and disposition of the pyloric vein, were far from being beyond criticism. In their opinion the symptomatology described by Moynihan was simply that of pyloric spasm, while as for the pyloric vein it was very unreliable as regards situation and disposition. At the base of callous ulcers of the stomach, which were situated especially on the lesser curvature, were frequently to be found evidences of neuritis in the small nerve ganglions lying in the substance of the sclerosed muscular coats. These changes might account for the persistent pains which were often the predominant symptom of such ulcers. With regard to surgical treatment the authors preferred posterior gastroenterostomy performed on the pyloric antrum itself.

Dr. W. J. MAYO (Rochester, Minnesota) read a paper on

Chronic Ulcers of the Stomach and Duodenum.

He pointed out that the first case of pyloric obstruction was operated upon in St. Mary's Hospital, Rochester, in 1895, a Heinicke-Mikulicz pyloroplasty being performed. The second operation was a gastro-jejunostomy with the Murphy button. From 1900 to 1906 it was recognised that obstruction was a terminal condition, and studies were undertaken with a view to the early termination of the malady. The suture took the place of the Murphy button and the posterior method of gastro-jejunostomy replaced the anterior method. From 1906 to 1914 the relation of the clinical symptoms to the lesion came to be better understood, the Roentgen ray took the first place in the diagnosis of these lesions, the value of the purely laboratory examination of gastric contents was found to have been overestimated, and the necessity for the excision of gastric ulcers, because of the menace of cancer, was recognised. Dr. Mayo laid stress on the point that in differentiating between an ulcer in the pyloric end of the stomach and one in the first portion of the duodenum the situation of the pyloric vein is the determining factor. He explained that the terminal three-fourths of an inch of the pyloric end of the stomach was not often involved in ulcer. The more common seat of gastric ulcer was along the lesser curvature, often saddle-shaped. The ulcer was more often on the posterior than the anterior wall, but whether situated anteriorly or posteriorly a superficial ulcer at the point of contact often appeared on the opposite wall—the "contact" ulcer. Multiple ulcers were not frequently found at operation, contrary to the early views based on clinical observations and post-mortem findings in deaths due to acute ulcerative processes in the stomach. These processes were usually gastro-toxic in origin and not often the source of chronic ulcer. The character of ulcers of the duodenum differed in many respects from that of ulcers of the stomach. They were usually to be found in the upper two inches of the duodenum and more often in the antero-superior wall. When found on the posterior wall they were usually of the same character as when found in the stomach. As a rule, the duodenal ulcer had its origin below the pylorus, but when it extended towards the stomach it usually stopped short at the pylorus, which it might undermine. In exploring for ulcers of this description there was occasionally a difficulty in discovering the posterior ulcer because it was concealed under the projecting pyloric ring. The mucous membrane of the upper duodenum was thin and glandular, and ulcers confined to the anterior wall, if they assumed eventually the crater-like character of the gastric ulcer, would develop into a localised mass over the site of the ulcer. Often, however, no crater was found in the mucous membrane in duodenal ulcer, but rather a discoloured, motheaten-looking patch, in the centre of which might be a dimple-like ulcer and outside this a typical induration. This variation from the ordinary type of ulcer probably explained why duodenal ulcers had so often been overlooked at necropsy. Dr. Mayo thought that permanent healing of chronic ulcers of the stomach and duodenum by non-operative means must be of rather infrequent occurence. Gastro-jejunostomy was the most generally useful operation for gastric ulcer, and had a wide field of application. Especially was this true when there was obstruction in the vicinity of the pylorus. While posterior gastro-jejunostomy was the operation of choice, in certain cases adhesions might prevent its use. In these cases the anterior operation had given good results. Dr. Mayo insisted that because of the menace of cancer all ulcers of the stomach, without regard to their situation, should be excised if possible. Local excision of the ulcer without gastro-jejunostomy had sometimes failed to effect a cure. Therefore, as a rule, gastro-jejunostomy should be done in addition to excision. Gastro-jejunostomy was a most satisfactory operation in all those cases of ulcer of the duodenum in which there was actual or potential obstruction. Moynihan had been followed in enfolding the ulcer with fine silk and placing one or two sutures in such a manner as to block the pylorus to prevent food from entering the ulcer and during the healing period. This blockage by suture could not be expected to be permanent, but in connexion with the permanent obstruction produced by healing of the ulcer it usually answered the purpose. If there were neither actual nor potential obstruction, this blockage should be accomplished by more efficient means. Referring to the results of operative procedures, Dr. Mayo thought that at least 95 per cent. of those with gastric ulcer would be cured or greatly relieved by operation. The operative mortality in the gastric ulcers at St. Mary's Hospital, Rochester, counting all cases dying in the hospital without regard to the length of time after the operation or to the cause of death, was 3·8 per cent. The results in duodenal ulcer were extraordinarily good, 98 per cent. of the patients either having been cured or greatly relieved by the operation.

Dr. E. PAYR (Leipsic) read a paper on

Ulcers of the Stomach and Duodenum.

He maintained that with regard to etiology and pathogeny there were two principal theories: (*a*) that of a gastric or duodenal vascular lesion (thrombosis, embolism, sclerosis);

and (*b*) nervous origin by vaso-motor spasm leading to a localised ischæmia of the mucosa; the cause of this spasm will be a disturbance of the sympathetic nervous system. Neither of these theories was sufficient to explain every case, and many points in gastro-duodenal biological chemistry were still unexplained. Some mechanical causes operated in the localisation and the form of the ulcers. Bacterio-toxic lesions also played a certain part. With regard to variety, Dr. Payr distinguished two types of duodenal ulcer according as its position was on the anterior or posterior wall. The first presented more a tendency to perforation, the second to hæmorrhage. Between the ulcer of the duodenum and that of the stomach there existed very appreciable anatomical and chemical differences. With regard to degeneracy, Dr. Payr said that cases of malignant transformation of ulcers undoubtedly occurred, and such "cancerised" ulcers could be readily distinguished from ulcerating cancers. But it was often difficult to differentiate these two types from simple callous ulcers, especially when it was a question of cancers possessing numerous fibrous tissues such as Thomson's fibroids. Ulcer and cancer might also coincide in the stomach. Ulcer of the duodenum showed very rarely a carcinomatous degeneracy. With regard to technique, the callous ulcer of the stomach should be resected whenever the general condition of the patient permitted, especially when it was a question of small ulcers situated at a distance from the pylorus at the lesser curvature and on the posterior surface. In all other cases posterior gastro-enterostomy was the operation of choice. The excision of gastric ulcers, unless accompanied by gastro-enterostomy, generally gave unsatisfactory results on account of the persistent pylorospasm. For duodenal ulcer the best intervention consisted of a gastro-enterostomy combined with a unilateral pyloric exclusion after von Eiselsberg's method. If this operation was not feasible the best way was to shorten the pylorus by means of an aponeurotic band or a suspensory ligament. It was necessary to bury the band under a sero-serous continuous suture. The exclusion of the pylorus might be combined with a suspension of the stomach. Von Eiselsberg's technique alone gave certain results. In ulcers of the lesser curvature and those of the posterior surface total segmentary resection with axial suture of the stumps gave the best results. Gastro-enterostomy for simple or callous ulcers necessitated a consecutive treatment of atropine and alkalies for at least a year. In cicatricial stenosis of the pylorus gastro-enterostomy gave excellent results; but with active ulcers, especially when distant from the pylorus, the results were less reliable. Only in 50 to 66 per cent. of these cases was success achieved. The mortality in resection of ulcers, especially by the total segmentary method of Riedel, was 10 per cent. or less, but it remained higher than that of gastro-enterostomy. The clinical results of resection were good.

(*To be concluded.*)

MEDICINE AND THE LAW.

The Workmen's Compensation Act.

His honour Judge Mulligan, K.C., recently delivered judgment at Norwich declining to review an award of 5s. a week made to a labourer named Page in respect of injuries received in the service of his deceased employer, Mr. H. Hammond. The ground for the application was that the workman's present incapacity was not due to the accident. It was admitted that Page was unable to earn full wages, that since the date of the accident general paralysis of the insane had supervened, and that at an earlier date when he could have done light work he did not try to get it. His honour in giving his decision based it on Plumb *v.* Dawson, a case decided in December, 1913, and upon findings of fact which he stated thus:—

1. A constitutional predisposition rendered Page more prone to succumb to the malady than a man of normal condition.

2. The accident preyed on his mind and set up over-excitement of the brain, which either formed part or was an offspring of the original injury.

3. The worry worked on the over-susceptible brain and was the exciting cause of the malady.

4. The malady had destroyed conscious volition and thereby incapacitated the man for work, for he was bereft of will-power by the accident.

5. Had it not been for the enforced illness consequent on the accident and for the attendant privations and worries, multiplied as they were by the unjust stoppage of all compensation in January, 1913, Page would now in all probability be doing his usual work.

6. The incapacity of Page for work was one of "the entire results causally connected with the injury." (Ball *v.* Hunt, 1, W.C.R. 267.) The chain of causation was complete.

Wall v. Gretor.

Mr. Justice Lush, sitting without a jury, was occupied recently for some time with the trial of an action brought by Mr. V. F. Wall against Mr. W. Gretor to recover £141 19s. for medical attendance. According to the plaintiff's case he attended the defendant, who was addicted to morphia, from January to October, 1913, and ceased to do so on account of offensive observations made to him by the defendant in the presence of the defendant's servant with regard to his (the plaintiff's) personal appearance and clothing. He charged a guinea for ordinary visits and 2 guineas for visits of more than 30 or 40 minutes and for visits after dinner. The defence was that the charges were excessive. Evidence was given on both sides, alleging and denying a verbal arrangement as to the fees to be charged. The defendant himself was not present at the trial, and his evidence had not been taken on commission. Mr. Justice Lush, in giving judgment, observed that the defendant was a gentleman of considerable means who suffered from the habit of taking morphia in large doses, and that medical men undertaking such cases would probably make arrangements beforehand to charge special fees. It was necessary for the medical attendant to acquire, if possible, influence over his patient. The plaintiff, he found, had made the bargain referred to above, and there was no reason for abating the sums charged. No charge in some instances had been made where it would have been reasonable to make one. Deducting 2 guineas for an occasion when the plaintiff and his wife had dined with the patient, his lordship gave judgment with costs for the amount claimed, less £40 paid into court.

The Privilege of Medical Witnesses.

The question of a medical man's duty with regard to his patients[1] and of his *right to claim* privilege in the witness-box was again raised in a county court, and in a claim under the Workmen's Compensation Act, in an arbitration before his honour Judge Longstaffe, at Dewsbury. The claimant for compensation had been burnt in an explosion of gas when lighting a lamp in the early morning, and it was alleged on the part of the employers that on Dec. 6th, on which day she went to her home, she had been pronounced by a medical man to be likely to recover in two days, her claim being for compensation up to Jan. 5th. The employer's solicitor accordingly proposed to put Mr. G. Patterson, medical attendant under the Insurance Act to the claimant, in the box, to which her advocate objected. The judge ruled that the matter lay between Dr. Patterson and his own conscience, and he was sworn. On his being asked a question as to the condition of his patient when under his care, he was told by Judge Longstaffe that he was not obliged to answer it, but he said that he saw no reason why he should not do so. When his answer was heard it was found to be to the effect that on Dec. 6th there was still injury from the burn, but that he thought it would be better in a few days. From the condition of the girl's arm when he saw it he thought she might be incapacitated till Jan. 5th. This was the date on which according to the claimant's own case her incapacity ceased, and judgment was given for her for the amount claimed. It will be seen, therefore, that the evidence of the medical attendant was in favour of his patient's case, and that the objection raised on her behalf to his giving evidence was not necessary. He undoubtedly exercised rightly his discretion, but a different problem would have arisen if the result of his observation had been that the claimant was asking for compensation to which she was not entitled. If this had been so, his evidence, if given, would have been detrimental to his patient's case. As to this some will say that he would then have done rightly in declining to answer, others that he would have been right if he had spoken out and assisted the court to arrive at a just decision. It is in fact as well as in law, as the judge pointed out, a matter of conscience. Probably in practice if a medical man is not called on behalf of his patient and declines to answer questions when asked by the other side who have put him in the witness-box, an inference hostile to his patient is usually to be drawn, so that the result is not likely to be very different from what it would be if he spoke out. In the particular case described above it is to be supposed that neither side knew what the medical man was prepared to say, and it may even be suggested that if they had known the case might not have come before the judge.

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[1] THE LANCET, April 4th, p. 978.

Henry Delvine, "Cancer Expert."

At the Central Criminal Court Henry Delvine, whose exploits as a "cancer expert" have attained for him notoriety through numerous prosecutions having been initiated against him in the country as well as in London, was sentenced to 15 months' imprisonment with hard labour. We need not tell the story of the case in detail, as the press has given full publicity to it. The indictment charged him with obtaining money by false pretences and he pleaded guilty to it. One of the methods frequently adopted by Delvine was to administer a supposed treatment and then, after personally examining the patient either alone or with only a person employed by himself present, to produce a piece of animal offal purchased from a butcher which he would display as "a removed cancer." It may be mentioned as showing the hold which the prisoner acquired over the public that he was recently charged at Downham Market with a criminal assault upon a married woman alleged to have been made under the pretext of an examination, and that when the magistrates dismissed the charge Delvine was carried shoulder high through the town. Before he was sentenced he was described by counsel for the prosecution as being an illiterate person, who had been a soldier, a county court bailiff, and a labourer.

SOCIAL WELFARE ASSOCIATION.—The annual meeting of this association will be held at the Mansion House on Monday, May 18th, at 3 P.M. The Lord Mayor, as President of the association, will preside.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

MEETING OF COMITIA.

A COMITIA was held on April 30th, Sir THOMAS BARLOW, Bart., K.C.V.O., the President, being in the chair.

The following gentlemen having passed the required examination were admitted Members of the College:—Richard Robins Armstrong, M.B. Cantab., L.R.C.P.; George Ernest Beaumont, M.B. Oxon., L.R.C.P.; Harold Black, M.B. Belf. (Birmingham); Arthur Neville Cox, M.D. Lond. (Brighton); Trevor Braby Heaton, M.B. Oxon.; Geoffrey Hoffmann, M.B. Cantab., L.R.C.P.; William James O'Donovan, M.D. Lond., L.R.C.P.; Frederick Paine, L.R.C.P. (Woodford Bridge, Essex); John George Porter Phillips, M.D. Lond., L.R.C.P.; Arthur John Scott Pinchin, M.D. Lond., L.R.C.P.; Thomas Henry Gostwyck Shore, M.B. Cantab., L.R.C.P.; Atul Krishna Sinha, M.B. Cal., L.R.C.P.; and Kenneth Douglas Wilkinson, M.D. Birm. (Birmingham).

Licences to practise physic were granted to 105 gentlemen who had passed the required examinations.

The following Members were elected Fellows of the College:—Cuthbert Henry Jones Lockyer, M.D. Lond.; William Mitchell Stevens, M.D. Lond. (Cardiff); Arthur Stanley Barnes, M.D. Lond. (Birmingham); James George Taylor, M.D. Cantab. (Chester); Dudley William Carmalt-Jones, M.D. Oxon; Samuel Alexander Kinnier Wilson, M.D. Edin.; Hector Charles Cameron, M.D. Cantab.; John Foster Gaskell, M.D. Cantab.; Gordon Morgan Holmes, M.D. Dub.; Robert McCarrison, M.D. R.U.I. (Bombay); Frederick Gowland Hopkins, M.B., D.Sc. Lond., F.R.S. (Cambridge); and Sir Alfred Henry Keogh, M.D. Q.U.I.

Sir William Boog Leishman, M.B. Glasg., F.R.S., was also elected a Fellow under By-law LXXI (b).

The following communication was received: From the Secretary of the Charity Commissioners informing the College that the Commissioners have at present under consideration proposals for a scheme of consolidating the British Lying-in Hospital, Endell-street, and the *Home for Mothers and Babies, Woolwich*, and constituting a managing committee for the administration of the "Maternity Hospital and School for the Higher Training of Midwives," to the establishment and maintenance of which at Woolwich it is desired that the funds of the consolidated charities should be made applicable. The Commissioners *inquired* whether the College would be prepared to nominate a representative of the College on the managing committee. It was resolved to consent to the proposition.

After some further formal business the PRESIDENT dissolved the Comitia.

Public Health.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On an Outbreak of Enteric Fever at Kenilworth, by Dr. E. P. MANBY.[1]—This report, which is illustrated by diagrams and a map, gives an interesting account of a small epidemic, affecting 44 persons, which lately occurred in the town of Kenilworth, and was clearly to be attributed to the pollution of the public water-supply. Forty-one of the cases were attacked between Nov. 22nd and Dec. 25th, 1913, 26 of these falling ill between Dec. 5th and 12th. The affected dwellings were scattered over the whole town; all were in the area supplied by the Kenilworth Waterworks Company, and no other source of epidemic infection, such as infected milk, was to be discovered. The water is partly obtained by pumping from two bore wells in the town, each over 200 feet deep, and provided that the tubes are sound and do not admit surface soakage, this portion of the supply is above suspicion in the matter of purity. After obtaining powers from Parliament in 1882 to supply water from wells, however, the company proceeded two years later to construct, in addition, what is termed in the report an "adit."

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[1] Local Government Board Medical Reports, New Series, No. 90. London: Wyman and Sons, Fetter-lane; Edinburgh: H.M. Stationery Office; Dublin: E. Ponsonby. Price 1s.

but seems to have been merely a deep trench near the waterworks, which was bricked over and covered with earth. Ever since, until the recent outbreak, the company have continued to use the adit water as an integral or even as the main part of their supply, its use being particularly convenient, as it diminished the amount of pumping required. The adit intercepts water flowing underground towards the Finham Brook, and had an overflow into this stream, which was protected only by a flap cover, with the result that when the water in the stream was high a reverse flow into the adit could take place. This must have happened about the middle of November, at which time the Finham brook, which ordinarily receives the storm overflow from a section of the Kenilworth sewers at a point above the waterworks, was exceptionally polluted in consequence of one of the branch sewers having become blocked, thus bringing the storm overflow into operation. Among the earliest cases of the series was one which occurred early in November in a house draining to this branch sewer. Perhaps the most remarkable part of the story is the local ignorance which seems to have prevailed for so many years as to the existence of this substantial risk to the purity of the supply. Once the epidemic occurred and the water was looked into by the responsible authorities the source of pollution was self-evident. Dr. Manby considers that the principal reason that the risk has been so continuously ignored is "no doubt that the adit had so long been in existence that it was accepted by all concerned as an established source of supply, recognised by Parliament, and needing only occasional analytical checks rather as a matter of form than as an essential safeguard against an actual risk." As a fact, some of the analyses made in the past did give some indications that impurities might be gaining access to the water-supply, but these were not followed up. The report states that responsibility in these matters must rest with the water company. The district council might have done more in the way of control analyses, but they had not the facts as to the sources and origin of the supply fully before them, and in any case had no responsibility for furnishing a supply of good quality. The lesson of the outbreak is an old one, but there are probably not a few parts of the country where it can still profitably be learnt, and where the surroundings of local wells and the origin of the water should be inquired into without waiting either for an outbreak of water-borne disease or for a definite condemnatory analysis. The other feature of interest was the appearance between Nov. 19th and 25th of a general outbreak of gastro-enteritis in the town, almost immediately after the date on which the sewage pollution of the water of the adit appears to have occurred, and more than a week before the enteric fever became generally epidemic. This occurrence recalls the preliminary gastro-enteritis which has been reported in other water-borne epidemics in England and America. Dr. Manby notes that "gastric influenza" was prevalent in this part of Warwickshire at the time, and that this form of sickness was occurring about the same time in villages near Kenilworth which do not receive the Kenilworth water. On the whole, however, he concludes that the contaminated water-supply was responsible for a number of the cases of gastro-enteritis which so suddenly appeared in Kenilworth in the period in question. Some residents, both medical and lay, suggested that 50 per cent. of the inhabitants of the town were attacked by it, and all agreed that very few households escaped altogether. Some attacks were severe, but no deaths resulted. The enteric fever mortality itself was not severe; only 4 deaths occurred. The report testifies to the unremitting efforts of Dr. C. E. Tangye, the medical officer of health, and the officials of the district council and the waterworks company to deal with the outbreak. The advice of Dr A. C. Houston was obtained for the disinfection of the water mains, which was accomplished by the addition from a tank of sodium hypochlorite in quantity sufficient to run chlorinated water through the mains on the first day at a strength of 1 in 100,000, and on the second of 1 in 50,000.

REPORT OF THE MEDICAL OFFICER OF HEALTH OF JOHANNESBURG FOR 1912-13.

Dr. Charles Porter now has under his charge the public health of a population which exceeds a quarter of a million. The municipal area of Johannesburg measures about 11 miles across in one direction and nine in another, and by the standards of large English cities its resources for public works would be enormous, as its property has a value for rateable purposes of 33 millions, and in 1912–13 a 1*d.* rate produced about £100,000. The main water-supply, from deep wells in the dolomite at Zuurbekom, 18 miles west of Johannesburg, is said to be of exceptional purity, but a supplementary supply from the Klip River valley, to which surface water gains access, has been considered unsafe in its natural state, and for the past six years has been treated with chlorinated lime (guaranteed over 30 per cent. available chlorine) in the proportion of 13 lb. per million gallons. The results are stated to have been satisfactory. An after-process for softening the water has proved almost useless, and has been abandoned pending the introduction of a new scheme. Sewerage on the separate system is being extended, but the majority of the houses are served by a system of daily collection of night soil and slop-water, which are turned into the sewers at special intakes. Among other municipal services special reference should be made to the public abattoir, opened in 1910, the veterinary director of which contributes a report which shows that it has so far yielded a profit on the capital invested, and secures a very thorough means of satisfactory inspection of the meat supply. The percentage of tuberculous cattle is given at 0·13 and of tuberculous pigs 0·97. Reciprocity with other towns has been arranged in regard to meat inspection. Butcher's meat is admitted without charge into the Johannesburg municipal area if it bears the stamp of a municipality which has itself power to enforce meat inspection charges and admits free of charge butcher's meat bearing the Johannesburg meat stamp. Each municipality concerned, however, reserves to itself the right to subject the meat to any further inspection which seems necessary. A report on the circumstances of milk production in and around Johannesburg, made by the acting assistant medical officer of health, Dr. J. Pratt Johnson, is much less satisfactory. This report relates less to disease of milch-cows than to the contamination of milk by dirt, which appears commonly to take place on a considerable scale at many points on the way from the dairy to the consumer. Special complaint is made of the contamination which results from the usual practice of leaving the conduct of the dairy to Kaffirs, from the filthy water used for cleaning bottles and other dairy purposes, from access of flies, and other causes. Dr. Johnson's report contains a number of practical suggestions for improvement, and Dr. Porter, in an introduction to the report, urges the necessity for special dairy inspectors, and represents that, failing reforms effected by voluntary coöperation of farmers with the health authorities, the practicability of a large measure of municipalisation of the milk trade must be seriously considered. The general death-rate for 1912–13 was 19·49 per 1000; that among the white population, which numbers 134,000, was 11·3; among the natives 28·4; and the group of "Eurafricans and Asiatics" 24·4. The birth-rate of the white population remains high, 32 per 1000, and their infantile mortality rate was 99 per 1000 births. The death-rates from tuberculosis and miners' phthisis respectively during the year were, among the white population, 0·36 and 0·52; among the natives, 3·45 and 0·82; and among Eurafricans and Asiatics, 2·16 and 0·13. Pneumonia has, as usual, represented the principal cause of death among the native population. The Tuberculosis Commission appointed in 1912 has, in addition to a reference to investigate the extent and causes of the prevalence and spread of tuberculosis in various forms among all classes of the population, the duty of reporting on the extent and causes of the mortality among natives employed on the Witwatersrand mines and their susceptibility to pneumonia. The isolation hospital provision for Johannesburg appears to be made by the Government, the municipality being charged a fixed rate per case. A new isolation hospital is now to be erected. The occurrence of scurvy among some of the natives employed by the corporation has led to a careful study of their diet scale by Dr. P. G. Stock, who shows that it has fallen short considerably in protein, fat, and salt, and recommends an additional supply of bread and meat to make good these deficiencies, with a reduction in mealie meal, which when supplied should be in the form in which some of the germ and the husk are retained.

REPORTS OF SCHOOL MEDICAL OFFICERS.

County of Stirling.—Dr. T. Adam's report shows that the entrants, leavers, and two intermediate age groups of 7 and 10 years children were examined in the period under review. Much time is also given to special cases and reinspections. Only four or five per cent. of parents attend at the examinations. Nurse Gibson, school nurse, reports on following-up work and records an objection to treatment of a girl's squint by her mother, who said, "I've got a squint and I got a man, and surely she'll get a man even wi' her squint." The value of the report is very seriously reduced by the absence of index or contents.

Edinburgh School Board.—The schools in Edinburgh had 45,974 on the roll, and of these 26,173 were inspected during the year reviewed. Dr. J. Hally Meikle is able to record a successful experiment in providing meals at *5d.* a week for "semi-necessitous children." The average cost per meal was 1·7 pence, but this plan reduced the applicants for free meals. A good photograph is given of the cooking centre, and other pictures show the special and open-air schools. The Edinburgh Merchant Company Schools came for the first time into the system of medical inspection, and the children inspected varied from the age of 5 to 17 years. The character of the schools is unfortunately not made clear in the report, but they appear to correspond with high schools or secondary schools. Nutrition was much above the Edinburgh elementary school average in the Merchant Company Schools and above the anthropometric standard in nearly all cases.

Glasgow School Board.—In 10 schools in this area there are spray baths in operation and in 2 foot-baths. On one afternoon and two mornings an "examination clinic" is held by the chief medical officer, Dr. E. T. Roberts, at the offices of the board. Treatment of "necessitous" children is carried out under the education authority's direction by the work of eight part-time dentists, three anæsthetists, three oculists, one aurist, one dematologist, and six nurses. Skin diseases and ear discharge are also dealt with, favus and ringworm need special treatment, and an X-ray apparatus has been installed. 72·3 per cent. of the parents attend inspections. The report is well arranged and easy of reference, and contains useful matter concerning the various classes of special schools. The classes for semi-deaf, semi-mute, and young deaf children are continued.

Warwickshire County Council.—Dr. A. Bostock Hill's report shows that a very great deal of good work is being done, especially by the health visitors in the country districts. The distance difficulty is well brought out in the account of the mother who had to make a journey of 9 miles on 15 occasions, pushing a perambulator with the patient and a baby, to get treatment for ringworm. The same difficulty also has a considerable influence on the nutrition of school children, as those who live far from the school often bring with them "lunch" of an innutritious character. Important improvements have been made in school buildings, but indefensible "sanitary" conveniences appear to remain in connexion with too many.

Cambridgeshire County Council.—During 1912 the boundaries of the borough of Cambridge were extended and the county is now exclusively rural in character. Efforts are being made to cope with the problem of treatment, and arrangements exist for the provision of hospital letters to Addenbrooke's Hospital, for the purchase of spectacles, and for dental treatment. The hospital letter machinery, involving investigation by the education secretary, seems cumbrous. Only 41 per cent. of cases of enlarged tonsils and adenoids received treatment, and even this was an improvement on previous years. Dr. Frank Robinson notes the installing of a new type of sanitary pail which retains solid matter and permits the escape of liquid to a cesspool. Mr. A. W. Gant contributes a short report on the Stapleford dental clinic.

Huntingdonshire County Council.—Dr. C. B. Moss-Blundell hopes for the establishment of school clinics in connexion with the tuberculosis dispensaries. Advice is given to those who call at the medical officer's office on Saturday morning, and ringworm, skin disease, and cases referred from the school attendance officer have been seen. No other treatment agency as a part of the school organisation exists, and a large proportion of children go untreated.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 9059 births and 4938 deaths were registered during the week ended Saturday, May 2nd. The annual rate of mortality in these towns, which had been 15·0, 14·9, and 15·1 per 1000 in the three preceding weeks, declined to 14·2 per 1000 in the week under review. During the first four weeks of the current quarter the mean annual death-rate in these towns averaged 14·8, against 13·8 per 1000 in London during the same period. Among the several towns the death-rate last week ranged from 5·9 in Swindon, 6·6 in Eastbourne, 7·9 in Wimbledon, 8·3 in Coventry, and 8·4 in Willesden, to 20·6 in South Shields, 21·9 Middlesbrough, in West Hartlepool, and in Swansea, 22·0 in Plymouth, and 23·2 in Barnsley.

The 4938 deaths from all causes were 321 fewer than the number in the previous week, and included 453 which were referred to the principal epidemic diseases, against 438 and 445 in the two preceding weeks. Of these 453 deaths, 155 resulted from measles, 139 from whooping-cough, 59 from infantile diarrhœal diseases, 50 from diphtheria, 35 from scarlet fever, and 15 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·3 per 1000, and coincided with the rate in the two preceding weeks. The deaths attributed to measles, which had been 134, 153, and 140 in the three preceding weeks, rose to 155 last week, and caused the highest annual death-rates of 1·7 in Rochdale and in Sheffield, 1·8 in Merthyr Tydfil, 2·0 in Smethwick, 2·9 in Barnsley, 3·0 in Dudley, and 3·5 in Stockton-on-Tees. The deaths referred to whooping-cough, which had been 150, 117, and 166 in the three preceding weeks, declined to 139 last week; the highest death-rates recorded from this disease were 1·1 in Stoke-on-Trent, 1·2 in Middlesbrough and in Newport (Mon.), 1·3 in Gateshead and in Swansea, and 1·7 in Enfield. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 54, 61, and 66 in the three preceding weeks, fell to 59 last week, and included 17 in London, 5 in Manchester, 4 in Birmingham, 3 in Liverpool, and 3 in Sheffield. The deaths attributed to diphtheria, which had been 44, 50, and 40 in the three preceding weeks, rose to 50 last week; of this number, 8 were recorded in London, 8 in Birmingham, 3 in Liverpool, 3 in Bradford, and 2 each in Tottenham, Leyton, and Stoke-on-Trent. The deaths referred to scarlet fever, which had been 39, 40, and 23 in the three preceding weeks, rose to 35 last week, and included 5 in London, 5 in Liverpool, 3 in Birmingham, and 3 in Sheffield. The fatal cases of enteric fever, which had been 12, 17, and 10 in the three preceding weeks, rose to 15 last week, of which 3 occurred in London and 2 in Manchester.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had declined from 3182 to 2886 in the four preceding weeks, had further decreased to 2876 on Saturday last; 377 new cases were admitted during the week, against 306, 289, and 305 in the three preceding weeks. These hospitals also contained on Saturday last 1129 cases of diphtheria, 336 of whooping-cough, 104 of measles, and 55 of enteric fever, but not one of small-pox. The 1116 deaths from all causes in London were 132 fewer than the number in the previous week, and corresponded to an annual death-rate of 12·9 per 1000. The deaths referred to diseases of the respiratory organs, which had been 219, 263, and 258 in the three preceding weeks, further declined to 185 in the week under notice, and were 60 below the number recorded in the corresponding week of last year.

Of the 4938 deaths from all causes in the 97 towns, 151 resulted from various forms of violence, and 341 were the subject of coroners' inquests, while 1403 occurred in public institutions. The causes of 31, or 0·6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Nottingham, and in 71 other smaller towns. Of the 31 uncertified causes of death, 4 were recorded in Liverpool, 3 in Birmingham, and 2 each in London, Bootle, Warrington, Manchester, Blackburn, and Hull.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1283 births and 669 deaths were registered during the week ended Saturday, May 2nd. The annual rate of mortality in these towns, which had been 16·5, 16·0, and 16·9 per 1000 in the three preceding weeks, declined to 15·2 per 1000 in the week under review. During the first four weeks of the current quarter the mean annual death-rate in these towns averaged 16·2, against a corresponding rate of 14·8 per 1000 in the 97 large English towns. Among the several towns the death-rate last week ranged from 7·6 in Kirkcaldy, 8·2 in Clydebank, and 9·4 in Falkirk, to 19·1 in Kilmarnock, 20·6 in Coatbridge, and 21·4 in Motherwell.

The 669 deaths from all causes were 72 fewer than the number in the previous week, and included 61 which were referred to the principal epidemic diseases, against 55 and 71 in the two preceding weeks. Of these 61 deaths, 19 resulted from measles, 17 from infantile diarrhœal diseases, 13 from whooping-cough, 8 from diphtheria, 2 from scarlet fever, and 2 enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·4, against 1·3 per 1000 in the 97 large English towns. The deaths attributed to measles, which had been 31, 20, and 29 in the three preceding weeks, declined to 19 last week, of which 11 occurred in Glasgow, 3 in Edinburgh, and 2 in Dundee. The deaths of infants (under 2 years) referred to diarrhœa and enteritis, which had been 5, 13, and 18 in the three preceding weeks, were 17 last week, and included 8 in Glasgow, 3 in Aberdeen, and 2 in Dundee. The fatal cases of whooping-cough, which had declined from 15 to 9 in the four preceding weeks, rose to 13 last week, of which 8 were recorded in Glasgow and 3 in Coatbridge. The deaths attributed to diphtheria, which had been 7, 4, and 9 in the three preceding weeks, were 8 last week, and included 2 in Glasgow and 2 in Edinburgh. The deaths referred to scarlet fever, which had been 6, 7, and 4 in the three preceding weeks, further fell to 2 last week, and were recorded in Glasgow and Dundee. The 2 fatal cases of enteric fever, which were equal to the average in the three preceding weeks, were registered in Glasgow and Dundee.

The deaths referred to diseases of the respiratory system, which had been 137, 120, and 130 in the three preceding weeks, declined to 90 in the week under notice; and 28 deaths resulted from different forms of violence, against 29 and 31 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 712 births and 477 deaths were registered during the week ended Saturday, May 2nd. The annual rate of mortality in these towns, which had been 20·3, 22·5, and 25·3 per 1000 in the three preceding weeks, declined to 20·6 per 1000 in the week under notice. During the first four weeks of the current quarter the mean annual death-rate in these towns averaged 22·2, against corresponding rates of 14·8 and 16·2 per 1000 in the English and Scotch towns respectively. The annual death-rate last week was equal to 24·5 in Dublin (against 12·9 in London and 14·8 in Glasgow), 18·2 in Belfast, 23·1 in Cork, 19·0 in Londonderry, 23·0 in Limerick, and 20·9 in Waterford, while in the 21 smaller towns the mean rate did not exceed 16·9 per 1000.

The 477 deaths from all causes were 107 fewer than the number in the previous week, and included 63 which were referred to the principal epidemic diseases, against 75 and 69 in the two preceding weeks. Of these 63 deaths, 45 resulted from measles, 9 from whooping-cough, 8 from infantile diarrhœal diseases, and 1 from scarlet fever, but not one from enteric fever, diphtheria, or small-pox. The mean annual death-rate from these diseases last week was equal to 2·7 against corresponding rates of 1·3 and 1·4 per 1000 in the English and Scotch towns respectively. The deaths attributed to measles, which had been 37, 42, and 37 in the three preceding weeks, rose to 45 last week, of which 40 occurred in Dublin and 3 in Belfast. The deaths referred to whooping-cough, which had been 9, 14, and 12 in the three preceding weeks, further declined to 9 last week, and comprised 4 in Cork, 3 in Belfast, and 2 in Dublin. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 8, 10, and 7 in the three preceding weeks, were 8 last week, of which 4 were recorded in Belfast and 3 in Dublin. The death from scarlet fever was registered in Belfast.

The deaths referred to diseases of the respiratory system, which had been 102, 115, and 112 in the three preceding weeks, further fell to 57 in the week under notice. Of the 477 deaths from all causes, 135, or 29 per cent., occurred in public institutions and 8 resulted from various forms of violence. The causes of 15, or 3·1 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes did not exceed 0·6 per cent.

A CENTENARIAN.—Mr. John Turner, a handloom weaver of Kirkburton, near Penistone, has died in his 101st year.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Deputy Surgeon-General William Maxwell Craig, C.B., has been promoted to the rank of Surgeon-General in His Majesty's Fleet (dated May 1st, 1914).

Fleet-Surgeon Vidal Gunson Thorpe has been promoted to the rank of Deputy Surgeon-General in His Majesty's Fleet (dated May 1st, 1914).

The following appointment has been notified:—Staff-Surgeon: W. N. L. Cherry to the *Topaze*, on completing.

ROYAL ARMY MEDICAL CORPS.

Supernumerary Lieutenant-Colonel Bertal H. Scott is restored to the establishment, vice C. C. Reilly (dated May 1st, 1914).

Supernumerary Lieutenant Ernest W. Wade is restored to the establishment (dated May 1st, 1914).

Colonel R. S. F. Henderson has been appointed Assistant Director of Medical Services to the Fourth (Quetta) Division. Colonel C. E. Nichol, D.S.O., has been appointed Assistant Director of Medical Services to the Jubbulpore and Jhansi Brigades.

Lieutenant-Colonel J. H. E. Austin has been appointed Medical Inspector of Recruits to the Scottish Command. Lieutenant-Colonel R. H. Penton has been appointed to the Military Hospital at Ranikhet. Lieutenant-Colonel H. N. Dunn has joined at Netley. Lieutenant-Colonel W. L. Gray has been granted six months' leave of absence home from India. Lieutenant-Colonel T. B. Winter has been appointed to hold charge of the Military Hospital at Canterbury. Lieutenant-Colonel N. Faichnie has arrived home from India. Lieutenant-Colonel D. M. O'Callaghan has been transferred from Hilsea to the Dover District. Lieutenant-Colonel J. F. Donegan has been appointed to the Ninth (Secunderabad) Division. Lieutenant-Colonel F. J. Morgan has arrived home for duty from Barrackpore Cantonment. Lieutenant-Colonel B. J. Inniss has been transferred from Mauritius to the Indian Establishment. Lieutenant-Colonel R. Holyoake has embarked for India. Lieutenant-Colonel G. T. Rawnsley has been appointed Deputy Assistant Director of Medical Services to the East Lancashire Division.

Major E. W. Bliss has been appointed to the Eastern Command. Major F. S. Penny has been transferred from Cork to Limerick. Major C. J. O'Gorman, D.S.O., has taken up duty at Barrackpore Cantonment. Major M. M. Lowsley has been transferred from Ambala Cantonment to Kasauli. Major J. Matthews has been appointed to the Northern Command. Major G. J. S. Archer has joined the Military Hospital at Netley. Major A. M. MacLaughlin has been granted six months' leave of absence home from India. Major S. O. Hall has been appointed Specialist in the Diseases of Women and Children to the Burma Division. Major A. W. N. Bowen has been transferred from Belfast to the Curragh Camp. Major W. R. Blackwell has taken up duty in the London District. Major H. D. Packer has been appointed to Karachi. Major W. L. Baker has arrived home from Malta. Major D. L. Harding has been transferred from Londonderry to the Belfast District. Major L. Addams-Williams has joined at Quetta. Major J. G. Churton has been appointed Specialist in Advanced Operative Surgery to the Ninth (Secunderabad) Division. Major J. A. Hartigan has been appointed to hold charge of the Military Hospital at Tientsin. Major G. St. D. Green has been appointed Specialist in the Diseases of Women and Children to the Fourth (Quetta) Division. Major M. W. Falkner has been appointed Company Officer to No. 25 Company of the Royal Army Medical Corps at Bermuda. Major J. F. Whelan has been appointed Deputy Assistant Director of Medical Services to the Sixth (Poona) Division for Sanitation. Major E. W. Slayter has been appointed to hold charge of the Military Hospital at Cahir.

Captain F. C. Lambert has been appointed Specialist in Advanced Operative Surgery to the Sixth (Poona) Division at Headquarters. Captain D. P. Johnstone has been transferred from the Fifth (Mhow) Division to the Second (Rawal Pindi) Division. Captain A. G. Jones has been appointed Staff Surgeon at Headquarters, Rawal Pindi. Captain H. V. Bagshawe has been appointed Specialist Sanitary Officer at Cairo. Captain F. B. Dalgliesh has been appointed to hold medical charge at the Gun Carriage Factory, Jubbulpore. Captain H. J. Crossley has been appointed Specialist in Advanced Operative Surgery to the Seventh (Meerut) Division at Headquarters. Captain R. J. Cahill has been transferred from the Military Hospital at Londonderry to Belfast. Captain F. A. H. Clarke has been appointed to hold charge of the Bacteriological Research Laboratory at Calcutta. Captain J. C. L. Hingston has been appointed Staff-Surgeon to the Rangoon Brigade Headquarters. Captain A. T. Frost has been appointed to hold charge of No. 2 Section Hospital at Poona Cantonment. Captain J. Gilmour has joined the Public Health Department in Egypt. Captain P. Dwyer has been appointed Specialist in Otology at Dublin. Captain A. H. Heslop has joined at Aldershot. Captain C. T. V. Benson has been granted six months' leave of absence home from India. Captain A. T. Frost has been appointed Specialist in Dermatology and Venereal Diseases to the Sixth (Poona) Division. Captain H. V. B. Byatt has been transferred from the Sixth (Poona) Division to the Fourth (Quetta) Division. Captain C. R. Millar has been transferred from the barracks at Ballincollig to the Military Hospital at Cork. Captain C. V. Carruthers has joined the Royal Army Medical Corps Camp of Instruction at Longmoor. Captain M. Keane has been appointed to hold charge of the military hospital at Calicut Cantonment on transfer from Bulford. Captain W. E. Marshall has been transferred from the Military Hospital at Kinsale to Ballincollig Barracks. Captain O. C. P. Cooke has taken up duty at Queenstown on transfer from the Military Hospital at Cork. Captain P. C. T. Davy and Captain A. Dawson have been appointed to the Royal Army Medical College, Grosvenor-road, for the classes of instruction for promotion to the rank of Major. Captain M. D. Ahern has been appointed to the Military Hospital at Bermuda. Captain A. L. Otway has been appointed to the Portsmouth District. Captain A. C. Amy has taken up duty at the Barracks, Bury. Captain C. P. O'Brien-Butler has been appointed to hold charge of the Military Hospital at Kildare.

Lieutenant H. S. Blackmore has been appointed Specialist in the Prevention of Disease to the Bangalore Brigade and placed in charge of the Bacteriological Research Laboratory at the Military Hospital. Lieutenant W. L. E. Fretz has been transferred from the Third (Lahore) Division to the First (Peshawar) Division of the Northern Army in India. Lieutenant E. B. Allnutt has been appointed to hold charge of the Military Hospital at Purandhur Cantonment. Lieutenant I. R. Hudleston has been appointed to the Military Hospital at Jamaica. Lieutenant H. N. Sealy has been transferred from Kildare to the Military Hospital at the Curragh Camp. Lieutenant H. W. L. Allott has been appointed to the Military Hospital at Bareilly. Lieutenant C. Helm has joined at Dublin. Lieutenant W. P. Croker has been transferred from the Dublin District to the Military Hospital at Newry. Lieutenant J. FitzGerald Gwynne has joined the Royal Army Medical College, Grosvenor-road. Lieutenant R. A. Flood has been appointed to the Woolwich District.

INDIAN MEDICAL SERVICE.

Colonel J. Smyth has been appointed Assistant Director of Medical Services to the Secunderabad Brigade. Brevet-Colonel and Lieutenant-Colonel B. G. Seton has arrived home on leave of absence from India.

Lieutenant-Colonel G. T. Birdwood has been granted seven months' leave of absence. Lieutenant-Colonel F. W. Gee has arrived home on leave of absence from India. Lieutenant-Colonel J. Mulvany has been appointed to officiate as Inspector-General of Prisons in the Bihar and Orissa States.

Major W. D. Ritchie, civil surgeon of Goalpara, Assam, has been appointed to officiate as Civil Surgeon of the First Class. Major H. A. J. Gidney has been appointed Civil Surgeon of the Sylhet District. Major A. F. W. King has been appointed to officiate as Presidency Surgeon. Major W. A. Keys has taken up duty at Ratnagiri. Major L. P. Stephen has been appointed to officiate as Superintendent of the Medical School at Hyderabad. Major P. L. O'Neill has arrived home on leave of absence from India.

Captain G. D. Franklin has been appointed to officiate as Agency Surgeon at Gilgit. Captain H. C. Keates has been appointed Plague Medical Officer at Hoshiarpur. Captain H. Hallilay has taken over charge of the District Jail at Lyallpur. Captain F. A. F. Barnardo has been appointed Superintendent of the Comilla District Jail. Captain L. B. Scott, civil surgeon at Sylhet, has been transferred to the Khasi and Jaintia Hills as Civil Surgeon of that district. Captain H. A. H. Robson has been appointed to officiate as Superintendent of the Central Lunatic Asylum at Berhampore *pro tem.* Captain C. L. Dunn has been granted five months' extension of leave of absence home from India on medical certificate. Captain G. A. Jolly has been granted nine months' leave of absence. Captain A. F. Babonau has been appointed to officiate as Civil Surgeon of the Naga Hills District. Captain W. W. Jeudwine has been appointed Plague Medical Officer to the Jhelum District. Captain C. H. Brodribb has been appointed Specialist in Advanced Operative Surgery.

COLONIAL MEDICAL SERVICES.

West African Medical Staff.—Mr. G. F. Forde has been transferred from the Gold Coast to Nigeria; Dr. J. A. Harley and Mr. S. L. Brohier from the Gambia to the Gold Coast; Mr. J. C. Franklin from the Gambia to Nigeria; and Mr. G. Rollason from Sierra Leone to Nigeria. The following have resigned: Dr. A. Lundie (medical officer, Gold Coast), Dr. E. J. Wyler (medical officer, Nigeria), and Dr. A. Hutton (medical officer, Nigeria). Dr. A. Bremner (medical officer, Sierra Leone) has retired on pension. The following have been selected for appointment to the staff: Dr. T. P. Fraser (Nigeria) and Dr. A. S. Burgess (Gold Coast). The following promotions have been made: Mr. T. Hood from principal medical officer, Nigeria, Southern Provinces, to Director of the Medical and Sanitary Service of Nigeria; Mr. E. A. Chartres from senior medical officer, Gambia, to a Senior Medical Officer (Grade I.) Nigeria; Dr. C. R. Chichester from provincial medical officer, Southern Nigeria, to Senior Medical Officer (Grade I.), Nigeria; Mr. W. H. G. H. Best from provincial medical officer, Southern Nigeria, to a Senior Medical Officer (Grade I.), Nigeria; Mr. C. F. Watson from senior medical officer, Northern Nigeria, to Senior Medical Officer (Grade II.), Nigeria; Dr. W. H. A. Gordon-Hall from medical officer, Northern Nigeria, to a Senior Medical Officer (Grade II.), Nigeria; Mr. W. I. Taylor from senior medical officer, Northern Nigeria, to a Senior Medical Officer (Grade II.), Nigeria; Mr. H. P. Lobb, medical officer, Northern Nigeria, to a Senior Medical Officer (Grade III.), Nigeria; Dr. M. E. O'Dea from medical officer, Southern Nigeria, to a Senior Medical Officer (Grade III.), Nigeria; Mr. W. W. Claridge from medical officer, Gold Coast, to a Senior Medical Officer (Grade III.), Gold Coast; Dr. A. E. Horn from personal assistant to the principal medical officer, Southern Nigeria, to Senior Medical Officer (Grade III.), Gambia; and Dr. J. M. Dalziel from medical officer, Northern Nigeria, to a Sanitary Officer, Nigeria.

Other Colonies and Protectorates.—Mr. N. S. Williams has been selected for appointment as a temporary Medical Officer in Uganda; Dr. J. H. Paterson as a Supernumerary Medical Officer in Jamaica; Mr. C. H. Sills and Dr. S. Vassallo as Supernumerary Medical Officers in the Leeward Islands; Mr. W. A. S. George; as a District Medical Officer in St. Vincent; and Dr. H. P. Hacker as a Supernumerary Medical Officer in the Federated Malay States.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

The undermentioned Captains, Army Medical Reserve, to be Captains, retaining their rank and seniority (dated May 1st, 1914): John Findon Murphy and Murray Ross Taylor.

Lieutenant Vivian R. Smith resigns his commission (dated May 6th, 1914).

Cadet John Alston, from the Glasgow University Contingent, Officers Training Corps, to be Lieutenant (on probation) (dated April 6th, 1914). Cadet Charles Robertson McIntosh, from the Glasgow University Contingent, Officers Training Corps, to be Lieutenant (on probation) (dated April 8th, 1914). John Cameron to be Lieutenant (on probation) (dated April 9th, 1914).

Army Medical Reserve.

Captain Samuel K. Adams is removed on completion of the period of service prescribed by Article 641, Royal Warrant for Pay and Promotion, 1907 (dated April 30th, 1914).

Lieutenant Alfred S. Millard is removed on completion of the period of service prescribed by Article 641, Royal Warrant for Pay and Promotion, 1907 (dated Jan. 31st, 1914).

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd West Lancashire Field Ambulance, Royal Army Medical Corps: Lieutenant-Colonel Thomas Stevenson.

3rd North Midland Field Ambulance, Royal Army Medical Corps: Supernumerary Lieutenant William Boyd is absorbed into the establishment (dated Jan. 21st, 1914).

Major Edgar Thomas Inkson, V.C., Royal Army Medical Corps, to be a Deputy Assistant Director of Medical Services of a Territorial Division (dated April 25th, 1914).

For Attachment to Units other than Medical Units.—Frank Harris White to be Lieutenant (dated April 17th, 1914).

Attached to Units other than Medical Units.—Lieutenant Leonard Colebrook to be Captain (dated April 3rd, 1914).

Major David Middleton Greig, attached to the 2nd Highland Brigade, Royal Field Artillery; Major Samuel Lodge, attached to the 6th Battalion, The Prince of Wales' Own (West Yorkshire Regiment); Major Thomas Forrest, attached to 7th Battalion, The Cameronians (Scottish Rifles); Major James Duncan Farquharson (unposted).

THE TERRITORIAL DECORATION.

The King has conferred the Territorial Decoration upon the undermentioned Officers of the Territorial Force: Lancashire (Fortress) Engineers, Royal Engineers: Surgeon-Major John Wesley Lloyd.

ROYAL ARMY MEDICAL COLLEGE.

On May 1st Lieutenant-General Sir James Grierson presented the prizes at the Royal Army Medical College to the junior class of the twenty-fourth session, in the presence of a large gathering of officers, visitors, and ladies. Colonel B. M. Skinner, commandant of the school, was supported by Major-General Sir Francis Lloyd, Surgeon-General Sir Launcelot Gubbins, Surgeon-General Sir Arthur

Sloggett, Surgeon-General Cuff, Surgeon-General Whitehead, Surgeon-General Trevor, Surgeon-General Bassett-Smith (of the Naval School, Greenwich), Sir Ronald Ross, and others. Colonel Skinner, in the opening remarks, said that the course of instruction at the Royal Army Medical College was constructed to bear essentially on the health and training of the soldier. He said the results of the examinations had been very gratifying, and that special instruction had been given also in administrative methods. General Grierson, in presenting the prizes, told the students that they were joining one of the finest branches of the service, and one which had developed more than others in recent years. They had only to compare what took place in the Crimean war with what was done in South Africa to realise the great advances made in the medical service of the army. The present medical organisation was extended also to the Territorial Forces. He emphasised the double aspect of the army medical officer, who was both a soldier and a doctor, and reminded them that their purely professional and technical duties were secondary to their duties as soldiers and officers of the King. This meant double work for them. Surgeon-General Gubbins, in proposing a vote of thanks to General Grierson, emphasised the value of his words as coming from one of wide knowledge and experience of home and foreign armies. After the prize distribution Colonel Skinner and the officers of the Royal Army Medical Corps entertained their visitors in the officers' mess.

INDIAN MEDICAL SERVICE DINNERS.

The annual London dinner of the Indian Medical Service will be held at the Hotel Cecil on Monday, June 8th, at 7.45 P.M. The Edinburgh dinner of the Indian Medical Service will be held on May 29th at the Caledonian United Service Club, when Sir Alexander Christison, Bart., will preside. Application for tickets should be made to Colonel Arnott, 8, Rothesay-place, Edinburgh.

The Senate of Glasgow University have decided to confer the honorary degree of LL.D. upon Colonel Sir William B. Leishman, professor of pathology at the Royal Army Medical College.

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

MANCHESTER.

National Insurance Act: The Payment of the Panels.

THE Manchester Insurance Committee have decided to make a payment to the medical men for the first quarter of this year at the rate of 40 per cent. on the accounts sent in. This will use up £15,771. The committee retained 25 per cent. of the medical credits at the end of last year in order to meet any substantial claims by the chemists in respect of over-prescribing. The chemists have formulated their claims, and it appears that the committee will have a balance of £7761 to allocate amongst the doctors.

Hospital Matters in and about Manchester.

The Ancoats Hospital, which is situated in a densely populated part of Manchester and adjacent to many public works, is making an appeal for £450 for sanitary improvements and for the construction of a new ward at the cost of £2500. In an appeal which has been issued by the chairman it is stated that the present 114 beds are totally inadequate to deal with the proportion of the 33,000 cases per annum which require indoor treatment, and the effect of the National Insurance Act has been to reveal much suffering hitherto unrelieved through fear of incurring expense. At the annual meeting of the St. John's Hospital and Manchester Ear Hospital the authorities have noticed since the Insurance Act came into operation a very great increase in serious cases. Not so many patients passed through the beds, but they remained longer, because they were more serious cases sent by the doctors for treatment which was not provided for under the Insurance Act. The governors of the Ashton, Stalybridge, and Hyde District Infirmary have decided to enlarge their hospital at an outlay of £25,000. For this purpose additional land is required, and the estate trustees of Lord Stamford will give three acres subject only to the repayment of the cost of road-making. Lastly, the fund for the Central Branch of the Royal Infirmary has now reached £19,520, £567 having been received since the last meeting of the board of management. Mrs. George A. Southam, of Hale, Cheshire, has generously offered to provide the sum of 50 guineas per annum towards the payment of a pathologist or assistant pathologist, and intends to set aside the capital sum, duly secured to the hospital, to provide this income. The bequest will be known as the "Southam Pathological Bequest." There is general evidence that Manchester people intend to help their medical charities in these critical times.

A Home of Recovery for Children.

A small committee has established a home at Heptonstall, near Hebden Bridge, where a number of weak and ailing children are given a prolonged holiday to nurse them back to health, most of them outcasts from our system of medical treatment because they have no direct illness which would entitle them to hospital benefit. They are the children of the slums of Hulme and Ancoats, where delicate children have no chance to grow up healthily. The children live an outdoor life, are taught what will be useful to them, and encouraged to work and play in the open air. The building stands among the moors, 900 feet above sea level. The establishment is supported by private contributions, and an appeal is being made for funds to continue the work.

Radium for Manchester and Salford Hospitals

I referred recently to the Radium Fund. The general committee have now issued a complete scheme and an appeal for funds. The sum required is £25,000 for the purchase of radium and radioactive materials. In all seven hospitals in Manchester and Salford will participate in the scheme. The radium and mesothorium when obtained will be deposited at the Royal Infirmary, where patients will be sent for treatment. The radium committee intend to appoint a physicist to give his whole time to the work of the radium department, and an expert radiologist to advise as to the line of treatment, dosage, &c., and to conduct treatment when necessary.

May 5th.

BIRMINGHAM.

General Hospital: Resignation of Sir Robert M. Simon.

A CONSIDERABLE change is taking place in the *personnel* of the staff of the General Hospital. Two years ago Dr. Robert Saundby, senior physician, and Sir Thomas Chavasse, senior surgeon, resigned their posts after many years of faithful service. Now the hospital is about to experience another great loss by the resignation of the present senior physician, Sir Robert Simon. Other important changes must take place during the next few years owing to the operation of the time limit. At a meeting of the board of management on May 1st the following resolution was unanimously passed:—

> That the board of management have received with great regret the resignation of Sir Robert M. Simon, senior honorary physician, and desire to record their high

appreciation of the very able manner in which he has discharged his duties as honorary physician for the past 23 years, of the great skill and attention he has devoted to the patients under his care, and of the interest he has taken in the welfare of the institution. That the resignation of Sir Robert M. Simon be accepted with great regret, that the office of honorary physician be declared vacant, and that steps be taken to fill the vacancy on Friday, May 22nd, 1914, at 12 o'clock noon. That a subcommittee be appointed to consider what steps should be taken to commemorate Sir Robert M. Simon's services to the hospital, and that at the next meeting of governors it be recommended that in consideration of the eminent services rendered to the hospital during the past 35 years by Sir Robert M. Simon he be appointed honorary consulting physician to this hospital.

Sir Robert Simon came to Birmingham as assistant physician to the General Hospital after three years' very successful work as honorary physician to the Manchester Southern Hospital for the Diseases of Women and Children. In 1891 he was elected honorary physician. He became a Fellow of the Royal College of Physicians of London in 1895, and was knighted in 1910. Since 1910 he has been professor of therapeutics in the University of Birmingham and has held the post of professor of forensic medicine at Mason's College. He is consulting physician to many local hospitals.

Conference of Nurses.

The annual conference and nursing exhibition convened by the National Council of Nurses will be held in the New Central Hall, Birmingham, from June 9th to 12th. Mr. H. Gilbert Barling, Vice-Chancellor of the University of Birmingham, and Miss Rogers, late matron of the Royal Infirmary, Leicester, will present the case for nurses' registration. Mrs. Bedford Fenwick will speak of the Nurses' International Memorial to Miss Florence Nightingale. Miss Musson, matron of the General Hospital, Birmingham, will be the chief speaker in the economic section, and there are quite a number of questions to be discussed in connexion with it. Sir Victor Horsley will advocate the necessity for nursing as part of medical benefit for insured persons, and several topical questions will be brought forward.

Medical Work in Schools.

Dr. G. A. Auden, the school medical officer, in his report for 1913 states that two notable advances were made in the direction of treatment—viz., the initiation of dental treatment and of a scheme for the operative treatment of tonsils and adenoids.[1] The scheme for the erection of a properly equipped central school clinic in Great Charles-street has received the sanction of the Board of Education and the land has been bought. The treatment of certain minor external ailments has been begun and the staff of nurses increased. The development of this scheme of treatment may be said to mark the close of the first phase of the evolution of the school medical service. Since 1908 there has been a regular sequence of effort—viz., (1) medical inspection of children on entering and leaving school; (2) following up of individual children found defective and facilities for special examinations at the clinics and in the schools; (3) the special recording of tuberculous, epileptic, physically handicapped, and ringworm cases; (4) treatment for eye defects, teeth defects, tonsils and adenoids, ringworm, and external minor ailments; (5) the general guidance in the choice of suitable work on leaving school. The number of children inspected in each year was as follows: 1908 (September to December, with three officers), 9404; 1909, 26,484; 1910, 24,363; 1911 (three full-time and three part-time officers), 28,067; 1912, 34,224; 1913, 32,376; giving a total of 154,918. Dr. Auden thinks that the next stage of development must be coöperative and that every effort must be made to correlate the medical work, not only with the march of educational administration, but also with all the ameliorative agencies which are already dealing with child life. The percentage of parents who were present at the examination of their children was 72. The defects discovered during 1913 were: Defects of vision, all causes, 3265; squints, 969; corneal ulcers, opacities, and keratitis, 308; defective hearing, 1084; otorrhœa, 666; tonsils and adenoids, 2550; certain phthisis, 100; doubtful phthisis, 215; other lung diseases, 645; heart disease, congenital 93, acquired 489; chorea, 85; epilepsy, 83; hernia, 81; speech defects, 225; deformities (excluding paralysis) 277; ringworm, 243; and skin disease, 372.

May 5th.

SCOTLAND.

Interesting Legal Judgment.

THE House of Lords recently gave judgment in an appeal case brought by the widow of a Rutherglen miner. The man, who had been sweating at his work, caught cold while waiting at a mid-landing in the mine until men from the lower seam had been raised. This developed into pneumonia, which proved fatal. The sheriff found that the man had died from the effects of injuries by accident received at his work, and allowed compensation. The Second Division, however, recalled this award, and found the present respondents entitled to expenses. The House of Lords restored the finding of the sheriff (acting as arbitrator), Lord Shaw of Dunfermline making a statement.

Edinburgh Corporation and the Veterinary Department.

There is a scheme before the authorities proposing to set up a separate veterinary department in the city. At present there are four veterinary surgeons who carry out this work of the corporation, acting on the instruction and under the supervision of the medical officer of health. A report just issued states that the work did not include any of the duties to be discharged by a veterinary surgeon under the supervision of the Contagious Diseases (Animals) Act. A considerable amount of veterinary work was required in connexion with the stud of horses for the cleansing department. This work was carried out by the professors of the Royal Dick Veterinary College, under an arrangement with the corporation. With the exception of the senior veterinary officer, the maximum salary of each of the veterinary surgeons on the staff was at present £175 per annum. The maximum salary of the senior veterinary officer was at present £200 per annum. The subcommittee was of opinion that the veterinary work of the corporation was so intimately connected with the public health work of the city, particularly as regards the meat and milk supplies, that it was of great importance that it should be carried out under the direct administration, supervision, and control of the medical officer of health. It appeared to be desirable that a considerable amount of responsibility and initiative supervision should rest with the senior veterinary officer, and the committee recommended that the appointment should be made on recommendation to the medical officer of health, with the approval of the town authorities. Among the more important duties of this "senior veterinary officer" would be inspecting the city byres, the milk-supply where necessary, attending the slaughter-houses while slaughtering operations were being carried out, and the general meat and food inspection in the market, railway stations, and shops.

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[1] THE LANCET, Jan. 10th, 1914, p. 132.

Housing Conditions at Rosyth Naval Base.

On account of recent interest excited in this subject, the annual report of Dr. A. S. Gordon, medical officer of health, is of importance. Dealing with the housing question, he states that since the report of Dr. T. F. Dewar and Mr. Wilson, of the Local Government Board, the housing conditions available at the naval base had very materially improved. At that time it was stated that the navvies temporarily housed within the borough of Inverkeithing were accommodated in a satisfactory manner, to which little or no exception could be taken. In 1911 a new model lodging-house, with 152 beds, was completed, and until recently that building had not been fully occupied. In April, 1913, the White House Hotel was opened. That house, which provided accommodation for 300 men of the better class of workmen, had not been fully occupied until the end of November, 1913. Since the report by these representatives of the Local Government Board new houses and tenements had also been completed and occupied. The demand had also been relieved by the erection of huts at Rosyth, and the running of special trains to Dunfermline. It had been found that the demand for ordinary houses of one-room and kitchen, or two rooms and kitchen, had much diminished. Houses of a larger and better type—four rooms and kitchen—were now found to be in request. A considerable number of workers at the paper mill had been thrown out of employment by a disastrous fire, and as many then left the district more accommodation was available for the Admiralty workers. For the better control and the prevention of overcrowding, by-laws for houses let as lodgings had been adopted. The appointment of an additional sanitary inspector, who also acted as borough surveyor, should also prove an advantage.

Work of the Edinburgh Insurance Committee.

A report has been prepared by the clerk on the administrative work of this committee from July, 1912, to April, 1914. As there is an unexpended balance in the drug fund a substantial bonus will shortly be paid over to the local panel chemists. Of 21 complaints brought against practitioners on the panel only six were upheld. For insurance service work the incomes of panel practitioners were as follows:—

Over £900	1	Over £300	12
,, 800	1	,, 200	15
,, 700	4	,, 100	16
,, 600	7	,, 50	4
,, 500	10	Under 50	39
,, 400	12		

The highest number of insured persons on any one list was 2903, the lowest being three. The highest amount paid to any one practitioner was £933 13s., and the lowest amount was 8s. 8d. Since the commencement of the medical benefit to the present time practitioners on the panel have received £39,931.

Accommodation of Phthisis Patients in Glasgow.

Negotiations have been taking place recently between the corporation of Glasgow and Govan parish council with regard to the treatment of patients suffering from phthisis. A deputation from the corporation subcommittee visited Merryflatts hospital, which belongs to the parish council of Govan, and after inspecting the various buildings, suggested that the parish council should place at the disposal of the corporation the recently erected phthisis wards, or as many of these as might be found necessary, together with the adjoining chalets. After considering the matter the parish council, for administrative and other reasons, have decided not to hand over these, but will enter into a temporary arrangement with the corporation for boarding their patients to the extent of the accommodation available.

Dundee Panel Committee and Medical Grievances.

The Dundee Panel Committee have entered a protest to the Insurance Committee against the system whereby the medical profession were being penalised for all the defects arising in every department in the administration of medical benefit. They also urge the delivery of a medical card to every insured person; otherwise, in view of the difficulties which have arisen, they will feel it their duty to advise practitioners to refuse medical attendance to any person who does not produce such a card. 12,000 of the new medical cards had been returned undelivered, and on the cards which had been delivered the entry of the doctor's name had been erroneous in a great number of cases, and it was within the knowledge of the committee that insured persons who had been aggrieved by these mistakes found difficulty in having them corrected. The responsibility for the medical benefit of insured persons had not been removed from the doctors; but owing to these mistakes a large number of insured persons entitled to medical benefit were for the time being removed from the doctors' lists. These lists, which had not yet been delivered, and which were the doctors' only warrant for payments, had thus been seriously lessened, although the doctors' responsibilities had in no way diminished. The grievance had been further aggravated by the instructions issued that an insured person who furnished the clerk with what he considered sufficient evidence of being entitled to medical benefit had to be provided with a medical card, although he had not been authenticated officially by an index slip, without which the clerk had no guarantee for a credit to the cost of that person's medical benefit as an individual. The committee felt bound to put before the Insurance Committee a demand that, as stipulated by the agreement, payment be made for every medical card issued, whether the insured person had been duly authenticated or not.

May 5th.

IRELAND.

The British Medical Association and Ireland.

As was anticipated, the increase of the subscription to the British Medical Association has caused a definite diminution in the number of members in Ireland. Recently it was as high as 1000, but it has now fallen to 756. The Council, having considered the matter, has decided to open an office in Ireland in order to organise the profession of Ireland under the Association. A whole-time medical secretary has been appointed to take charge of the office. The task is not likely to be an easy one, though the Council has been fortunate in securing the services of a gentleman who possesses considerable influence with the profession, particularly in the country districts. At present the representative body of the profession in Ireland is the Irish Medical Committee, which is formed mainly of delegates from the several Local Medical Committees. It is a strong body, possessing the confidence of the whole profession, but it is admitted that its financial basis is weak. Since its formation the Irish Medical Association and the British Medical Association have recognised it as the representative committee of the profession. It seems, however, as though the British Medical Association were now about to demand for its Irish Committee a representative status. The problems of Irish medical politics will not, I fear, be rendered simpler by the new move of the British Medical Association.

Dublin Corporation Tuberculosis Hospital.

At its last meeting the Dublin corporation proceeded to the election of two visiting physicians for the tuberculosis hospital on the Pigeon House-road. Prior to the corporation taking over this institution a few months ago it was managed by the Women's National Health Association for several years under the name of the "Allan A. Ryan Home Hospital." For the greater part of the time that it was in the hands of the association two gentlemen gave their services voluntarily as visiting physicians. They were both candidates for the posts in the service of the corporation, but their applications were passed over. A legal point was raised at the election as to whether such appointments should be made by the corporation itself or by the tuberculosis committee. The Act of Parliament seems to be clear that the entire management of tuberculosis hospitals is in the hands of the committee. The town clerk, however, advised that the election rested with the corporation. The point is not of immediate importance, since the tuberculosis committee, as at present constituted, consists of all the members of the corporation.

Irish Workhouses.

During the year ended Sept. 30th, 1912, the amount spent on Poor-law in Ireland was £1,012,230, and to this must be added £269,655, the expenditure under the Medical Charity and other Acts, giving a total of £1,281,885. In the previous decade the corresponding figures were: Poor relief £965,720 and medical charities £210,166, producing a total of £1,175,886. Judging by unions, the largest union in Ireland is the South Dublin, where the daily average number of inmates was 3914. Belfast comes next with 3233, and North Dublin is third with 2309. This makes a total for Dublin of 6223, compared with Belfast's 3233. The average cost of in-maintenance per head per week in the South Dublin union is 4*s.* 9*d.*, in the North Dublin 4*s.* 2*d.*, and in Belfast 4*s.* 0¾*d.* In 1895 the figures were: South Dublin 3*s.* 5¾*d.*, showing an increase of 36½ per cent., to 4*s.* 9*d.* in 1912; North Dublin 3*s.* 3¼*d.*, showing an increase of 27½ per cent., to 4*s.* 2*d.* in 1912; Belfast 3*s.* 1¼*d.*, showing an increase of 31 per cent., to 4*s.* 0¾*d.* in 1912.

Infectious Diseases in Belfast.

Between March 16th and April 18th, 1914, 263 cases of infectious disease have been notified in Belfast, including 8 cases of typhoid fever, 33 of diphtheria, and 197 of scarlet fever; 19 cases of pulmonary tuberculosis have also been notified. In the previous five weeks 268 cases of infectious disease were notified, and 186 in the corresponding period of last year. It is remarkable how the scarlet fever epidemic still continues in Belfast. Notification, isolation, and hospital treatment all seem to have no effect in lessening its occurrence.

Dr. J. S. Darling.

Dr. J. S. Darling, who has been for the past 24 years medical officer of the Lurgan workhouse, was on April 30th at a specially summoned meeting of the Lurgan board of guardians unanimously granted an increase of £50 per annum to his salary. To his numerous medical friends this recognition, though tardy, of Dr. Darling's services has given the utmost satisfaction. Dr. Darling takes a keen interest in the scientific advancement of medicine and surgery.

May 5th.

PARIS.

The Dangers of Methylated Spirits in Iodine Disinfection.

IODINE disinfection is largely employed in France to-day, especially for the operator's hands. About 10 c.c. of tincture of iodine are put into half a litre of alcohol, and the surgeon rinses his hands therein, often in the operating theatre itself, before beginning to operate. At the Hôpital de Clermont-Ferrand, in the service of Professor Bousquet, serious accidents have occurred owing to the substitution by the hospital administration of "denatured" alcohol (methylated spirits) for pure alcohol, on account of its much lower cost, the tax being greatly reduced on the denatured kind. From the time that this was substituted it was observed that irritant vapours were disengaged from the solution as soon as the administration of chloroform began, which caused tingling of the eyes and nostrils, cough, and suffocation in all present in the operating theatre. It seemed as though some gaseous combination was formed between the vapours of iodine, methylated spirits, and chloroform. Even the anæsthetised patients were affected, and two patients in succession were seized with serious syncope, necessitating rhythmic tongue traction and artificial respiration for their recovery, while a subsequent patient died, notwithstanding the practice of these measures. The suppression of denatured alcohol was then decided on, and pure alcohol was again used, when these accidents ceased. Dr. Pakowski, who reports these cases, concludes that methylated spirits must not be used, or at least that the rinsing of the hands must be carried out with it in a room shut off from the operating theatre and well ventilated.

Measures against Leprosy.

The Académie de Médecine has voted the following administrative measures against the spread of leprosy in France: (1) Leprosy to be made compulsorily notifiable; (2) lepers to be submitted, according to circumstances, to either special surveillance or isolation; (3) foreign lepers not to be allowed to land in France; (4) a special Commission, constituted as laid down in the Bill before Parliament, to decide upon each case; (5) the academy cannot deal with the prophylaxis of leprosy in France without urging on the public authorities the necessity for rigorous and indispensable measures to control the diffusion of leprosy in the colonies and protectorates, which are infinitely more menaced than France itself. M. Gaucher extolled the total interdiction of French territory, at home and in the colonies, to foreign lepers, the isolation in an island off the coast of French lepers who had been infected in the colonies, and a distinction between these last, who are particularly dangerous from the point of view of contagion, and the autochthonous lepers of the Mediterranean littoral or of Cantal, in whom the leprosy is attenuated and comparatively harmless.

The Wassermann Reaction in Medical Jurisprudence.

Accepted views as to the relation between general paralysis and syphilis seem likely to provide lawyers with a further argument which can be invoked in a plea of irresponsibility. Last year a very enterprising business man, who had simultaneously floated a large number of diverse industries, was arrested at the suit of his numerous dupes. Many millions of francs had been swallowed up in his undertakings. He is at present in prison, and his lawyers are now demanding his release on the ground of irresponsibility. They contend that his feverish activity, the multiplicity of his unrelated enterprises, and his insurmountable optimism are stigmata of general paralysis. In support of their views they have had the Wassermann test applied to their client, and it has proved positive. The court has appointed experts to decide whether the Wassermann reaction is really sufficient ground to establish irresponsibilty in a case of fraud involving many millions.

The International Conference Against Alcoholism.

The International Conference Against Alcoholism met in Paris last week at the Musée Social, under the presidency of Professor Debove. Dr. Lauer proposed the establishment of an international institute for the scientific study of the subject. M. Aubert discussed the relations between anti-alcohol societies and other social works, such as the fight against tuberculosis, infant mortality, and unhealthy dwellings. M. Duteuil and Dr. Hartford, of London, discussed the anti-alcohol warfare in the colonies. M. Filassier, head of the statistical bureau of the city of Paris, demonstrated the incompleteness of statistics based upon the returns of the fiscal administration. He showed that in France the privilege of the "bouilleurs de crus" causes a formidable margin of doubt, for it allows all producers of fermented liquors to distil, without any control or account thereof taken, the product of their crop, nominally for personal consumption. This product is often fraudulently sold, so that the alcoholic consumption is really much greater than is shown by revenue statistics, and it can be easily demonstrated by medical statistics that the departments in which this privilege is in force are those that furnish the greatest number of alcoholic subjects, and of diseases caused or aggravated by the abuse of alcohol.

May 4th.

VIENNA.

University of Vienna.

THE programme of lectures during the summer term in the medical faculty of the University of Vienna has just been published, and the following items may be mentioned as being of interest. There will be 429 lectures and classes as compared with 416 last summer term, the subjects and the number of classes being as follows: In anatomy and histology, 8 classes, conducted by 3 professors and assistants; in physiology, 13 classes, with 6 professors or lecturers; in medical chemistry, 10 classes, with 3 lecturers; in general pathological anatomy and pathology, 27 classes, with 20 professors and lecturers; in pharmacology, 10 lectures, delivered by 6 teachers; in internal medicine, 98 classes, with 64 teachers; in laryngo-rhinology, 19 classes, with 9 teachers; in pediatrics, 22 classes, with 15 teachers; in surgery, 33 classes, with 24 teachers; in dentistry, 8 classes, with 6 teachers; in otology, 29 classes, with 13 teachers; in ophthalmology, 22 classes, with 11 teachers; in gynæcology, 43 classes, with 26 teachers; in dermatology, 42 classes, with 24 teachers; in psychiatrics, 24 classes, with 18 teachers; and in forensic medicine and hygiene, 17 classes, with 8 teachers. The teachers include 29 ordinary professors, 99 extraordinary professors, and 132 *privat-docenten* and assistants. These classes are meant chiefly for students, but of course they may be attended also by graduates. The above-mentioned programme being an official document, post-graduate work is as a rule not included in it, but is in Vienna conducted more or less on a system of free arrangement. In the last (i.e., the winter) term there were 2818 matriculated students, including 184 women, working in the institutes of the medical faculty. The number of students has increased by 313 over the number in the corresponding term of last year, and the number of female medical students has gone up by 32. As I have already mentioned on a former occasion, the chief increase is produced by the first-year students entering the medical classes in rapidly rising numbers.

Health Statistics for March.

The official report of the Vienna Board of Health for the month of March shows that the public health was excellent, owing to the mild weather, which produced a marked diminution of diseases of the air passages. Scarlet fever alone showed a drop of 50 per cent. and in other infectious diseases there was also a decided change for the better. The mortality decreased by 15 per cent. (2964 deaths against 3378) in comparison with the same period of 1913. Of the deceased 48 per cent. were females and 52 per cent. were males, whilst the infants under one year made up 18 per cent. of all the deaths.

May 4th.

INDIA.

College of Science at Calcutta.

THE foundation-stone of a College of Science in connexion with the Calcutta University was laid recently by Sir Ashutosh Mookerjee, Vice-Chancellor of the University, who in performing the ceremony said that the scheme was first rendered practicable through the execution of a trust deed by Sir Tarak Nath Palit, whereby he transferred money and land valued at more than 7 lakhs for the promotion of pure and applied science among his countrymen. A few weeks later Sir Tarak Nath Palit executed a second deed of a similar amount for the purpose of aiding the trusts mentioned in the first deed. The University Syndicate had received the Government's permission to apply Rs.12,000 annually for the maintenance of the laboratory, and Dr. Rash Behary Ghose had offered 10 lakhs for the foundation of four professorships and eight research studentships.

Calcutta Hospital Nurses' Institution.

The report of the Calcutta Hospital Nurses'

Institution for 1913, just published, shows a loss on the working of the year of Rs.4,081.11.6. The income of the institution is mainly derived from public grants from the Government of Bengal, the corporation of Calcutta, the Hospital Port Dues Fund, and additional fees from the Woodburn Ward of the Presidency General Hospital. During 1913 there was a falling off in the subscriptions from the public and also in the offertories from the churches. The main object of the institution is to train nurses and to provide them free of charge to the leading Calcutta hospitals, about 170 nurses being now employed.

School of Tropical Medicine.

According to the *Englishman* a serious difficulty has arisen over the staffing of the proposed School of Tropical Medicine. The Government wishes to staff it mainly, if not exclusively, with Indian Medical Service officers, while Lieutenant-Colonel Leonard Rogers, I.M.S., desires to engage a staff of experts of established reputation. Colonel Rogers is said to have intimated to the Government that unless the original scheme is adopted he can have nothing to do with the proposed school, and it is believed that he is prepared to resign.

Strike of Bombay Milkmen.

The new by-laws made by the Municipal Commissioner for the purpose of controlling the milk trade of Bombay with the view of supplying the city with pure and unadulterated milk have just come into force. These by-laws require all the owners of dairy farms and milch cattle, milk shopkeepers, hawkers, and servants of dealers in milk who supply milk to the customers at their places to procure licences from the Municipal Commissioner. The by-laws provide for the control and supervision of premises used for keeping milch cattle for sale or hire, or for sale of the produce thereof; also for inspection of such cattle, and for securing the cleanliness of milk stores, milk shops, and milk vessels. Though only nominal fees are charged for licences the owners of about a dozen dairies recently issued a combined notice to their customers intimating that in view of the new by-laws coming into force they had been obliged to raise the price of milk from 3 annas to 3½ annas from April 1st. Disputes between the milkmen and their employers have resulted in the former refusing to deliver milk to the customers, and a large section of the people are being put to no small amount of inconvenience owing to the non-supply of milk.

Sanitation in the Civil Station of Lahore.

A correspondent of the *Civil and Military Gazette* seriously indicts the sanitation of the capital of the Punjab. He says that the sanitary arrangements of the Lahore Civil Station are so defective as to call for the personal intervention of the householder in the interest of his own health and that of the public. There is no daily removal of refuse, but accumulation of filth is permitted for two or even three days; at the end of this time a cart calls usually about 8.30 A.M. Into this cart, which is an ordinary bullock cart, with reed matting sides and without any cover, the contents of the sanitary bins are thrown in a most careless manner. The bins are thus never completely emptied and they are never cleansed. The process of removal, which takes place about breakfast time, is therefore a most offensive proceeding, and the carts themselves being wholly unfitted for such work leave a foul odour and a trail of filth in their path. The writer suggests that the civil station should be wholly or in part removed from the jurisdiction of the Lahore municipal committee and placed in the hands of a committee composed entirely of residents in the civil station. There are probably objections to this proposal, but so far as sanitation is concerned there is much to be said in favour of its adoption.

The Students' Strike at Lahore.

The committee to inquire into the alleged grievances of the students at the Lahore Medical College met on April 5th under the presidency of Surgeon-General Sir Pardey Lukis, I.M.S.

April 14th.

AUSTRALIA.

Melbourne University.

A DEPUTATION from the council of the Melbourne University recently waited upon the Premier of Victoria (Mr. Watt) with a request for increased Government aid to the finances of the institution. It was stated that many of the buildings were in serious disrepair and that the various schools required financial aid to provide for expansion of work. While the Sydney University has handsome private endowments the Melbourne University is practically dependent upon the sympathy of the Government. Upwards of £150,000 was mentioned as necessary to make matters perfectly satisfactory. Mr. Watt replied sympathetically, and promised to make inquiries by sending an architect to report upon the building propositions and to take the other representations into Cabinet consideration.

The Women's Hospital, Melbourne.

At a recent meeting of subscribers to the Women's Hospital, Melbourne, some feeling was manifested. This institution has a midwifery and a gynæcological department. There are four honorary medical appointments to the first and eight to the second, the latter being divided among four indoor surgeons and four assistant surgeons with charge of out-patients. The customary rotation of office has been from the midwifery appointments to the gynæcological. Recently there has been professional unrest among the operating surgeons owing to the demand for one or more beds by the assistant surgeons. As a solution the committee proposed to increase the number of surgeons from four to six in the gynæcological department. This was opposed by a certain number of the existing senior surgeons, and matters promised to be lively at the meeting called for the necessary alteration of the rules. However, the opposition proved to be lacking in determination, and the proposals of the committee were adopted without serious dissension.

Melbourne Hospital.

The Melbourne Hospital until recently had no special departments except that of dermatology. When the new building was opened appointments were made to departments for diseases of the eye and of the throat and nose. It is now announced that a gynæcological department will be opened, and applications have been invited for the position of gynæcologist to the hospital.

St. John Ambulance Association, Melbourne.

Dr. J. W. Springthorpe, in opening the new headquarters of this association at 463, Swanston-street, Melbourne, said they undertook ambulance work in Melbourne in 1908 after other authorities had refused. Last year there were 25,000 calls, and there were now five cars constantly at work. They received no Government grant and only £123 from municipalities. Last year they transported £800 worth of municipal cases. The deficit on the year's work was £476, and a fourth motor ambulance had been ordered, but towards the cost of this several donations had been received. A sum of £250 was still required. The Lord Mayor declared the building open, and said that 15,468 persons in Victoria had received certificates of proficiency in first aid.

Presentation Portrait.

One of the permanent memorials of the jubilee of the Melbourne Medical School, which will be celebrated on April 30th and May 1st, will be a portrait of Professor Sir H. B. Allen, to be hung in the Wilson Hall. The portrait has been completed by Mr. E. Phillips Fox, a well-known Australian painter, and is pronounced to be an excellent likeness. The cost of the picture is being met by a number of graduates of the medical school.

Small-pox in Sydney.

Small-pox has not yet disappeared in New South Wales, and there are at present about 25 cases and a number of contacts at the quarantine station. Cases are also reported from Newcastle. Some inconvenience has been caused by the arrival of the *Orsova* with a case of small-pox from Colombo, and the ship's company have had to be accommodated at the quarantine grounds. The New South Wales Government decline to pay a sum of £6000 claimed by the Federal Government for the use of the quarantine station during the past nine months

The Australasian Medical Congress.

Considerable discussion took place at the final meeting of the recent Australasian Medical Congress in Auckland on a motion recommended by the council of the New Zealand branch of the British Medical Association, viz.: "That membership of future congresses be limited to members of the British Medical Association." The reasons given in support were the overlapping in the work of the two bodies, and the necessity of remitting congress resolutions to the branches of the British Medical Association. The motion was proposed by Dr. W. Young (Wellington), and seconded by Dr. J. R. Purdy (Wellington). It was supported by Dr. R. Worrall (Sydney) and Dr. Sinclair Gillies (Sydney), and opposed by Dr. F. A. Pockley (Sydney), Hon. Dr. Nash (Sydney), and Dr. T. Dixson (Sydney), who argued that the motion, which was brought without notice, if carried would certainly alienate the sympathy of every State Government from future meetings of congress, since there were a number of reputable practitioners who were outside the British Medical Association. An amendment "that future congresses be congresses of the British Medical Association" was carried.

April 23rd.

ROYAL SANITARY INSTITUTE.—A sessional meeting of this Institute will be held at St. Helens on May 22nd, when a discussion will take place on the Hygiene of the Preparation, Storage, and Distribution of Food, to be opened by Dr. H. Joseph Cates, medical officer of health of St. Helens. The following medical men are expected to take part in the discussion:—Mr. T. W. Naylor Barlow, Mr. Joseph Beard, Mr. H. B. Corkin, Dr. W. Allen Daley, Dr. G. W. N. Joseph, Dr. E. W. Rees Jones, Dr. R. Sydney Marsden, Dr. A. B. McMaster, Dr. Stewart Stalker, and Mr. John J. Weaver. The chair will be taken at 7.30 P.M. by Colonel J. Lane Notter, R.A.M.C., treasurer of the Institute.

Correspondence.

"Audi alteram partem."

MONKEYS AS RESERVOIRS FOR THE VIRUS OF YELLOW FEVER.

To the Editor of THE LANCET.

SIR,—Though one cannot deny the possibility brought forward by Dr. Andrew Balfour in THE LANCET of April 25th that wild monkeys may act in certain places as reservoirs for the virus of yellow fever, yet anyone especially knowing the West Indies must at once see that this means is uncommon, if in fact it ever occurs at all. Recently numerous theories, chiefly made by people who have never seen yellow fever or studied the disease in its endemic areas, have been brought forward suggesting that animals may act as intermediate hosts or carriers of the virus. Agramonte and others have criticised this idea rightly, and have shown that as regards Cuba there is nothing to support such a view.

The West Indian Islands are, as a matter of fact, a very good place to study such a question, and during a visit paid to these parts in 1901 I had the good fortune to go through a yellow fever epidemic in St. Lucia, and also made observations upon the subject in the other islands as well. From these it is almost certain that the question of an animal host does not exist. If it did, then the disease would always be existent in those parts, and amongst the constant supply of non-immunes visiting these islands cases of definite yellow fever would always be occurring. Now such is not the case; once the disease is stamped out of the human population the island remains free until some chance importation of a case or of an infected mosquito brings back the virus. Cuba is a case in point; St. Lucia, where I studied the disease, was also so; and Barbados and the other islands also furnish similar examples. Epidemiological researches, then, carried out in suitable areas such as these are against an animal host, and still more strongly so are they against monkeys of any sort, especially red howlers. In most of the West Indian Islands such monkeys do not exist, and one must further remember that the disease occurs, even in places where there are monkeys, practically always in towns where such animals are conspicuous by their absence. The case of the town of Maracaibo, mentioned by Dr. Balfour, is only another example of this well-known fact.

It is right in passing to mention here that there are some monkeys in Barbados, but these live in a semi-preserved condition in a wood miles away from Bridgetown, the chief seaport, and are, I believe, descendants from West African monkeys brought in the old days by the slaves. They are not red howling monkeys, a species inhabiting the forests of Brazil, British Guiana, &c. Further, against the latter monkey being a carrier of the disease is the fact that it abounds, as I have just said, in the woods and forests of British Guiana, where, so far as I know, cases of yellow fever are not met with amongst the non-immunes who traverse these areas. Whilst travelling there in 1901 and investigating the filariasis which is found amongst the aboriginal Indians I had ample proofs of observing the diseases of the country and I never met with yellow fever myself or heard of anyone else having seen it there. When yellow fever has been met with in British Guiana it has occurred in Georgetown, the chief seaport, or in the other towns of the coast line.

Referring to Dr. Balfour's paper again, I cannot say that the question of importation from the mainland is negatived in the recent small outbreak of yellow fever at Brighton, near the pitch lake in the south-west of Trinidad, nor can I agree with the remarks attributed to Mr. George—namely, "There is not the slightest evidence that the disease was conveyed here from outside sources." Dr. Balfour expressly states that Case 1, an American, had only been five days in Trinidad, and he had arrived there from the *Venezuelan mainland five days before being struck down*. It is perfectly clear to my mind, therefore, that he either acquired the disease on the Venezuelan mainland or on his transit from there to Trinidad. Case 2, who was taken ill almost at the same time as Case 1, is not perhaps so easy to explain as he had not been out of Trinidad for one year and seven months.

There is no doubt that sporadic cases, of what appears at least to be yellow fever, have cropped up from time to time in endemic yellow fever areas. That all of these have been genuine cases one cannot say definitely, because in many instances no necropsies have been performed nor any careful examinations made. In the light of recent research and improved diagnosis it will be interesting to see if such cases still occur.

The finding of bodies, similar to those described by Scott Macfie and Johnston in guinea-pigs and dogs, in monkeys' blood would be interesting, but would mean nothing. It has yet to be proved that these bodies are parasites, and, secondly, even if they are that they have anything to do with the cause of yellow fever. Recently looking at guinea-pigs' blood with Dr. C. M. Wenyon here in England we have seen bodies very similar to those described by the two observers just mentioned. Before their results can be accepted, therefore, confirmation must be forthcoming. I do not propose to enter into the controversy of Seidelin's bodies here at this moment. Agramonte, Schilling, Guiteras, and others, all very competent observers, have already done so, and their opinion is certainly against them.—I am, Sir, yours faithfully,

GEORGE C. LOW, M.A., M.D.,
Lecturer, London School of Tropical Medicine.
Bentinck-street, W., May 1st, 1914.

THE INFECTIVITY OF TUBERCULOSIS.

To the Editor of THE LANCET.

SIR,—In the annotation in your issue of May 2nd on certain evidence presented in regard to the methods of spread of tuberculosis, you state that "phthisiophobia is to be strongly deprecated," and such an expression of opinion from so weighty a journal as THE LANCET is of high value at the present time.

But I would ask to be allowed to draw the attention of your readers to the valueless nature of the evidence on which the conclusions are drawn by Dr. Lampson, to the effect that "the spread of tuberculosis in families having open cases of tuberculosis is greater than is generally believed." The spread of infection is considered in families, or those living in the house with them. Of such persons, the greater number would probably be members of the same family. The researches of Pearson and Goring have suggested that the heredity figure for phthisis is definite and fairly high. Hence full correction must be made for this factor before it is fair to begin to estimate the possible effects of infection. So far as stated, no such correction is made, and hence the deductions drawn are bound to be misleading. So far the most definite evidence on the point is the results of the various inquiries which have been made into the spread of infection among non-related persons in sanatoriums, and such inquiries have shown that "adults are very little endangered by close contact with open tuberculosis."

Apologising for troubling you with the matter,
I am, Sir, yours faithfully,
Colwall, Malvern, May 2nd, 1914. MARY H. WILLIAMS.

To the Editor of THE LANCET.

SIR,—In your annotation in THE LANCET of May 2nd you give an account of the view of Dr. Baldwin, of Saranac Lake, that the risk of infection of adults from cases of open pulmonary tuberculosis is small, and of the observations of Dr. Lampson, of Minneapolis, who found that an excessively high proportion of other members of the family reacted to tuberculin if one member of the family suffered from open pulmonary tuberculosis.

I am led to ask, Might not Dr. Baldwin reply that this excess might be due to abnormal susceptibility of these families to tuberculosis infection generally, of which the occurrence of a case of open pulmonary tuberculosis was indication, and not necessarily to infection derived from this case? I confess I am interested in the question from the point of view of the evidence upon which we must rely in this matter. I am, Sir, yours faithfully,
May 2nd, 1914. STUDENT.

THE FATALITY OF MEASLES.

To the Editor of THE LANCET.

SIR,—Anything connected with measles is important to the clinician and health officer, for measles and whooping-cough are the two most deadly and destructive diseases which menace the life and after well-being of the young child. I fear them more than either diphtheria or scarlet fever, of which the general public have such a dread, just as they regard measles and whooping-cough so light-heartedly. I wish both latter diseases were notifiable, for I am sure this would lead to a saving of young lives, but authorities are penny wise and pound foolish.

In three recent epidemics I have complete notes of 200 cases, of which 75 per cent. were in children of 5 or under, and a like percentage of the cases belonged to the artisan class. The deaths were six, equal to 3 per cent. All died of broncho-pneumonia, and one was aged 2 and the other five were 18 months or under. Of the 200 only two suffered from middle-ear disease, or 1 per cent., and one of the cases dried up completely at the end of 10 days and without impairment of hearing. Four of the 200 cases, aged respectively 6, 3, 2, and 1½ years, had "running ears" before, and they are not included. The low percentage of middle-ear disease seems to me worthy of special note, and I believe this happy result as well as the low death-rate is due to our better management of cases of measles during the last 20 years.

My own plan is to allow nothing but cold water, aerated water, lemonade, or weak tea for the first

48 hours after the rash appears. This helps to keep the mouth, pharynx, and naso-pharynx sweet and clean, and as no solid food is given putrefaction is largely prevented, and so there is less danger of mischief spreading along the Eustachian tube. I insist on the children sleeping between sheets and that the patients be sponged down all over twice a day at least, and that they be kept cool and not have their beds right up against a roaring fire, as was so common a practice in former days. I think a fire in the bedroom is useful, for it sometimes relieves a troublesome cough, but I insist on open windows but avoidance of draughts. I ask the mother or nurse to flush the room thoroughly with fresh air twice a day at least. I tell them that the irritating cough is not due to "cold," but is the result of the poison of the measles; that it will disappear as the poison is got rid of, and that the best channels of elimination are the skin and the kidneys. This note of explanation generally sets their minds at rest as to fresh air. I tell the attendants to keep the mouth clean and to attend to any discharge from the eyes and nose by washing with water that has been boiled and allowed to become lukewarm, and I point out the advantage of using small pieces of absorbent cotton wool or clean rag, which should be used only once and then burnt. I prescribe a mixture of ipecacuanha wine and solution of ammonium acetate and syrup, which is useful and comforting, and if there is great restlessness or if the cough is very troublesome I add thereto potassium bromide and morphine hydrochloride in suitable doses.

I am, Sir, yours faithfully,
J. GORDON SHARP, M.D. Edin.
Leeds, May 4th, 1914.

THE PAYMENT OF FEMALE MEDICAL OFFICERS.

To the Editor of THE LANCET.

SIR,—You courteously granted me space for a letter on the above subject in your last issue in regard to the salaries of inspectors of the mentally deficient. It is gratifying to know that the second candidate has now sent in her resignation to the Board of Control.—I am, Sir, yours faithfully,

JANE H. WALKER,
President of the Registered Medical Women's Association.
Harley-street, W., May 4th, 1914.

TRAUMATIC DISLOCATION OF THE HIP-JOINT.

To the Editor of THE LANCET.

SIR,—The two cases of this accident recently reported in THE LANCET (April 18th and May 2nd) remind me that on Nov. 20th, 1911, I had a similar case in a boy in his eighth year. I do not know his exact age, but in the dispensary ticket issued to me his age was set down as 7 years. When the accident happened he was sitting in a cart drawn by a donkey. In turning a corner one wheel went up on the bank and the cart was overturned on the boy. When I saw him a few hours later I found a typical dislocation of the head of the left femur on to the dorsum ilii, the attitude of the limb exactly resembling the conventional diagram in the books. I gave the boy chloroform, and got his father to make steady traction in the direction of the limb. Of course I had no skilled assistance. With a little manœuvring and manipulation reduction was readily brought about. No splint was applied. The legs were bandaged together. There was no other injury and the boy was able to walk in a week. In the case reported on April 18th the patient "was allowed to put weight on the limb on the twenty-eighth day." That seems to have been pathetically timid. I am, Sir, yours faithfully,

J. F. KEENAN, M.B.
Ballinalee, Edgeworthstown, May 5th, 1914.

OVER-CONSCIENTIOUSNESS IN WOMEN.

To the Editor of THE LANCET.

SIR,—One very important feature in the work of women is brought to notice by the closing remarks in the third section of your Special Commissioner's article upon panel practice in Stepney and Enfield, published on April 25th. The quality of over-conscientiousness greatly mars the future prospects of many young women. Prosperity and promotion, instead of bringing greater ease, more comfort, and a healthier home life, often result in a complete collapse. Women are apt to allow their business to take too great a hold of them. They feel the anxieties, the difficulties, above all the responsibilities, too keenly. So long as they remain shop assistants or occupy some other subordinate position they continue to work and their strength and health hold out. But when they are promoted to a responsible position as manageress of a shop or a department, then they take to heart so keenly the various incidents, especially the unpleasant incidents, of their business that health gives way as a consequence of their hypersensitiveness or over-conscientiousness. Panel doctors are, I am sure, already in a position to testify to this very important and significant fact.

I was speaking recently to a lady who has been an ardent worker for the Band of Hope during now more than 20 years, and has, therefore, had time to follow up the careers of some of the girls who have been under her charge. This lady at once mentioned the case of one of her old pupils who used to earn her living very successfully and for several years as assistant at a fashionable London pastry-cook's shop. But the business was so prosperous that the owners opened another shop not far off and appointed the assistant in question as manageress. This should have meant better health and more wealth; it proved just the contrary. The strain, anxiety, and responsibility were too great. The new manageress soon became a hopeless invalid and had to give up work altogether.

Another of these Band of Hope girls worked for several years as waitress at one of the A.B.C. tea-rooms; but when finally she was appointed manageress she also broke down and has now been for two years incapable of doing any work whatsoever. Then a third case—in a small sweetstuff shop in South London one of the Band of Hope girls was engaged to assist the manageress for a wage of 10s. a week. So long as the work continued on this modest basis all went well. But one day the manageress elected to leave the business, and the owner of the shop thought the assistant was not only experienced enough to be appointed manageress in her turn but was young and energetic enough to attend to the whole business herself without anyone to help her. The anxiety and responsibility destroyed her health, and anæmia and nervous prostration incapacitated her for any work whatsoever.

The greater amount of medical care which, in response to the National Insurance Act, is now bestowed on women workers will help to throw light on their special weaknesses and their special requirements.—I am, Sir, yours faithfully,

April 27th, 1914. PRACTICAL.

"THE MENACE OF CANCER" AND AMERICAN VITAL STATISTICS.

To the Editor of THE LANCET.

SIR,—In regard to the discussion on the trustworthiness of American vital statistics, Dr. Horst Oertel takes adequate care of himself in THE LANCET of April 18th against the depreciatory statement by Mr. Frederick Hoffman in THE LANCET of April 11th, that "the views of Oertel [as to the "*greatest laxity and inaccuracy*" which obtains in New York City] have not been accepted by qualified critics, although justified to a limited extent as regards initial diagnosis in hospital practice." Mr. Hoffman does not state what, in his judgment, constitutes a qualified critic, or whether he means that no qualified critics have accepted Oertel's views, or only that some have not. However, there has just come to hand information which seems to show that some critics undoubtedly support Dr. Oertel; whether these critics would be regarded by Mr. Hoffman as "qualified" he alone can say.

The information is contained in a cutting from the *Evening Post* of New York for March 30th, one of the most weighty of American newspapers, on account of its usual trustworthiness in regard to facts, the judicial character of its opinions, and its comparative restraint of expression. From this cutting it will be seen that the Hospitals Investigation Committee appointed by the Board of Estimate of New York City, after an exhaustive study of the number of necropsies performed in Bellevue and Allied Hospitals, and of *mistakes made in diagnoses* and in clinical examinations, recommend that the State law as to necropsies be changed so as to enable hospitals to perform a much larger percentage of necropsies than at present. Dr. Oertel's figures are quoted to establish the fact that of the 482 cases that came to necropsy, in 47·7 per cent., or close on one-half, the necropsy findings did not confirm the clinical diagnosis. If this percentage can be extended to the total of 3170 deaths, which according to Dr. Oertel's figures took place in one year in Bellevue Hospital, it would indicate 1521 deaths from conditions unknown or incorrectly diagnosed. The report further points out that at Bellevue necropsies are performed on only about 10 per cent. of those dying in hospital, as against 84 per cent. at University College Hospital, London, 99·9 per cent. at the Allgemeines Krankenhaus, Vienna, and 90 per cent. at most of the German hospitals. Every opportunity for post-mortem examination is afforded by Bellevue, which incorporates in its pathological buildings a morgue capable of accommodating 225 bodies, four necropsy rooms, and undertakers' rooms, but it is exceedingly difficult to secure permission for necropsies from relatives and friends, while in the case of unclaimed bodies the existing law, as interpreted by the late Commissioner of Charities, forbade necropsies thereon, and ordered them to be distributed intact among the medical colleges. The new law now proposed by the committee recommends that accredited hospitals shall be allowed to perform necropsies in cases where no objection is made within 48 hours by the next of kin. It seems obvious from the foregoing that there are certainly some presumably qualified critics who not only have accepted Dr. Oertel's views, but even propose to found legislation upon them. An interesting confirmatory case appears in the *Weekly Bulletin of Department of Health, City of New York*, for April 11th, which shows how unsafe are arguments for or against any given theory or principle which are based on clinical diagnosis alone. (And this is the point of the contention, for the medical profession in America has no special monopoly of such errors.) A member of the National Guard died from typhoid fever (so it was certified) on March 30th, 1914, in spite of the fact that he had been inoculated with antityphoid vaccine in January. Indeed, it was alleged that the inoculation not only had failed to prevent the disease, but had actually given rise to the infection. Naturally great commotion was caused, so that a necropsy by the coroner's physicians was held, when it was conclusively shown that there was no evidence of typhoid fever, but that the patient had died from malignant endocarditis and general sepsis.

I am, Sir, yours faithfully,

April 30th, 1914. ANGLO-AMERICAN.

THE NATIONAL INSURANCE ACT.

THE NATIONAL INSURANCE ACT AND THE BUDGET.

THE Budget statement of the Chancellor of the Exchequer contained indications of the directions in which he was prepared to extend financial support to the working of the National Insurance Act. The working of the Act having revealed, as all our readers know, an amount of disease among women which was unexpected, the Government will make a substantial grant to societies whose resources have been depleted as a result, the danger of malingering being guarded against. It is proposed to establish a system of medical referees "who will not merely be a check on malingering but will be a class of doctor whom the societies can call in to decide whether a case is doubtful or not, and who will be consultants." Such are Mr. Lloyd George's words, and it is clear that the officers whom he has in his mind will have very delicate duties to perform, and that the opportunities for friction will be numerous. It is proposed to establish clinics at convenient centres for the assistance of the practitioners on the panels in difficult cases where coöperation is useful, and also to organise a system of health lectures. A certain amount of encouragement is also promised to deposit contributors, whose numbers appear to be falling.

THE GLAMORGAN INSURANCE COMMITTEE AND A QUESTION OF POWERS.

At a recent meeting of the Glamorgan Insurance Committee an important question was raised by a letter from Dr. Marcus S. Paterson, the medical director of the Welsh Memorial, who had written to say that bacilli of tuberculosis had been found in the sputum of a certain man who was living in a house with young children, the local medical practitioner reporting that the conditions of the house were not suitable for the treatment of the disease. The man, however, continued to live in the house and apparently refused to leave it. The chairman of the committee expressed the view that the Insurance Act was defective in providing no machinery for enabling any compulsory steps in such matters, and it was suggested that it was for the Approved Society to take steps. The difficulty and hardship of compulsorily separating a parent from his children was also referred to, and the matter was eventually left to the Sanatorium Benefit Subcommittee to deal with. At the same meeting discussion took place with regard to the prevalence of malingering, and the appointment of medical referees to deal with it was advocated. The question was referred to the Medical Benefit Subcommittee for its consideration.

Panel Doctors with Small Lists.

A meeting of panel doctors with small lists will be held at 3 P.M. to-day, Saturday, May 9th, at the Eustace Miles Restaurant, Chandos-street, Charing Cross, W.C., to hear the report of the committee formed by them on March 17th last. A statement will also be made concerning the interview of the committee with the Panel Service Subcommittee. It is hoped that all directly interested will endeavour to be present.

National Health Insurance and the Irish Corporations.

The Royal College of Physicians of Ireland and the Apothecaries' Hall of Ireland have recorded their regret that in Section 44 (2) of the National Health Insurance (Medical Benefit) Regulations, 1913, and the Memorandum issued in connexion therewith, provision is made whereby insured persons who make their own arrangements for medical benefit under Section 15 (3) of the National Insurance Act may obtain treatment from unqualified persons. The College and the Hall add their regret that under an Act professing to promote the health of the nation unqualified practice should be possible. A similar resolution by the Royal College of Surgeons in Ireland was published last week.

Coördination of Tuberculosis Treatment.

The London Insurance Committee has adopted a number of rules designed to meet the circumstance that in a large number of cases the treatment provided at tuberculosis dispensaries, for which payment is claimed by the dispensary authorities, is such as could be given by practitioners on the panel to whom payment has already been made. The difficulty is that a large number of insured persons have been in the habit of attending dispensaries without a recommendation from the panel practitioner or the Insurance Committee, and frequently without the knowledge of the practitioner. The Insurance Committee has now decided to make it a condition of grants to dispensaries that insured persons treated there must have been referred by the panel practitioner or the Insurance Committee. Practitioners with whom insured persons contract out will act in this matter through the Insurance Committee. The committee has endorsed the view of the Panel Committee that the duties of the practitioner in respect of domiciliary treatment shall be those included in the Local Government Board Order of July, 1912, that the services of the dispensary shall be primarily of a consultative character, and given in coöperation with the practitioner. They shall consist of the more elaborate methods of diagnosis and such treatment (if any) as may be agreed upon between the practitioner and the consulting officer of the dispensary. The committee will require dispensary authorities to make definite arrangements for linking up the panel to the dispensary service and to consider as to giving panel practitioners representation upon dispensary committees. In order to arrive at a basis of grants to dispensaries the proportion of cases referred by practitioners is to be recorded, and the Insurance Committee will institute inquiries in any districts where the proportion is found to be above the average.

The Position of Panel Chemists at Aberdeen.

At a largely attended meeting of Aberdeen chemists the following resolution was passed for transference to the Local Health Committee:—

> That this meeting, having had under consideration the payment of the drug accounts under the National Health Insurance in the Aberdeen burgh area, desire to enter an emphatic protest regarding the inadequacy of the sums paid for the last two quarters, and particularly for the quarter just closed, they only having received 52½ per cent. of the total accounts due; and they also desire to point out to the Insurance Committee that chemists are in no way responsible for the quantity of medicines used, their duty under their contract with the committee being entirely confined to the dispensing of medicines ordered by the medical practitioners on the panel in accordance with the tariff prices agreed upon, and this they claim to have faithfully done. They feel they need scarcely point out to the committee the utter impossibility of such a state of matters being allowed to continue without very serious consequences following. They therefore request the committee to get an assurance from the Commissioners before June 1st that the arrears will be paid within a reasonable time, otherwise they consider the panel system in the Aberdeen burgh area will be seriously imperilled.

It was also agreed that it be remitted to the Pharmaceutical Statutory Committee to send a memorial to the Scottish Insurance Commissioners on the grounds of the following motion:—

> This meeting of panel chemists in the Aberdeen burgh area, in view of the extreme gravity of the position in which they are placed through the inadequacy of payments, hereby require the Statutory Committee to forward to the Scottish Commissioners a memorial setting forth a full statement of the case, assuring them of the impossibility of continuing on the panel under the existing conditions, and request an assurance that in future no *pro rata* arrangement of payment will exist, and not more than 10 per cent. deductions made previous to the checking of the accounts, and that only until the accounts are checked and adjusted; and also protesting against the injustice of paying bonuses in some areas while in others the ordinary accounts are not met.

Scottish Rechabites and Insurance.

At the annual meeting of the Scottish Provincial Council of the Independent Order of Rechabites prominence was given in a speech by Brother Lunan to the question of excessive sickness and to the alleged negligence or want of independence on the part of medical men as being responsible for the drain upon the funds of the societies. The speaker attributed the evil to the fact that medical men were no longer under the control of the societies and were afraid to tell their insured patients that they were capable of work owing to the possibility of their transferring themselves elsewhere. He said that "if the doctors wished to avoid the establishment of a State Medical Service they would best consult their own interests if they acted what he would call honestly." This observation was received with applause. Brother Lunan had already expressed the belief that the majority of the medical profession was acting honestly in the matter of giving certificates, and we may record here the opinion that the honest majority is a great deal larger than he supposes. It may also be suggested that the medical profession is not likely to give up the freedom from the control of Friendly Societies which it now enjoys, and that whatever reasons there may be for advocating the establishment of a State Service, there is nothing to show that its members would be less independent of the societies than they are now. The giving of certificates not demanded by the patient's condition is alleged to be due to a desire to retain insured patients, but it has not yet been proved either that such undeserved certificates are given in large numbers, or that, if so given, they are due to the cause mentioned. Consequently, under a State Service societies might well find themselves no better off than they are now.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At the recent Examination in Sanitary Science the following candidates were successful:—

Charles Henry Arthur Alderton, *John Horatio Baldwin, Howell Wood Barnes, *Edward Hamilton Black, David Sands Brough, †Muriel Constance Bywaters, James Cairns, Milton Carrasco, John Marcus Hobson Conway (Captain R.A.M.C.), Lucy Davis Cripps, George da Silva, †Henry Leatham Grabham, William Cooper Gunn, James Stewart Hall, Hiranath Dhondnath Khote, William Maxwell McKie, Hugh McLean, *Malcolm Manson, Felix Oswald Newton Mell (Major I.M.S.), John Morison (Captain I.M.S.), John Carmel Noronha, John Harold Peck, Arthur Errington Rayner, William Bramwell Reid, Eric Hemingway Shaw, James Johnson Sinclair, *Edwin Charles Allan Smith, Norman Walmsley Steinberg, Alfred Maurice Thomson, and Edward Archibald Walker.

* Distinguished in the practical applications of sanitary science and pathology. † Distinguished in the principles of hygiene.

The following medical degrees have been conferred:—

M.D.—L. B. C. Trotter, Clare.
M.B., B.C.—C. R. Taylor, Caius.
M.B.—J. P. H. Davies, Jesus.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW AND ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH.—The recent examinations of the Royal College of Physicians of Edinburgh, Royal College of Surgeons of Edinburgh, and Royal Faculty of Physicians and Surgeons of Glasgow, held in Glasgow, were concluded on April 25th. The following candidates passed the First Professional Examination:—

Reginald Douglas Howat, East Kilbride; Cuthbert Gaulter Macgee, Fleetwood; and Allan Paul McLeod, Barrhead.

The following candidates passed the Second Professional Examination:—

William Brown, Larkhall; John Archibald Steele Campbell, Dalry, Ayrshire; William O'Gorman Donoghue, Glasgow; John Alfred Alexander Duncan, Middlesbrough; Peter Fraser Fairley, Hamilton; Alfred David Gorman, Methven; George Alexander Grandsoult, British Guiana; Percy Hayes, Cork; Harold Cranwell Aloysius Haynes, Victoria, Australia; John William Irvine, Shetland; Edward Glyn Jones, Liverpool; Mary Gray Jones, Motherwell; Alexander Morrison, Glasgow; John Joseph Mulvey, Airdrie; and John Alexander Murray, Glasgow.

The following candidates passed the Third Professional Examination:—

Oswald Brunlees, Roehampton; John Crawford (with distinction), Paisley; David Andrew Imrie, Glasgow; Percy Milnes, Brighouse; George London Neil, Lesmahagow; John Mellon Smeaton, Glasgow; Frederick William Thompson, Garlieston; and William John Mitchell White, Glasgow.

The following candidates passed the Final Examination and were admitted L.R.C.P.E., L.R.C.S.E., and L.R.F.P.S.G.:—

William MacLeod, Glasgow; Edward Dias, Goa; Jerome Suares, India; John Corcoran, Cork; Gopal Das Madhok, India; Violet Millicent Tracey, Glasgow; William James Valentine Curtain, Melbourne; Muljibhai Kuberdas Dalal, Bombay; Fred Miller Murray, Glasgow; Maud Bennett, London; and Léon Galdemar, Mauritius.

CHELSEA TUBERCULIN DISPENSARY.—Owing to the death of the Duke of Argyll the ceremony of opening this tuberculin dispensary is postponed from to-day (Saturday, May 9th) to Friday, June 5th, at noon, when H.R.H. Princess Christian of Schleswig-Holstein has again consented to attend and perform the ceremony. The dispensary will be open for inspection on Saturday, June 6th, from 2 to 6 P.M.; tea at 4.30.

UNIVERSITY COLLEGE, LONDON.—The Page-May memorial lectures for the current session will be delivered by Dr. Keith Lucas, F.R.S., Trinity College, Cambridge, on the Conduction of the Nervous Impulse. The course will be held at University College on Fridays at 5 P.M., beginning on May 15th. The lectures are open to all internal students of the University of London, and to such other persons as are specially admitted. Applications should be addressed to the secretary, University College, Gower-street, London, W.C.

CENTRAL MIDWIVES BOARD.—A special meeting of the Central Midwives Board was held at Caxton House, Westminster, on April 29th, Sir Francis H. Champneys being in the chair. A number of midwives were struck off the roll, the following charges amongst others having been brought forward: The child suffering from inflammation of and discharge from the eyes the midwife did not explain that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E.20 (5); not keeping the register of cases as required by Rule E.23; disregarding the wish of the patient's relatives for medical assistance; neglect to take the pulse or temperature of the patient at visits; douching the patient with an unsuitable appliance; neglect to notify the local supervising authority when medical aid has been sought, as required by Rule E.21 (1); not keeping the bag of appliances in a cleanly condition; being unable to use a clinical thermometer with accuracy, and consequently unable to comply with Rule E.13. Medical aid having been sought for the patient on the day of the confinement the midwife neglected for some days to notify the local supervising authority thereof, as required by Rule E.21 (1); and not keeping the register of cases as required by Rule E.23.—A meeting was held at Caxton House on April 30th, Sir Francis Champneys being in the chair. Letters were considered from the Local Government Board with reference to the chairman's letter of Feb. 20th criticising the provisions of the Ophthalmia Neonatorum Order, 1914, and from the medical officer of health of Manchester on the same subject. The Board directed: (*a*) that the Local Government Board be thanked for their letter; (*b*) that the medical officer of health of Manchester be thanked for a copy of his circular on ophthalmia neonatorum. A letter was considered from the London County Council asking whether the Board is prepared to issue instructions with regard to the most effective germicide to be used by midwives for the treatment of the eyes of infants during the first few days after birth. The Board decided that the reply be that the principle of the Board has been to refrain from ordering any special drug in such cases as are therein referred to inasmuch as opinions differ, and it would, in their view, be unwise to frame a rule ordering the use of any particular germicide inasmuch as the breach of such a rule could not rationally be punished if the delinquent were able to quote recognised authority for the use of the particular germicide—other than that authorised by the Board—used by her. A letter was considered from the honorary secretary of the Southampton Midwives Association asking whether Credé's method may be used by a midwife as a preventative in cases of ophthalmia neonatorum. The Board directed that the reply be: (*a*) that the Board has purposely refrained from issuing orders on points of treatment on which recognised authorities differ; and (*b*) that the Board has never ordered the use of Credé's method as a prophylactic. A letter was considered from the medical officer of health of Carlisle inquiring as to what is to be regarded as a stillbirth for the purpose of the Notification of Births Act, 1907. The Board decided that the reply be that the Board points out that it has no specific functions with regard to carrying out the Notification of Births Act, 1907. That as regards the duties of a midwife in notifying stillbirths to the local supervising authority the definition of a stillbirth is given in Rules E. 21 (1) (c) note as follows: "A child is deemed to be stillborn when after being completely born it has not breathed or shown any sign of life." A letter was considered from the Infantile Health Central Committee forwarding a copy of a resolution passed at a meeting held on April 28th suggesting that the Board should include the subject of the hygiene of infant clothing among those upon which candidates for the Central Midwives Board's certificate are liable to be examined. The Board directed that the Infantile Health Central Committee be informed that candidates for the certificate of the Central Midwives Board are already liable to be examined on the subject specified (Rules O.4 (n)).

CENTENARY OF THE ROYAL HOSPITAL FOR DISEASES OF THE CHEST.—The medical staff of the Royal Hospital for Diseases of the Chest are celebrating the 100th anniversary of the hospital by a commemoration dinner, to be held at the Savoy Hotel to-day (Friday, May 8th). This hospital makes the honourable claim to be the first established in Europe for the special treatment of thoracic disease, including pulmonary tuberculosis.

UNIVERSITY OF LEEDS: FACULTY OF MEDICINE.—The following special lectures on medical subjects will be given in the Great Hall of the University at 4 P.M. on Wednesdays:—Rheumatoid Arthritis and Allied Conditions, Mr. T. S. P. Strangeways, director of the Cambridge Research Hospital, May 13th; Lead Poisoning from the Industrial and Medical Point of View, Sir *Thomas* Oliver, professor of medicine in the University of Durham, May 20th; Intestinal Stasis, Sir W. Arbuthnot Lane, senior surgeon, Guy's Hospital, May 27th. Admission will be free to members of the medical profession on presentation of their visiting cards.

COMMITTEE ON "SPIRITUAL HEALING."—As the result of a conference of representatives of the clerical and medical professions held in the Chapter House of St. Paul's Cathedral in October, 1910, a standing committee consisting of 9 clergymen and 11 medical men, with Bishop Ryle, Dean of Westminster, as chairman, was appointed to investigate "spiritual," "faith," and "mental" healing, to safeguard against their dangers, and to promote coöperation between the two professions. The medical members were Sir Dyce Duckworth (vice-chairman), Dr. Stanley Bousfield, Dr. Charles Buttar, Mr. W. McAdam Eccles, Dr. F. de Havilland Hall, Dr. Theo. B. Hyslop, Dr. H. G. Gordon Mackenzie, Dr. J. A. Ormerod, Sir R. Douglas Powell, Dr. Howard H. Tooth, and Sir T. Clifford Allbutt. According to its report just published by Messrs. Macmillan the committee held 19 sittings and investigated a considerable number of cases of alleged healing, in the greater number of which, however, no medical evidence was obtainable. Attention was particularly directed to the investigation of cases of ordinarily incurable diseases, but in no such disease as, for instance, cancer, Raynaud's disease, or disseminated sclerosis did it appear that the course of the actual disease had been in any way retarded. A digest of those cases in which it was possible to obtain medical evidence both before and after treatment is given in Appendix B, and in Appendix C is a summary of the evidence of some of the witnesses. The conclusions arrived at by the committee, all of whom sign the report, are that so far as they have a purely medical aspect the physical results of what is called "faith" or "spiritual" healing do not prove on investigation to be different from those of mental healing or healing by suggestion; they recognise that suggestion is more effectively exercised by some persons than by others; they consider that as in all treatment by suggestion spiritual healing can be expected to be permanently effective only in what are understood as functional disorders, and that alleged exceptions are too disputable to be taken into account; and they emphasise this point to warn those who resort to "healers" of the dangers of postponing medical treatment. They consider spiritual ministration should be recognised equally with medical ministration for the sick. The committee propose to continue their investigations, and will be glad to have cases of spiritual healing brought to their notice that comply with the following conditions: (1) a diagnosis by a medical practitioner before treatment, with a short history of signs and symptoms; (2) an account of the treatment, with dates and details; (3) a medical examination, by the same doctor if possible, after treatment, with a detailed account of the changes that have taken place.

UNIVERSITY COLLEGE, READING.—A new gymnasium which has been presented to University College, Reading, by Dr. and Mrs. J. B. Hurry, has just been opened.

LITERARY INTELLIGENCE.—Mr. Henry Kimpton announces the publication of a new work on the "Eye, Nose, Throat, and Ear: A Manual for Students and Practitioners," by James Forrest, M.B., Ch.B. Edin.; also a new seventh edition of "Consumption, a Curable and Preventable Disease," by Lawrence F. Flick, M.D. Philadelphia.

LIVINGSTONE COLLEGE: APPOINTMENT OF A NEW PRINCIPAL.—The committee of Livingstone College have decided to appoint the vice-principal, Dr. Loftus E. Wigram, formerly honorary secretary of the Church Missionary Society, to succeed Dr. Charles F. Harford as principal of Livingstone College, when the latter resigns his post at the end of July.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Milk and Dairies (Scotland) Bill.

Mr. MCKINNON WOOD, the Secretary for Scotland, has introduced a Bill "to ensure the purity of milk-supplies and to regulate dairies in Scotland, and for other purposes connected therewith." It has been read a first time.

The Medical Profession and the Income-tax.

Some members of the medical profession will be affected by the new income-tax proposals put forward by Mr. LLOYD GEORGE in his Budget statement on Monday, May 4th. For earned incomes under £1000 the present rate of 9*d.* in the £ is continued. In the case of incomes from £1000 to £1500 the present rate of 9*d.* is increased to 10½*d.* Incomes from £1500 to £2000, which formerly paid at the rate of 9*d.*, will in the future pay at the rate of 1*s.* The present rate on incomes from £2000 to £2500 is 1*s.*, but it is to be raised to 1*s.* 2*d.* Incomes ranging from £2500 to £3000 are now taxed at 1*s.*, but the future rate will be 1*s.* 4*d.* Incomes over £3000, which now contribute at the rate of 1*s.* 2*d.* in the £, are to be taxed at 1*s.* 4*d.* In addition to these increases of the rate in the case of earned incomes, the tax on unearned incomes is to raised from 1*s.* 2*d.* to 1*s.* 4*d.* in the £. The super-tax limit is lowered from £5000 to £3000, and there again the principle of graduation will take effect.

The Budget and Public Health.

Mr. LLOYD GEORGE in the course of his Budget statement made reference to public health and national efficiency, and also to the necessity for Government assistance to National Insurance. Under this head he made important proposals as to medical referees and clinics. He said that there was no more important branch of the public service than that which dealt with the prevention and the cure of disease. Much of the disease and lack of vitality might be due to the faults and weaknesses of people, but there was a great margin which was due to other causes—causes which were entrusted to the supervision, care, and control of the local authorities. For instance, there were the unhealthy and overcrowded dwellings which were such a prolific source of depressed vitality in this country. There were the absence of sufficient provision for the cure of disease in its initial stages, the absence of any systematic instruction in the principles of health, and the lack of the supervision in the nurture and upbringing of children. He would like to say a word about the stamping out of tuberculosis, the most terrible plague that ever afflicted any country. Some municipalities had dealt with this problem with great public spirit. Notably that was so in the case of Liverpool and Birmingham, and some county councils in England, Scotland, and Wales had shown the same spirit. He wished he could say the same thing of the municipality that ought to lead the cities of the Empire for bettering the conditions of its working people—he meant London. For reasons which he could probe, but which he did not intend to dwell upon, the authority there had been dilatory, suspicious, obstructive, laggard in the attempt to stamp out tuberculosis. There was some excuse to be found in rates. He proposed that in future local authorities should be pressed to show greater activity and enterprise in grappling with all these evils that were sapping the national health and happiness. Parliament was on the eve of proposing great changes to deal with the housing problem. The first thing was to put local authorities in a position to enable them to carry out these proposals without being crippled and handicapped by rates. The contribution which the Government proposed to make to the rates would be used as a means of pressing local authorities to deal with more spirit and boldness with such matters as housing, including the clearing of slums and a provision of better accommodation, the provision of a sufficient number of hospitals, and the grappling with greater energy with tuberculosis. The total grant for the United Kingdom would be £4,000,000 for the first full year. There were certain services which required such immediate action and stimulus that he proposed specific and separate grants with respect to them. They were in the region of coöperation between insurance and local government. The first was the campaign against tuberculosis. While the Insurance Act was passing through the House of Commons a provision was inserted extending the tuberculosis arrangements to dependents of insured persons. It was contemplated that the local authorities should bear half the deficiency and the Government should provide the other half. A good many local authorities had undertaken the work, and there was a considerable sum this year in the estimates for the Government half of that expenditure. Now that the public health grant was to be made, and a substantial grant, on the condition of efficient discharge of the duties of the localities in respect of public health, more money would be required. Where the local authorities were not ready to take up the work the grant would be made to the Insurance Committee, so that the dependents of insured persons should not suffer through the slackness of any local authority. There would be considerable grants for that purpose. There was another branch of the service which was also in that region between insurance and local government. The Insurance Act had helped to make it clear that any system of doctoring was hopelessly inefficient which was not supplemented by a good system of nursing. There were voluntary associations throughout the country doing admirable work, but they were inadequately financed. The local authorities of some districts were also doing this work. The Government proposed to provide a substantial annual sum to help the work of providing and training an adequate supply of nurses. There was another deficiency which had been exposed by the operation of the Insurance Act. There was no provision for the scientific diagnosis of disease. In Germany, in almost every town, and he thought also in France, there were pathological laboratories which were of enormous assistance to medical men in ascertaining the real character of a disease when they were in doubt upon the subject. There were a few boroughs in the United Kingdom where something had been done, even in London, but the Government proposed to make a grant for the purpose of aiding the local authorities to set up these laboratories throughout the United Kingdom. The total of these three services would be £750,000.

Mr. AUSTEN CHAMBERLAIN: Is that additional to the £4,000,000 for public health of which the right honourable gentleman spoke?

Mr. LLOYD GEORGE: Yes; these are specific services for which we are going to give special subsidies. The right honourable gentleman went on to discuss educational problems, including the feeding of necessitous school children. There were still 260,000 children who needed but received no relief at all, and many others who received inadequate relief. There was no provision for Saturday or holidays, and the children came back at the end of their holidays in a dazed, tired, and listless condition. Now the State proposed that henceforth, when local authorities undertook the work of feeding, the Exchequer would contribute one-half of the expenditure. Then there were further grants for health work among children in other directions. The Government were already finding the money for the medical inspection and treatment of children. Then they proposed there should be a grant for physical training, for open-air schools—he was told that about one-fifth or one-sixth of the children stood in urgent need of training of that kind—for dealing with tuberculosis in children, and there was an epidemic grant to help the education authorities to close the schools without loss in the case of an epidemic in the neighbourhood. There were special grants for schools for deformed children, for the feeble-minded and crippled, and it was also proposed to aid the schools for mothers—the maternity centres, which had sprung up in many parts of the country, and were doing admirable work.

More Financial Support for National Insurance.

In regard to the National Insurance Act, Mr. LLOYD GEORGE said: I come to National Insurance. Experience of the work of the National Insurance Act shows the direction in which financial support is needed. I made several statements on the point earlier in the session. It shows that in spite of the abnormal work of the first year the resources provided fully justified the actuarial estimate. I further stated that under no conditions would any subsidies be given to make up deficiencies due to mismanagement and malingering; but that there were cases where well-managed societies attracted an unusual proportion of bad lives, or were limited to classes subject to special sickness and disability, and above all the working of the Act revealed an appalling amount of sickness amongst married women, especially under certain conditions, a fact which was quite unknown before the Act came into operation. I promised that if deficiencies in these cases were due not to malingering and not to mismanagement, but to circumstances of a kind over which no society had any control and which demand the assistance of the Government and the support of the State, it would be the business of the Government to recommend to the House of Commons some means of dealing with them. That is what we propose to do. I do not think it would be desirable at this stage to go into the details. The whole of the burden will not fall upon the State. The societies also must come to the rescue. I do not think it would be desirable for me to give the general character of the proposals. I think it would be desirable, before they are finally settled that there should be further consultations with the societies. It is perfectly clear that the Government will have to make a substantial grant in aid of these very abnormal and, as far as some of them are concerned, distressing cases. We have to deal with the deposit contributors. We anticipated that there would be 900,000 deposit contributors, but as a matter of fact there are only 400,000. The rest have all joined societies, and out of the 400,000 there are very few who have not joined societies because they cannot join them. There are some who, out of choice, prefer to remain outside. There are others who probably believe that in a few years they will be out of insurance because they will be above the insurance line, and who therefore do not think it worth while to join societies. The number of those who become deposit contributors because they have no other option is small, and it is a dwindling number; but those are people who deserve a little encouragement and support from the State. We propose to do something for them, something for certain cases of arrears of unemployment. We propose also to establish a system of medical referees who will not merely be a check upon malingering but will be expert medical men, who can be called in for an opinion where there is a serious case of illness and the ordinary medical man on the panel is not quite sure and wants to get a second opinion. It is proposed to establish clinics in convenient centres to assist the panel doctors to coöperate in difficult cases. We propose to assist the organisation of a system of health lectures, such as exists in Germany, which has done a vast amount of good in spreading a knowledge of the principles of health among the insured population. The total of that for insurance will be £1,250,000 for the whole of the United Kingdom.

HOUSE OF LORDS.

THURSDAY, APRIL 30TH.

Midwives (Scotland) Bill.

The House went into Committee on the Midwives (Scotland) Bill.

Lord BALFOUR of BURLEIGH, who is in charge of the Bill, said that there were a large number of amendments to the Bill on the notice paper. They were all, however, of a drafting nature. He promised that he would move the recommittal of the Bill after the amendments were agreed to.

The amendments were inserted in the Bill without discussion.

The Bill was afterwards ordered to be recommitted.

HOUSE OF COMMONS.

THURSDAY, APRIL 30TH.

Superintendent of Statistics, General Register Office, Ireland.

Mr. KELLY asked the Chief Secretary to the Lord Lieutenant of Ireland whether the superintendent of statistics in the General Register Office was about to retire; and, if so, in view of the fact that this was a small office with a total staff of only about 30 established officers, would he revert to the practice of promoting one of these officers to the vacant superintendentship.—Mr. T. W. RUSSELL (on behalf of Mr. BIRRELL) replied: The Registrar-General informs me that the answer to the first part of the question is in the negative. The latter part does not therefore arise.

Mr. W. ABRAHAM asked the right honourable gentleman whether the position of superintendent of statistics in the General Register Office, Dublin, had always been filled by a permanent civil servant on vacancies occurring since the establishment of the office; whether there was at present any special reason why another general medical practitioner should be deemed to have special qualifications for discharging clerical or administrative duties in this office; whether the work of classifying causes of death and of segregating the various diseases which could be accepted as causes of death had been very fully and efficiently dealt with by the present superintendent of statistics; in the event of further questions of this nature arising, would they be referred to Sir William Thompson, M.D., the Registrar-General; and would he resist any recommendation to appoint anyone who was not an established civil servant to the vacancy.—Mr. T. W. RUSSELL replied: This is practically the same question as the last, and the same answer applies.

Cases of Anthrax.

Mr. JOWETT asked the Home Secretary whether he was aware that on Wednesday, April 15th, a washbowl minder employed by Messrs. Campbell and Harrison, a branch of Woolcombers, Limited, of Bradford, contracted anthrax in the course of his employment and died of the said disease on the following Saturday, and that on the same day a washbowl feeder in the employment of Messrs. John Cure and Co., another branch of Woolcombers, Limited, contracted anthrax in the course of his employment, and he also died of the same disease; and whether he would say how many cases of anthrax had occurred among the employees of each of the two firms mentioned, respectively, during the period of years 1900 to 1913 inclusive, distinguishing between fatal and non-fatal cases.—Mr. MCKENNA answered: I have seen reports of the two cases mentioned, in both of which the disease was apparently contracted previously to and developed during the Easter holidays. The total figures for the two firms referred to for the period 1900 to 1913 are: For the former firm 18 fatal and 36 non-fatal cases; for the latter 6 fatal and 14 non-fatal cases. As my honourable friend is aware, an inquiry is now being conducted by a Departmental Committee into the dangers from anthrax in the Bradford woollen industries and the working of the existing regulations.

Coroners in England and Wales.

Mr. MCKENNA informed Mr. HIGHAM that there were in all 366 coroners in England and Wales, of whom 82 were paid by fees.

Food Inspection at the Port of London.

Answering Mr. HUNT, Mr. HERBERT SAMUEL (President of the Local Government Board) stated that including the medical officer of health and his assistants there were 19 officers engaged in the work of food inspection in the Port of London Sanitary District. During the year 1913 8,718,365 cwt. of meat (excluding poultry and game) were imported into London. The inspection of imported meat devolved upon officers of the Port Sanitary Authority, working in conjunction with the officers of customs. He had received no complaint as to the inadequacy in number of the inspectors. The responsibility for the inspection did not lie with the Local Government Board, but with the local authority.

The Use of the Geneva Cross.

Mr. LANE-FOX asked the Under Secretary of State for War why men of the National Reserve who had served in the Royal Army Medical Corps regulars or auxiliaries were not permitted to wear the Geneva Cross of the Royal Army Medical Corps on parade, provided they were properly registered under the new classification and were restricted to wearing it on parade; and would he consider the granting of this privilege to these men.—Mr. TENNANT wrote in reply: Under Article 23 of the Geneva Convention the emblem of the red cross on a white ground and the words "Red Cross" or "Geneva Cross" cannot be used except to protect or indicate the medical units and establishments and *personnel* and *matériel* protected by the Convention.

MONDAY, MAY 4TH.

A Resolution of the Royal College of Surgeons in Ireland.

Mr. NEWMAN asked the honourable Member for St. George's-in-the-East, as representing the Insurance Commissioners, whether he had received a resolution passed by the Royal College of Surgeons in Ireland on April 19th expressing regret that insured persons who make their own arrangements for medical benefit might obtain treatment from non-qualified persons, and deploring that recognition should be given and provision made for the payment of public money to persons who had no legal qualification to practise and concerning whose medical knowledge there existed no sort of guarantee; and, if so, whether he proposed to take any action in the matter.—Mr. WEDGWOOD BENN replied: My right honourable friend's attention has already been drawn to the resolution in question, which appears to be based on a misapprehension as to the scope of the Regulation alluded to. I would refer the honourable Member to the reply which I gave on March 6th.

Panel Practitioners and Lapsed Insured Persons.

Mr. DENNISS asked the honourable Member for St. George's-in-the-East what steps were taken in England, Wales, and Scotland, respectively, to secure that names of insured persons who had died, or ceased to be insured, or had removed from an area in which they were formerly insured, were taken off the list of the panel doctor whom they had selected or to whom they had been assigned, and whether the arrangements made for this purpose were working satisfactorily; whether there was any reason to believe that some doctors had been paid on account of insured persons in respect of whom they were not entitled to be paid: and what instructions, if any, had been given to Insurance Committees to prevent the possibility of a panel doctor being paid in respect of an insured person for whom he was not entitled to make a claim.—Mr. WEDGWOOD BENN answered: Arrangements were originally made for the notification by Approved Societies to Insurance Committees of the deaths and lapses from insurance and removal of their members. As regards removals, a new system has been instituted which enables their notification by societies to be dispensed with. As regards deaths and lapses, the procedure is being revised in connexion with the new system and as a result of the experience gained. Cases may have occurred in which, notwithstanding the advice of the Commissioners, advances had been made to practitioners out of proportion to the amount due to them, but any such overpayments would of course be adjusted on the final settlement.

Balance of Medical Fund.

Mr. DENNISS asked the honourable Member for St. George's-in-the-East when the Commissioners expected to be in a position to inform Insurance Committees in England, Scotland, and Wales, respectively, of the amount of the medical fund at their disposal, in order that they might be in a position to make a settlement with their doctors and chemists for the year ending on Jan. 12th last.—Mr. WEDGWOOD BENN said in reply: The necessary accounting operations are now in progress and will shortly be completed.

Domiciliary Treatment for Tuberculosis.

Mr. ASTOR asked the honourable Member for St. George's-in-the-East whether Insurance Committees had power to provide, and did in fact, when required, provide, to persons in receipt of domiciliary treatment for tuberculosis, the following among other articles of food, viz., milk, butter, eggs, bread, fish, and meat, and if this had been done in England, Scotland, Ireland, and Wales.—Mr. WEDGWOOD BENN wrote in reply: All Insurance Committees are empowered to provide, and do in fact provide, for persons in receipt of sanatorium benefit in the form of domiciliary treatment such accessories as form part of the treatment, and are prescribed as such on medical grounds, and milk, butter, eggs, fish, and meat have in particular instances been thus given; but Insurance Committees are not empowered to provide maintenance by way of general relief.

TUESDAY, MAY 5TH.

Uncertified Deaths.

Mr. HIGHAM asked the President of the Local Government Board whether his attention had been drawn to the fact that the Regulations in regard to uncertified deaths recently issued by the Registrar-General, with the approval of the Board, had not been issued in the manner provided for in Sections 44 and 48 of the Registration Act, 1874, and whether he proposed to withdraw the Regulations.—Mr. HERBERT SAMUEL replied: I am aware of the provisions contained in the enactments referred to. The requirements of Section 44 of the Act of 1874 refer to orders made in pursuance of that section. These were not such orders. The answer to the last part of the question is in the negative.

BOOKS, ETC., RECEIVED.

ARROWSMITH, J. W., LIMITED, Bristol and London.

Holidays and How to Use Them. By Charles D. Musgrove, M.D. Price 2s. 6d. net.

BALE (JOHN), SONS, AND DANIELSSON, LIMITED, London.

Renal Diagnosis in Medicine and Surgery: Being a Handbook of the Theory and Practice of Functional Testing of the Kidney. By Dr. Victor Blum, Tutor in Urology at the University of Vienna. English translation by Wilfred B. Christopherson. Price 7s. 6d. net.

Defensive Ferments of the Animal Organism. By Emil Abderhalden, Director of the Physiological Institute of the University at Halle. Third enlarged edition. English translation by J. O. Gavronsky, L.R.C.P., M.R.C.S., M.D. Halle, and W. F. Lanchester, M.A. Price 7s. 6d. net.

COX, HORACE, LIMITED, London. PAYS, F. T., Paris.

The "Queen" Newspaper Book of Travel. A Guide to Home and Foreign Resorts. 1914. Compiled by the Travel Editor (M. Hornsby, F.R.G.S.). (Eleventh year.) Price 2s. 6d.

FISCHER, GUSTAV, Jena.

Handbuch der Gesamten Therapie. In sieben Bänden. Herausgegeben von Prof. Dr. F. Penzoldt, Erlangen, und Prof. Dr. R. Stintzing, Jena. Fünfte Auflage. Lieferung 11. Bd. II., Seite

49-208. Price M.3.50. Lieferung 12, Bd. II., Seite 209-368. Price M.3 50.

Handbuch der Vergleichenden Physiologie. Herausgegeben von *Hans Winterstein in Rostock.* Einundvierzigste Lieferung. Bd. III. Physiologie des Energiewechsels. Physiologie des Formwechsels Zweite Hälfte Seite 947-1050, Titel und Inhalt. Price M.5.

Paul Ehrlich Eine Darstellung seines wissenschaftlichen Wirkens von H. Apolant et alii. Festschrift zum 60 Geburtstage des Forschers. Price M.16.

Die Individualität der Zelle, von Siegmund von Schumacher. Price M.0.60.

HEINEMANN, WILLIAM, London.

Local Anæsthesia. By Dr. Arthur Schlesinger, Berlin. Translated by F. S. Arnold, B.A., M.B., B.Ch. Oxon. Price 5*s.* net.

On Dreams. By Prof. Dr. Sigm. Freud. Only authorised English translation by M. D. Eder, from the second German edition. With an Introduction by W. Leslie Mackenzie, M.A., M.D., LL.D., *Medical Member of the Local Government Board for* Scotland. *Price 3s. 6d.* net.

HIRSCHWALD, AUGUST, Berlin.

Entstehung und Entwickelung der Laryngoskopie. Erinnerungen aus meiner ärztlichen Tätigkeit, 1858-1913. Von Prof. Dr. Emerich von Navratil. Price M.1.60.

Geländebehandlung herzkranker Kinder im Mittelgebirge. Klinische und experimentelle Untersuchungen an herzkranken Kindern bei einem Kuraufenthalte im Thüringer Wald. Von Dr. H. Roeder. Unter Mitarbeit von Dr. C. Bieling, Dr. W. Spinak, und E. Wienecke. Mit einer Einführung von Dr. Adolf Bickel. Price M.3.60.

KARGER, S., Berlin.

Ursachen und Wesen angeborener Diathesen. Eine experimentelle Studie von Stabarzt Dr. Hans Eckert, Berlin. Price M.3.50.

Die Störungen des Verdauungsapparates als Ursache und Folge anderer Erkrankungen. Von Dr. Hans Herz, Breslau. Zweite umgearbeitete und vermehrte Auflage. III. Teil: Die chronischen Infektionskrankheiten in ihren Beziehungen zum Verdauungsapparat. Price M.9.

Psychiatrische Vorträge für Aerzte, Erzieher und Eltern (Dritte Serie). Von Prof. Dr. G. Anton, Halle. Price M.2.40.

Die Gonorrhoe des Wiebes für die praxis Dargestellt. Von Prof. Dr. F. Fromme, Berlin. *Price* M.2.

Zur Prognose und Aetiologie der Kinder-Hysterie. Von Dr. A. Tobias, Bremen. Mit einem Vorwort von Prof. Dr. E. Feer, Zurich. Price M.3.50.

Nervös Zwanzig Gespräche Zwischen Aerzt und Patient. Von Dr. Ludwig Scholz, Bremen. *Price* M.4.

KIMPTON, HENRY, London.

Consumption: A Curable and Preventable Disease. What a Layman should Know. By Lawrence F. Flick, M.D., Founder of the Pennsylvania Society for the Prevention of Tuberculosis. Seventh edition.

LAURIE, T. WERNER, LIMITED, London.

Life in an Indian Outpost. By Major Gordon Casserly (Indian *Army). Price 12s. 6d. net.*

LEWIS, H. K., London.

King Edward VII. Sanatorium, Midhurst. Preliminary Report of the Treatment of Pulmonary Tuberculosis with Tuberculin. By *Noel D. Bardswell, M.D. With a Prefatory* Note by Professor Karl Pearson, F.R.S. Price 6*s.* net.

LIVINGSTONE, *E. AND S., Edinburgh.*

Students' Pocket Prescriber and Guide to Prescription Writing, By *H. Aubrey Husband,* M.B., C.M., B.Sc., F.R.C.S.E., M.R.C.S. Fourth edition, revised and enlarged. Price 1*s.* 6*d.* net.

OCTAVE DOIN ET FILS, Paris.

Les Maladies du Cœur et de l'Aorte et leur Traitement. Par le Dr. Arthur Leclercq. *Price Fr.7.*

POINAT, A., Boulevard Saint-Michael, Paris.

Considérations Biologiques sur Le Cancer par Félix le Dantec Chargé du cours Biologie générale a la Sorbonne. Price Fr.1.

SCIENTIFIC PRESS, THE, LIMITED, London.

Cheap Continental Holidays. By Grace Vallois. Price 1*s.* net.

SMITH, ELDER, AND CO., London.

Saint Bartholomew's Hospital Reports. Vol. XLIX. Price to subscribers, 6*s.*; to non-subscribers, 8*s.* 6*d.*

Pot-Pourri Mixed by Two. By Mrs. C. W. Earle and Miss Ethel Case. Price 7*s.* 6*d.* net.

Shakespeare Personally. By David Masson. Edited and arranged by Rosaline Masson. Price 6*s.* net.

SOUTH AFRICAN INSTITUTE FOR MEDICAL RESEARCH, Johannesburg.

Specific Serological Reactions with Pneumococci *from Different* Sources. By F. S. Lister, M.R.C.S., L.R.C.P. Price 2*s.* 6*d.*

Memoir No. 1.: An Inquiry into the *Etiology*, Manifestations, and Prevention of Pneumonia amongst Natives on the Rand recruited from Tropical Areas. By G. D. Maynard, F.R.C.S. Eng. Price 5*s.*

STEINHEIL, G., Paris.

De la Néphropexie (Procédé d'Albarran-Marion). Par le Dr. Jules Luzoir.

La Stase Intestinale Chronique par Le Docteur E. Sorrel.

TEMPLE HOUSE, Temple-avenue, London, E.C.

General and Practical Optics. By Lionel Laurence. Second and revised edition. Price 10*s.* net.

THIEME, GEORG, Leipzig.

Aerztliche Kosmetik der Haut. Von Prof. Dr. Kromayer. Vorträge über praktische Therapie. Herausgegeben von Prof. Dr. J. Schwalbe, Berlin. V. Serie, Heft 8. Price M.1.

URBAN UND SCHWARZENBERG, Berlin und Wien.

Technik der Speziellen Klinischen Untersuchungsmethoden. *Herausgegeben von Prof.* Theodor Brugsch, Berlin; und Prof. Dr. Alfred Schittenhelm, Köningsberg. I. Tiel. Price M.36.

Die Prognosenstellung bei der Lungentuberkulose mit eingehender Berüchsichtigung der physikalischen und serologischen Befunde und der therapeutischen Prognostik. Bearbeiten von Priv.-Doz. Dr. D. O. Kuthy, Budapest, und Dr. A. Wolff-Eisner, Berlin. Price M.20.

Taschenbuch der Augenheilkunde für Aerzte und Studierende (Dritte Auflage). Von Dr. Curt Adam, Berlin. Price M.8.

VIGOT FRÈRES, Paris.

Le Traitement des Sténoses Aigues du Larynx. Par le Dr. G. Zorraquin *(Buenos Aires). Price* Fr.2.

WILEY, JOHN, AND SONS, New York. CHAPMAN AND HALL, London.

Clean Water and How to Get it. By Allen Hazen, Member of the American Society of Civil Engineers. Second edition. Revised and enlarged. Price 6*s.* 6*d.* net.

WILSON, EFFINGHAM, 54, Threadneedle-street, London.

The Law and Practice of Bankruptcy. By G. L. Hardy, of the Inner Temple.

WRIGHT, JOHN, AND SONS, LIMITED, Bristol. SIMPKIN, MARSHALL, London, and Agents at New York, Toronto, Calcutta, Bombay, Melbourne, Sydney, Adelaide, Brisbane, and New Zealand.

The Medical Annual: A Year Book of Treatment and Practitioners' Index. 1914. Thirty-second year. *Price* 8*s.* 6*d.* net.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ALCOCK, ARNOLD, M.B., B.S. Lond., has been appointed Assistant Surgeon to the Gloucestershire Royal Infirmary.

DICKSON, R. H., F.R.C.S., L.R.C.P. Irel., has been appointed Honorary Ophthalmic Surgeon to the North Staffordshire Infirmary.

GREIG, J. I., M.B., Ch.B. Glasg., has been appointed Certifying Surgeon under the *Factory* and Workshop Acts for the Kirkcaldy District of the county of Fife.

FOLKER, H. H., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Consulting Ophthalmic Surgeon to the North Staffordshire Infirmary.

DUNLOP, J. K., M.B., *Ch.B. Glasg.*, has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Sanquhar District of the county of Dumfries.

KNIGHT, C. V., M.D. Lond., has been appointed Surgeon to the Gloucestershire Royal Infirmary.

MCMURRAY, S., M.B., B.Ch., B.A.O. Irel., *F.R.C.S.* Edin., has been appointed Honorary Assistant Ophthalmic Surgeon to the North Staffordshire Infirmary.

MILLER, A. H., M.D. Camb., M.R.C.P. Lond., has been appointed Joint Pathologist to the Salford Royal, Manchester Children's, and Northern Hospitals.

MOORE, R. FOSTER, B.C. Cantab., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Royal *London* (Moorfields) Ophthalmic Hospital.

NORRIS, ARTHUR HERBERT, M.R.C.S., L.R.C.P. *Lond.*, has been appointed Medical Inspector of Reformatory and Industrial Schools.

ROBINSON, W. E., M.D., B.Ch. Oxon., M.R.C.S., L.R.C.P. Lond., has been appointed Anæsthetist to the West London Hospital, Hammersmith, W.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BARNSLEY, BECKETT HOSPITAL AND DISPENSARY.—Second House Surgeon, unmarried. Salary £100 per annum, with apartments, board, and laundry.

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL.—House Surgeon. Salary £120 per annum, with residence, board, and laundry.

BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon. Salary £50 per annum, with board, lodging, and laundry.

BELFAST, ROYAL VICTORIA HOSPTIAL.—Four Resident Medical Officers for six months.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, Woodchurch-road, Birkenhead.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

BIRMINGHAM CITY EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £300 per annum.

BIRMINGHAM GENERAL HOSPITAL.—*Honorary* Physician.

BIRMINGHAM AND MIDLAND HOMŒOPATHIC HOSPITAL.—Resident House Surgeon. Salary £100 per annum, with board, laundry, &c.

BIRMINGHAM, *ROMSLEY* HILL SANATORIUM FOR CONSUMPTIVES.—Locum for three weeks.

BIRMINGHAM UNION.—DUDLEY-ROAD INFIRMARY: Resident Assistant Medical Officer. Salary £150 per annum, with apartments, rations, laundry, and attendance.

BOLTON INFIRMARY AND *DISPENSARY*.—Third House Surgeon. Salary £90 per annum, with apartments, board, and attendance.

Bradford Children's Hospital.—House Surgeon. Salary £120 per annum, with board, residence, and laundry.

Bradford Royal Infirmary.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing.

Brighton, Royal Alexandra Hospital for Sick Children, Dyke-road.—House Surgeon for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

Brighton, Royal Sussex County Hospital.—Assistant House Surgeon, unmarried. Salary £80 per annum, with apartments, board, and laundry.

Bristol City Asylum.—Second Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, washing, and attendance.

Bristol Royal Hospital for Sick Children and Women.—House Surgeon. Salary £100 per annum, with board, rooms, attendance, and laundry.

Bristol Royal Infirmary.—House Surgeon for Throat, Nose, and Ear Department. Salary at rate of £100 per annum, with board, lodging, and laundry.

Burnley, Victoria Hospital.—Senior Resident Medical Officer. Also Second House Surgeon, each for six months. Salary at rate of £120 and £100 per annum respectively, with residence, board, and washing.

Burslem, Haywood Hospital.—Female Resident Medical Officer. Salary £100 per annum, with board, residence, and laundry.

Bury Infirmary.—Junior House Surgeon. Salary £100 per annum, with board, residence, and washing.

Cambridge, Addenbrooke's Hospital.—House Physician. Salary £100 per annum, with board, residence, and laundry.

Cancer Hospital (Free), Fulham-road, S.W.—Assistant Surgeon.

Carlisle Non-Provident Dispensary.—Resident Medical Officer. Salary £200 per annum, with apartments.

Chesterfield and North Derbyshire Hospital.—House Physician. Salary £90 per annum, with board, apartments, and laundry.

Chichester, West Sussex County Mental Hospital.—Junior Assistant Medical Officer. Salary £200 to £250 per annum, with apartments, board, laundry, and attendance.

Colchester, Essex County Hospital.—Two Honorary Assistant Surgeons.

Derbyshire Education Committee.—Assistant School Medical Officer. Salary £300 per annum, with £100 per annum for travelling expenses.

Devonport, Royal Albert Hospital.—House Surgeon, unmarried. Salary £50 for first six months, £75 for second six months, and at rate of £150 per annum during second year. Also Assistant House Surgeon, unmarried. Salary at rate of £75 per annum, with board and laundry.

Dudley, Guest Hospital.—Assistant House Surgeon for six months. Salary £100 per annum, with residence, board, and washing.

Durham County Hospital.—House Surgeon. Salary £120 per annum, with board and lodging.

Eccles and Patricroft Hospital.—House Surgeon. Salary £70 per annum, with board, washing, and lodging.

Evelina Hospital for Sick Children, Southwark, S.E.—House Surgeon. Salary at rate of £75 per annum, with board, residence, and washing.

Fareham, Hants County Asylum.—Third Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, washing, and attendance.

Federated Malay States Government Central Lunatic Asylum.—Assistant Superintendent. Salary £400 per annum, with free quarters.

Flintshire Education Committee.—Assistant Medical Officer. Salary £250 per annum.

Glasgow, Scottish Western Asylums' Research Institute.—Pathologist as Director. Salary £400 per annum.

Gloucester, Gloucestershire Royal Infirmary and Eye Institution.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and washing.

Great Northern Central Hospital, Holloway-road, N.—House Physician and House Surgeon for six months. Salary at rate of £80 per annum each, with board, lodging, and laundry.

Halifax Royal Infirmary.—Second House Surgeon and Third House Surgeon, unmarried. Salary £100 and £80 per annum respectively, with residence, board, and washing.

Hemel Hempstead, West Herts Hospital.—Resident Medical Officer. Salary £120 per annum, with rooms, board, and washing.

Huddersfield Royal Infirmary.—Assistant House Surgeon. Salary £80 per annum, with board, residence, and washing.

King's Lynn, West Norfolk and King's Lynn Hospital.—House Surgeon. Salary £120 per annum.

Kirkmabreck Parish, Creetown, Kirkcudbrightshire.—Medical Officer. Salary £40 per annum.

Leicester Poor-law Infirmary.—First Resident Assistant Medical Officer and Second Resident Assistant Medical Officer. Salary £200 and £150 per annum respectively, with rations, apartments, and washing.

Liverpool City Infectious Diseases Hospital and Sanatorium for Tuberculosis.—Assistant Resident Medical Officer, unmarried. Salary £150 per annum, with board, washing, and lodging.

Liverpool, David Lewis Northern Hospital.—Two Honorary Assistant Surgeons.

Liverpool Education Committee.—Two Assistant School Medical Officers. Salary at rate of £250 per annum.

London Hospital, Whitechapel, E.—Medical Registrar. Salary £100 per annum. Also Surgical Registrar.

Maidstone, Kent County Asylum.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, board, attendance, washing, &c.

Manchester, St. Mary's Hospitals for Women and Children.—Honorary Assistant Surgeon.

Manchester, Monsall Fever Hospital.—Fourth Medical Assistant. Salary £150 per annum, with board, lodging, and washing.

Manchester, Northern Hospital for Women and Children, Park-place, Cheetham Hill-road.—Senior and Junior House Surgeons.

Manchester Royal Infirmary.—Surgical Registrar. Salary £75 per annum. Also Medical Officer for Out-patients and Accidents to Central Branch for six months. Salary at rate of £100 per annum, with board and residence.

Metropolitan Asylums Board Infectious Hospital.—Junior Assistant Medical Officers, unmarried. Salary £180 per annum, with board, lodging, and washing.

Middlesborough, North Ormesby Hospital.—Assistant House Surgeon. Salary at rate of £100 per annum first six months and £110 per annum afterwards, with board, apartments, washing, and attendance.

Middlesex Hospital, W.—Resident Officer to Special Departments for Diseases of the Eye, Skin and Ear, Nose and Throat.

Newark-upon-Trent Hospital.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and laundry.

Newcastle-upon-Tyne Dispensary.—Vacancies on Visiting Medical Staff. Salary £200 per annum.

New Hospital for Women, Euston-road.—Female House Physician, Two House Surgeons, and Obstetric Assistant, all for six months.

New Zealand, University of Otago.—Professor of Anatomy. Salary £800 per annum.

Norfolk Education Committee.—Assistant Medical Officer. Salary £300 per annum.

Nottingham City Education Committee.—Senior Medical Inspector of School Children. Salary £400 per annum.

Nottingham General Hospital.—Assistant House Physician. Salary £100 per annum, with board, residence, and laundry.

Oldham Royal Infirmary.—Senior House Surgeon. Salary £140 per annum, with residence, board, and laundry.

Paddington Green Children's Hospital, London, W.—House Physician and House Surgeon for six months.

Portsmouth Workhouse Infirmary, Workhouse, and Children's Home.—Second Assistant Resident Medical Officer, unmarried. Salary £140 per annum, with apartments, rations, &c.

Preston, County Asylum, Whittingham, Lancs.—Junior Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, &c.

Prince of Wales's General Hospital, Tottenham, N.—Senior House Physician and Senior House Surgeon. Salary £75 per annum each. Also Junior House Physician and Junior House Surgeon. Salary £60 per annum each. With residence, board, and laundry. All for six months.

Queen's Hospital for Children, Hackney-road.—House Physician for six months. Salary at rate of £80 per annum, with board, residence, and washing.

Reading, Royal Berkshire Hospital.—Second House Surgeon for six months. Salary at rate of £80 per annum, with lodging, board, and washing.

Rochdale Infirmary and Dispensary.—Junior House Surgeon, unmarried. Salary £110 per annum, with board, residence, and laundry.

Rotherham Hospital.—Senior and Junior House Surgeons. Salaries £120 and £100 respectively, with board, lodging, and washing.

Royal College of Surgeons of England.—Election of Professors and Lecturers.

Royal Eye Hospital, Southwark, S.E.—Junior House Surgeon for six months. Salary £50 per annum, with board and residence. Also Clinical Assistants.

Royal Hospital for Diseases of the Chest, City-road, E.C.—Director of the Pathological Department. Salary £400 per annum. Also Medical Registrar. Salary 100 guineas per annum.

Royal London Ophthalmic Hospital, City-road, E.C.—Honorary Physician.

Royal Waterloo Hospital for Children and Women, S.E.—Honorary Physician in charge of Out-patients.

St. John's Wood and Portland Town Dispensary.—Third Medical Officer. Salary £50 per annum, &c.

St. Mark's Hospital for Cancer, Fistula, and other Diseases of the Rectum, City-road, E.C.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

Salford Royal Hospital.—Junior House Surgeon and Casualty House Surgeon. Salary at rate of £80 per annum each, with board and residence.

Salford Union Infirmary.—Senior and Junior Resident Assistant Medical Officers, unmarried. Salaries £130 and £120 per annum respectively, with apartments, attendance, and rations.

Salisbury Infirmary.—Assistant House Surgeon, unmarried. Salary £75 per annum, with apartments, board, lodging, and washing.

Sheffield, Jessop Hospital for Women.—Assistant House Surgeon, unmarried. Salary £80 per annum, with board, residence, and laundry.

Sheffield Royal Infirmary.—Ophthalmic House Surgeon for six months. Salary £80 per annum, with board and residence.

Sheffield Union Hospital, Firvale.—Resident Assistant Medical Officer, unmarried. Salary £140 per annum, with apartments, rations, &c.

Shrewsbury, Salop Infirmary.—House Surgeon. Salary £150 per annum, with board, washing, and residence. Also House Physician. Salary at rate of £80 per annum, with board and apartments.

Southampton, Royal South Hants and Southampton Hospital.—Junior House Surgeon. Salary at rate of £120 per annum, with rooms, board, and washing.

Southwark Union Infirmary, East Dulwich-grove, S.E.—Second Assistant Medical Officer and Third Assistant Medical Officer. Salaries at rate of £170 and £160 per annum respectively, with board, lodging, and washing.

Staffordshire County Mental Hospital, Cheddleton, Leek.—Junior Assistant Medical Officer. Salary £200 per annum, with board, apartments, washing, and attendance.

Stoke-on-Trent, North Staffordshire Infirmary, Hartshill.—House Physician, unmarried. Also Casualty and Out-patient Officer, unmarried, for six months. Salary at rate of £100 per annum each, with board, residence, and washing.

Stroud General Hospital.—House Surgeon. Salary £120 per annum, with board, lodging, and washing.

Sunderland Borough Asylum, Ryhope.—Assistant Medical Officer. Salary £200 per annum.

Swansea Education Committee.—Dental Surgeon. Salary £220 per annum.

Swansea General and Eye Hospital.—Two House Surgeons. Salary £125 per annum, with board, washing, and attendance.

Walsall and District Hospital.—Senior House Surgeon and Assistant House Surgeon. Salary £150 and £110 per annum respectively, with board, residence, and laundry.

West Ham and Eastern General Hospital.—Junior House Physician and Junior House Surgeon. Salary at rate of £75 per annum, with board, residence, and washing.

West London Hospital, Hammersmith, W.—Ophthalmic Surgeon.

West Riding of Yorkshire.—Dispensary Tuberculosis Officer. Salary £400 per annum.

Westminster Hospital.—Surgical Registrar. Salary £50 per annum.

Westmorland Consumption Sanatorium and Home, Meathop, Grange-over-Sands.—Second Assistant Medical Officer. Salary £150 per annum.

Wigan, Royal Albert Edward Infirmary and Dispensary.—Junior House Surgeon. Salary £100 per annum, with board, apartments, and washing.

Wolverhampton and Midland Counties Eye Infirmary.—House Surgeon. Salary £100 per annum, with apartments, board, and laundry.

Wolverhampton and Staffordshire General Hospital.—House Surgeon for six months. Salary at rate of £125 per annum, with board, rooms, and laundry.

Wolverhampton County Borough Education Committee.—Assistant School Medical Officer. Salary at rate of £300 per annum.

Woolwich Infirmary, Plumstead.—Assistant Resident Medical Officer, unmarried. Salary £180 per annum, with apartments, rations, and washing.

Wrexham Infirmary.—Resident House Surgeon. Salary £120 per annum, with board, lodging, and washing.

York, North Riding Asylum, Clifton.—Assistant Medical Officer. Salary £200 per annum, with board, apartments, washing, and attendance.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Croom, in the county of Limerick; at Sleivereagh, in the county of Cork; and at Templemartin, in the county of Cork.

Births, Marriages, and Deaths.

BIRTHS.

Atkinson.—On April 29th, at Elton Cottage, Newnham-on-Severn, Glos., the wife of Jackson Atkinson, M.B., B.S.Lond., of a daughter.

Cleminson.—On May 3rd, at Albert-road, Gloucester Gate, Regent's Park, the wife of Frederick John Cleminson, M.C., F.R.C.S., of a son.

Godson.—At The Craig, Laxey, Isle of Man, the wife of John Edward Godson, M.D., of a daughter.

Pinching.—On April 26th, at Frampton-on-Severn, Stonehouse, Gloucestershire, the wife of W. G. Pinching, M.R.C.S., L.R.C.P., of a daughter.

Strong.—On April 25th, at Magor House, Mon., the wife of Gravenor Robert Strong, M.B., B.S. Lond., of a daughter.

Whitaker.—On May 3rd, at Evershot, Dorset, the wife of Alfred Gurth Whitaker, M.R.C.S., L.R.C.P., of a daughter.

MARRIAGES.

Hosford—Walker.—On April 30th, at St. Pancras Church, London, by the Rev. L. E. Metcalfe, vicar, Alfred Stroud Hosford, M.R.C.S. Eng., L.R.C.P. Lond., youngest son of the late Dr. John Stroud Hosford and Mrs. Hosford, of The Grove, Stratford, E., to Beth, daughter of the late Robert Walker, Esq., of The Banks, Horsley, Wylam-on-Tyne.

Parkin—Fenwick.—On April 29th, at Matfen Parish Church, by the Rev. C. C. Petch, Alfred Parkin, M.D., M.R.C.P., F.R.C.S., son of the late George Parkin and Mrs. Parkin, of Gateshead, to Elizabeth, daughter of the late Matthew Fenwick, of Steelridge, and Mrs. Fenwick, of South Clarewood, Corbridge. At Home—56, Jesmond-road, Newcastle-on-Tyne, June 10th and 11th.

Thomas—Codrington.—On April 28th, at Holy Trinity Church, Exmouth, Robert Stanley Thomas, M.D. Cantab., to Violet Francis, youngest daughter of Colonel and Mrs. Codrington, Chippenham House, Exmouth.

Ward—Newman.—On April 25th, at St. Margaret's, Westminster, by the Rev. Geoffrey Gordon, chaplin to the Westminster Hospital, Gordon Reginald, second son of the late John Barron Ward, of Streatham, S.W., and Mrs. Ward, of 2, Perham-crescent, West Kensington, to Gladys Mary, daughter of the late Frederick Newman, of Barnsley, Yorks, and Mrs. Newman.

DEATHS.

Abercrombie.—On April 30th, at Augill Castle, Brough, Westmorland, John Abercrombie, M.D. Cantab.

How.—On April 30th, suddenly, of cerebral hæmorrhage, Frederick Field Lawrence, L.M.S.S.A.

Keith.—On May 1st, at St. Ives, Swanage, William Gregory Keith, M.B., C.M. Edin., L.R.C.S., L.R.C.P. Edin., late Colonial Surgeon Ceylon Medical Service, aged 68.

Pinder.—On May 1st, Thomas Henry Pinder, Surgeon, of Edenwood, Wilmslow, and Temple Chambers, Brazennose-street, Manchester, *in his 71st year.*

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

MOSQUITO EXTERMINATION IN KINGSTON: JAMAICA AND THE YELLOW FEVER PROBLEM.

IN the joint session of the Sections of Tropical Medicine and Hygiene and of Naval and Military Medicine at the International Medical Congress in 1913, Dr. J. J. Van Loghem, whose experience as director of the Institute of Tropical Hygiene in Amsterdam lends weight to his words, referred to the very real danger of the transference of yellow fever to Asia and Australia on the opening of the Panama Canal. In our issue of Jan. 31st a leading article dealt with the protection of India from yellow fever. Undoubtedly the West Indies and the East Indian Islands, as being the nearest possible inflammable centres, are equally or more interested. Dr. Van Loghem, in his remarks already cited in THE LANCET of August 23rd, 1913 (p. 570), referred to his own personal experience as to the frequency of stegomyia in the Dutch East Indian Archipelago and on board ships trading between Dutch East Indian ports. The services rendered by sanitary science in stamping out yellow fever and malignant malaria in the Canal Zone were fully considered about a year ago (March 29th, 1913) in a leading article in THE LANCET. The subject is, in short, engaging medical attention everywhere. In a recent report by Dr. Angus G. Macdonald, the medical officer of health of Kingston, Jamaica, the systematic steps there taken for the extinction of the stegomyia and the education of the people in specific sanitary measures are detailed. Measures are administrative and educative. The administrative consist of house-to-house visitations, which engage the part-time work of seven sanitary inspectors, special mosquito investigation, to which one sanitary inspector devotes his whole time, the removal of all water-holding receptacles on dumping grounds, and so forth. When larvæ are found at the house-to-house search leaflets are distributed detailing the measures to be taken for exterminating them, and these measures are, moreover, carefully explained. A second visit is paid in such cases in three weeks and a third three weeks later. If on either revisit larvæ are still found, the chief sanitary inspector or the medical officer himself pays a visit and repeated instruction is persisted in. But little opposition is met with. As to educative measures, the entire staff of the Health Department are "trained to be apostles of hygiene," so that an attempt is made to reach the small things of life in the homes of the people, and the interest of the schools and the churches is also enlisted in the work of special education. Larvæ have been found in order of frequency in barrels and jars, tubs and pans, flower vases and pots, cast bottles and tins, bark pans with floor-staining liquid, a chicken pan, shells, cocoanuts, calabashes, gourds, and so forth. They have not been found in tree holes or under dripping taps. Gutters, "faulty down-outs," sanitary arrangements generally, and the numerous receptacles about wharves are kept under supervision always, irrespective of incrimination as mosquito harbourers. Dr. Macdonald, from recent observation of the Panama Canal Zone, is not afraid to say that the stegomyia limitation in Kingston compares favourably with that in Colon or Panama. Certainly the results of recent work, as indicated in the tables submitted with the report, could hardly be bettered. In Kingston in 1912, with an estimated population of 57,800, were paid 22,906 visits, with 1389 finds of larvæ, a ratio of 6 per cent.; in 1913, with an estimated population of 58,312, 24,352 visits were made, with only 378 finds of larvæ, or only 1·55 per cent. Confirmatory evidence of the most practical kind appears in the malaria returns of the Public Hospital, yellow fever being entirely absent. The admissions were 723 in 1910, 349 in 1911, 95 (of which 32 came from outside Kingston) in 1912, and 113 (57 from outside) in 1913. The decline in the malaria mortality is even more marked; it fell from 126 in 1910 to 72 in 1911, and to 17 in 1912 and 1913. These figures establish a very satisfactory record for Kingston, and suggest that this erstwhile hotbed of "Yellow Jack" will be well able to take care of itself.

CARAVANNING.

THE caravan season is here again. Mr. Harris Stone, the secretary of the Caravan Club, has a brief article on the Coming Growth of Caravanning in *The Selborne Magazine* for May, in which he points out the great advantages of caravan life for people with a fixed but very limited income. A small fixed income at the present day means fixture, localisation, stagnation; no hope of change, no looking forward to brighter prospects. Caravanning offers freedom, movement, variety, open-air life, a riddance of the unnecessary impedimenta with which we incontinently encumber ourselves, an adjustment of the environment to oneself instead of *vice versâ*. It is all this to the energetic, hardworking, methodical, and educated mind, and far superior for such than a small home or a flat; but it possesses no attraction for the loafer, the thriftless, the grumbler, and the incapable. There are people who have lived in their caravans, owning no other home, for years, and many who now spend the summer thus.

"MILLIBARS."

To the Editor of THE LANCET.

SIR,—Can any of your readers tell me how the "unit" on the new scale for measuring "atmospheric" pressure has been arrived at? In the Weather Reports this morning *the Times* gives the following equivalents:—

1024·1 millibars = 30·24 inches.
1016·4 ,, = 30·02 ,,

From these figures I find that 1000 millibars = 29·53 inches, or 750 millimetres. Since 760 millimetres (or 29·92 inches) is the standard barometric pressure, one would have imagined that 1000 millibars = 760 millimetres would have been more accurate.

I am, Sir, yours faithfully,
New Southgate, N., May 4th, 1914. BETA.

THE KINEMA AND THE CHILD'S HEALTH.

Dr. G. W. M. Joseph, medical officer of health of Warrington, in his annual report states that kinematograph exhibitions may have a potent effect in spreading infectious and contagious diseases. The health of children may also be affected unfavourably by the action of the moving pictures on the eyes, by sanitary defects, and by late hours. It would appear that defective children who are being treated at the clinic are being excluded from school, but they may go to picture shows. Dr. Joseph is of opinion that no children of school-age should be admitted to evening kinema performances.

AN UNUSUAL CASE OF SELF-MUTILATION.

To the Editor of THE LANCET.

SIR,—In relation to Lieutenant-Colonel C. Milne's remark in THE LANCET of April 18th that "it is inconceivable that the English proverb, 'To cut off one's nose to spite one's face,' ever had a literal application," I have to record a case now in this asylum of a man aged 35 who 10 years ago not only cut off his nose but his testicles as well.

I am, Sir, yours faithfully,
H. WILLIAM DUDGEON, M.D. Durh.
Khanka Lunatic Asylum, Egypt.

⁂ In this connexion, we recall the extraordinary case of the man who tore his tongue out by the root, reported in THE LANCET of Feb. 5th, 1898, p. 384.—ED. L.

EARLY MEDICAL MOTOR-CARS.

To the Editor of THE LANCET.

SIR,—I remember reading in THE LANCET of March 20th, 1897, that a physician in Youngstown, Ohio, Dr. Carlos Booth, was the first medical man in the United States to make use of a motor carriage for the purpose of working his practice. Further back still I recall in THE LANCET of Jan. 4th, 1896, a long article, with an illustration of a quaint-looking motor-car, suggesting that medical men might be beginning to take an interest in these vehicles for the purposes of their practices. Fourteen years later, in an article in your issue of Jan. 1st, 1910, on the Medical Profession and the Early History of the Motor-car, it was stated that although the first electric carriages for ordinary roads were used in 1889 by Mr. Magnus Volk, of Brighton, the first petrol car was introduced into England from France in 1895. It might be interesting to put on record who was the first British medical man to use a motor car in his practice.

I am, Sir, yours faithfully,
London, May 4th, 1914. HISTORICUS.

"PAN YAN" PICKLE.

Messrs. Maconochie Bros., Ltd., of Millwall, London, E., have forwarded to us a specimen of this pickle, which they state is a [illegible] of the finest fruits, com[illegible] [illegible] important [illegible] the [illegible] has been [illegible] The Pan Yan pickle [illegible] a very [illegible]

SALVARSAN SUPPOSITORIES.

W. H.—A small portion is absorbed which is often sufficient to produce a beneficial effect upon systemic lesions, without irritating the rectal mucous membrane. But suppositories of salvarsan can hardly be expected to cure the disease, and we know of no case in which they should be used in preference to an injection.

◆

B. R. K. (Lahore).—The address of the New York Association for Improving the Condition of the Poor is 105 E. Twenty-second Street, New York City, U.S.A. The secretary may be able to supply the full report on the home treatment of pulmonary tuberculosis to which our correspondent refers.

Miss G. B. Jacobi.—In our paragraph on Medical Practice in Sweden last week the words "first class" were meant to be taken literally, as might have been gathered from what went before.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Dr. A. D. Waller: The Various Inclinations of the Electrical Axis of the Human Heart.—Part 1A. The Normal Heart. Effects of Respiration.—Dr. D. H. Scott, foreign secretary to the Royal Society, and Prof. E. C. Jeffrey: On Fossil Plants showing Structure from the Base of the Waverley Shale of Kentucky.—Mr. F. Kidd: The Controlling Influence of Carbon Dioxide in the Maturation, Dormancy, and Germination of Seeds—Part II. (communicated by Dr. F. F. Blackman).—Dr. D. Thomson and Dr. G. J. Thomson: The Cultivation of Human Tumour Tissue in Vitro (communicated by Sir Ronald Ross).—Mr. H. G. Thornton and Mr. G. Smith: On the Nutritive Conditions Determining the Growth of Certain Freshwater and Soil Protista (communicated by Prof. G. C. Bourne).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY.

MEETING OF FELLOWS: at 5 P.M.

Demonstration:

Dr. David Thomson: A Microscopic and Lantern Demonstration on the Cultivation of Various Tissues in Vitro, including Human Tumour Tissue.

TUESDAY.

SECTION OF SURGERY (Hon. Secretaries—J. Murray, Raymond Johnson): at 5.30 P.M.

Annual Meeting.—Election of Officers and Council for Session 1914–1915.

Paper:

Mr. G. Lenthal Cheatle, C.V.O., C.B.: The Relation of Ducts and Acini to Cysts and Cancer of the Breast.

WEDNESDAY.

SECTION OF SURGERY: SUB-SECTION OF PROCTOLOGY (Hon. Secretaries—P. Lockhart Mummery, W. Sampson Handley): at 5 P.M.

Cases:

Mr. P. Furnivall: (1) Three Cases of Multiple Polypi of the Rectum and Large Intestine; (2) Case of Epithelioma Starting in the Seat of a Chronic Fissure of the Anus.

Mr. Ernest Miles: Two Cases of Total Excision of the Rectum for Procidentia.

Mr. D. Drew: Four Cases Illustrating Results of Abdomino-perineal Excision of the Rectum for Cancer.

Specimens:

Mr. R. W. Vick: Specimens Illustrating Diverticulitis.

Notes of Cases:

Dr. Hertz: Notes of Four Cases of Polypus of the Rectum in One Family.

Mr. P. Lockhart Mummery: Notes of a Case of Hæmatoma of the Broad Ligament Simulating Sarcoma of the Rectum.

FRIDAY.

SECTION OF OTOLOGY (Hon. Secretaries—G. J. Jenkins, W. M. Mollison): at 5 P.M.

Annual Meeting.—Election of Officers and Council for Session 1914–1915.

Cases, Specimens, &c.:

By Mr. Richard Lake, Dr. H. J. Davis, Dr. Jobson Horne, and others.

SECTION OF ELECTRO-THERAPEUTICS (Hon. Secretaries—Cecil R. C. Lyster, S. Gilbert Scott): at 7.30 P.M.

The ANNUAL MEETING and DINNER will be held at the Restaurant Jules, Jermyn Street, S.W. Tickets [illegible] exclusive of wine. Guests may be invited. The President (Mr. Thurstan Holland) will be in the chair. An early answer to Mr. S. Gilbert Scott, [illegible]-street, W., will oblige. (Council Meeting will be held before the dinner at 7 o'clock, at the same address.)

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—[illegible] P.M., *General Meeting.* Election of Officers, &c. [illegible] P.M., Discussion on [illegible] Anæmia and its Treatment [illegible]

SOUTH-WEST LONDON MEDICAL SOCIETY, Bolingbroke Hospital, Wandsworth Common, S.W.

Wednesday—9 P.M., Discussion on the Treatment of Constipation (opened by Mr. H. B. A. Pearson).

BRITISH OTO-LARYNGOLOGICAL SOCIETY, 11, Chandos-street, Cavendish-square, W.

Wednesday.—4 P.M., Cases.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Grosvenor-road, S.W.

Thursday.—5 P.M., Major A. J. Hull, R.A.M.C.: The Transport of Wounded in War.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY, Board Room of the Great Northern Central Hospital, Holloway-road, N.

Thursday.—9 P.M., Presidential Address:—Dr. T. W. Parry: Prehistoric Man and his Early Efforts to Combat Disease.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

Monday.—4 P.M., Dr. H. Davis: *Clinique (Skin).* 5.15 P.M., Lecture:—Dr. R. F. Fox: Effects of Heat and Cold.

Tuesday.—4 P.M., Dr. J. Taylor: *Clinique (Medical).* 5.15 P.M., Lecture:—Dr. R. F. Fox: Methods of Hydrotherapy.

Wednesday.—4 P.M., Mr. R. Howard: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. R. F. Fox: Medicinal Springs and Baths.

Thursday.—4 P.M., Dr. H. Campbell: Clinique (Medical). 5.15 P.M., Lecture:—Dr. R. F. Fox: Indications of Hydrological Treatment.

Friday.—4 P.M., Dr. J. Donelan: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

Monday.—10 A.M., Dr. Simson: *Diseases of Women.* 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 12 noon, *Dr. Bernstein: Pathological Demonstration.* 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Dr. *Pritchard: Bacterial Therapy Department.* Mr. B. Harman: Diseases of the Eye. 5 P.M., Lecture:—Mr. Baldwin: Diseases of the Rectum.

Tuesday.—10 A.M., Dr. Robinson: Gynæcological Operations. Dr. Owen: *Demonstration of Cases in Wards.* 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Mr. Baldwin: Diseases of the Rectum.

Wednesday.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Dr. Simson: Diseases of Women and Diseases of the Eye. 5 P.M., Lecture:—Mr. Baldwin: Diseases of the Rectum.

Thursday.—9 A.M., Dr Bernstein: Bacterial Therapy Department. 10.30 A.M., Dr. Simson: Gynæcological Demonstration. 12 noon, Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Mr. B. Harman: *Diseases of the Eye.* 5 P.M., Lecture:—Mr. Baldwin: Diseases of the Rectum.

Friday.—10 A.M., *Dr. Robinson*: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12.15 P.M., *Lecture:—Dr. Bernstein: Applied Pathology.* 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases *of the Throat, Nose, and Ear.* Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Mr. Baldwin: Diseases of the Rectum.

Saturday.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the *Throat, Nose, and Ear.* Mr. B. Harman: Diseases of the Eye. 12 noon, Lecture:—Mr. Souttar: Surgical *Anatomy of the Abdomen.* 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

Monday.—Out-patient Demonstrations:—10 A.M. Dr. H. B. Carlill: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.30 P.M., Dr. G. Holmes: Demonstration of Neurological Cases.

Tuesday.—Out-patient Demonstrations:—10 A.M., Dr. C. E. Zundel: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine. 4.15 P.M., Sir Malcolm Morris: Skin. 4.30 P.M., Special *Lecture:—Dr. T. Lister: The Artificial Pneumothorax.*

Wednesday.—Out-patient Demonstrations: 10 A.M., Dr. H. B. Carlill: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.——2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery. 4.30 P.M., *Special Lecture:—Dr. J. Taylor: Some* Clinical and Pathological Aspects of Nervous Disease.

Thursday.—*Out-patient Demonstrations*:—10 A.M., Dr. H. R. Prentice: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. Dr. A. Davies: Pathological Demonstration. 3.15 P.M., Dr. R. Wells: Medicine. 4.30 P.M., Special Lecture:—Sir StClair Thomson: Tuberculosis of the Air-passages.

Friday.—Out-patient Demonstrations:—10 A.M., Dr. C. E. Zundel: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin. ——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford: Medicine. 3.15 P.M., Mr. L. McGavin: Surgery. 3.15 P.M., Lecture:—Mr. L. McGavin: Gall stones and the *Surgery of the Bile Ducts.*

Saturday.—Out-patient Demonstrations: 10 A.M., Dr. H. R. Prentice: *Medical.* Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.——10 A.M., Col. Barry: Radiography.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

Monday.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. E. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Gynæcological (Dr. Banister). 3 P.M., Medical In-patients (Dr. R. M. Leslie).

Tuesday.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Nose, Throat, and Ear (Mr. H. D. Gillies). X Ray and Electrical Methods (Dr. Metcalfe). 3.30 P.M., Medical In-patient (Dr. Whiting).

Wednesday.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye *(Mr. Dorell).*

Thursday.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical *Out-patient (Dr. A. J. Whiting)*; Surgical (Mr. Carson); X Rays and Electrical Methods (Dr. Metcalfe).

Friday.—2.30 P.M., *Operations. Clinics:—Medical Out-patient* (Dr. A. G. Auld): Surgical (Mr. E. Gillespie); Eye (Mr. R. P. *Brooks).* 3 P.M., *Medical In-patient (Dr. G. P. Chappell.*

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL (University of London), Albert Embankment, S.E.

Lectures in Advanced Medical Subjects:—

Tuesday.—5 P.M., Dr. H. Maclean: Carbohydrate Metabolism in Health and in Diabetes.

GUY'S HOSPITAL MEDICAL SCHOOL, London Bridge, S.E.

Course of Lectures on Industrial Medicine:—

Friday.—Lecture II.:—*Dr. F. Shufflebotham*: The Post-mortem Appearances Associated with Lead Poisoning.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, Medical School, City-road, E.C.

Monday.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Cardiac Department, Dr. Stott; Out-patient Department, Dr. Phear, Dr. S. Thompson. 3 P.M., Wards, Dr. Phear.

Tuesday.—9 A.M., Laryngological Department, Mr. Mant. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department, Dr. M. Leslie, Dr. B. King; Operations, Mr. A. Evans. 3 P.M., Wards, Dr. White. 4 P.M., Wards, Dr. M. Leslie

Wednesday.—2 P.M., Wards, Dr. A. Davies; Out-patient Department, Dr. Drysdale, Dr. Kellie. 4 P.M., Wards, Dr. Drysdale. 4.30 P.M., Roentgen Ray Department, Dr. Jordan.

Thursday.—9.30 A.M., Dental Department, Mr. G. Thomson. 10 A.M., Cardiac Department, Dr. Stott. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient *Department, Dr. Phear, Dr. S. Thompson.* 4.30 P.M. Laryngological Department, Mr. Mant.

Friday.—1.30 P.M., *Department for the Prevention of Consumption.* 2 P.M., Wards, Dr. Calvert; Out-patient Department, Dr. M. *Leslie, Dr. B. King.* 5 P.M., Lecture-Demonstration:—Dr. Calvert: The Treatment of Pulmonary Tuberculosis by Artificial *Pneumothorax.*

Saturday.—10 A.M., Out-patient Department, Dr. Drysdale, Dr. *Kellie.* 11.30 A.M., *Roentgen Ray Department*, Dr. Jordan.

LONDON HOSPITAL MEDICAL COLLEGE (University of London), Clinical Theatre, London Hospital, Mile End-road, E.

Monday.—Lecture on Tuberculosis.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.

Course of Demonstrations for Post-Graduates:—

Friday.—4 P.M., Dr. E. H. Colbeck: Demonstration of Heart Cases.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

Tuesday.—3.30 P.M., Clinical Lectures:—Dr. *R. Russell: Syphilitic* Affection of the Nervous System.

Friday.—3.30 P.M., Clinical Lecture:—Dr. G. Stewart: *Compression* Paraplegia.

THE THROAT HOSPITAL, Golden-square, W.

Monday.—5.15 P.M., Special Demonstration of Selected Cases.

Thursday.—5.15 P.M., Clinical Lecture.

LONDON LOCK HOSPITAL, 91, Dean-street, Soho, W.

Special Course of Instruction in Venereal Diseases, for Post-Graduates and Students, with Practical Demonstrations of the Various *Methods of Treatment*:—

Monday.—Clinics:—1 P.M., Mr. Ryall; 6 P.M., Mr. Gibbs.

Tuesday.—Clinics:—2 P.M., Mr. *Lane*; 6 P.M., Mr. Paterson.

Wednesday.—Clinic:—6 P.M., Mr. Shillitoe.

Saturday.—Clinic:—2 P.M., Mr. *McDonagh.*

MANCHESTER HOSPITALS POST-GRADUATE CLINICS.

Tuesday.—Manchester and Salford *Hospital for Skin Diseases*, Quay-street.—4.30 P.M., Dr. G. H. Lancashire: Some Common Parasitic Skin Diseases.

Wednesday.—*Royal* Infirmary—4.30 P.M., Dr. Melland: Some More Minor Ailments.

Thursday.—Ancoats Hospital—4.30 P.M., Dr. W. J. S. Bythell: Ionisation and Electrolysis.

UNIVERSITY OF SHEFFIELD, at the *Royal* Hospital, West-street, Sheffield.

Post-Graduate Course on Syphilis:—

Tuesday.—3 P.M., Dr. Hallam and Dr. Skinner: Clinical Diagnosis. Demonstration of Type Cases. *Clinical Methods of Detecting* Spirochætes in Lesions.

Friday.—3 P.M., Dr. Hallam and *Dr. Skinner*: Principles of Treatment. Local and General. Mercury, Methods of Administration, Dosage, &c. Iodides. Salvarsan and Neosalvarsan, Method of Preparation, Dosage, Modes of Administration, (*a*) intramuscular, (*b*) intravenous. Complications. *Contra-indications.* Demonstration of Technique.

UNIVERSITY OF LEEDS, Great Hall of the University, College-road.

Special Lectures on Medical Subjects:—

Wednesday.—4 P.M., Mr. T. S. P. Strangeways: Rheumatoid Arthritis and Allied *Conditions.*

ROTUNDA HOSPITAL POST-GRADUATE COURSES, Dublin.

MONDAY.—10 A.M., Obstetrical Lecture: Version. 11 A.M., Examination of Patients and Minor Operations.
TUESDAY.—10 A.M., Major Operations.
WEDNESDAY.—10 A.M., Obstetrical Lecture: Extraction in Breech Cases. 11 A.M., Examination of Patients and Minor Operations.
THURSDAY.—10 A.M., Major Operations.
FRIDAY.—10 A.M., Gynæcological Lecture: The Nature and Diagnosis of Ovarian Tumours. 11 A.M., Examination of Patients and Minor Operations.

For further particulars of the above Lectures, &c., see Advertisement Pages.

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced.

In 1914:—

May 1st–Nov. 1st (Lyons).—International Town Hygiene Exhibition.
,, 15th–Oct. 15th (Berne).—Swiss National Exhibition.
,, 18th–21st (London, Imperial Institute).—Victoria League Imperial Health Conference.
May–October (London, Shepherd's Bush).—Anglo-American Exposition.
June 8th–10th (Berne).—Seventh International Dairy Congress.
,, 15th–18th (Portsmouth).—International Abolitionist Conference (Prostitution).
,, 19th–24th (London, Church House, Westminster).—International Conference on the Blind.
June–July (Groningen).—University of Groningen 300th Anniversary Celebration.
July 6th–11th (Blackpool).—Twenty-ninth Congress of the Royal Sanitary Institute.
,, 7th–10th (St. John, N.B.).—Canadian Medical Association.
,, 8th–10th (Oxford).—Ophthalmological Congress.
,, 15th–20th (Edinburgh).—Congress of the Royal Institute of Public Health.
,, 21st–23rd (Chester).—British Pharmaceutical Conference.
,, 27th–31st (London).—Fifth Annual Session of the Clinical Congress of Surgeons of North America.
,, 28th–31st (Aberdeen).—Eighty-second Annual Meeting of the British Medical Association.
Aug. 3rd–8th (London).—Sixth International Dental Congress.
,, 10th–15th (St. Petersburg).—Twelfth International Congress of Ophthalmology.
Sept. 7th–12th (Berne).—International Congress for Neurology, Psychiatry, and Psychology.
,, 10th–12th (Fort William and Port Arthur, Ontario).—Fourth Annual Congress of the Canadian Public Health Association.
,, 21st–26th (Vienna).—Third International Congress on Diseases of Occupation.
,, 30th–Oct. 3rd (Brussels).—Fourteenth French Congress of Medicine.
Oct. 31st–Nov. 2nd (Berlin).—First Congress of the International Society for Sexual Research.
Nov. 15th–21st (London).—Health Week. (Under the direction of the Health Week Committee appointed by the Royal Sanitary Institute.)
(St. Petersburg).—Third Mendeléeff Congress of Pure and Applied Chemistry and Physics.

In 1915:—

May 31st–June 5th (London, South Kensington).—Sixth International Congress of Social Work and Service.
Sept. 8th (Begins) (Manchester).—Meeting of the British Association.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free from THE LANCET Offices, have been reduced, and are now as follows:—

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Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London County and Westminster Bank, Covent Garden Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied.

SOLE AGENTS FOR AMERICA—MESSRS. WILLIAM WOOD AND CO., 51, Fifth Avenue, New York, U.S.A.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 6th, 1914.

Date.	Barometer reduced to Sea Level and 32°F.	Direction of Wind.	Rain-fall.	Solar Radio in Vacuo	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
April 30	29·93	N.E.	...	72	53	46	45	43	Overcast
May 1	30·20	N.E.	...	87	51	42	42	48	Fine
,, 2	30·36	S.E.	...	103	54	43	42	47	Cloudy
,, 3	30·12	S.	0·15	105	64	46	49	53	Cloudy
,, 4	29·81	S.W.	...	115	65	49	56	58	Cloudy
,, 5	29·75	W.	0·19	103	59	52	52	56	Cloudy
,, 6	29·74	WNW	...	103	58	51	51	55	Cloudy

The following journals, magazines, &c., have been received:— Archives of the Roentgen Ray, International Journal of Surgery, Annales de Gynécologie et d'Obstétrique, Therapeutic Gazette, Ophthalmoscope, Journal of the Royal Sanitary Institute, Journal of Hygiene, Archives of Pediatrics, Clinique Ophtalmologique, Post Graduate, Journal d'Urologie, Edinburgh Medical Journal, Polyclinic, British Dental Journal, Journal of State Medicine, Cleveland Medical Journal, British Journal of Dental Science, Maryland Medical Journal, Archives Générales de Chirurgie.

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Arris and Gale Lecture

ON

THE DEVELOPMENT OF THE HEART IN MAN IN RELATION TO ITS FUNCTIONAL ACTIVITY.

Delivered before the Royal College of Surgeons of England on March 2nd, 1914,

BY DAVID WATERSTON, M.A., M.D. EDIN.,
F.R.C.S. EDIN.,
PROFESSOR OF ANATOMY IN THE UNIVERSITY OF LONDON.

MR. PRESIDENT AND GENTLEMEN,—I wish to bring under your notice some results of the observations on human embryology which have been made in my laboratory during the past year or two. The subject I have selected deals with problems of embryology which have a distinct relationship to adult anatomy and physiology, as well as to clinical work, and the observations will therefore prove of interest to those who are engaged in clinical study and practice as well as to those who are mainly occupied in laboratory work.

THE PROBLEMS OF HUMAN EMBRYOLOGY IN RELATION TO THE HEART.

As an anatomist I feel that no explanation is necessary for discussing problems of human embryology, for we have come to recognise the fact that knowledge of the adult human body is incomplete without a comprehension of the successive stages through which all the parts and organs of the body pass before the adult condition is attained. From another standpoint, we now regard the adult (type of) organism which forms the usual object of study in anatomical laboratories, as representing only one of the phases of human structure, and the sphere of embryology includes not only the changes which occur during the intra-uterine life of the embryo, but also the numerous and great changes which occur after birth.

We have expanded that narrow view of embryology which looks to it merely for an explanation of teratological defects, and in place of that, we look to embryology to elucidate and to explain many of the problems of infantile, adolescent, and senile structure, with which are connected the physiological peculiarities which characterise these divisions of human life.

This aspect of embryology is nowhere better illustrated than in the problems which arise in connexion with the structure and function of the heart. The general lines of the development of that organ have been worked out in considerable detail, but the recent advances which have been made in our knowledge of the anatomy and physiology of the fully developed heart have drawn attention to some features of its development which have not yet been fully elucidated, and it seems to me that a knowledge of its development is likely to throw some additional light upon its functional activity in the adult.

During the whole process of its development the heart is a functioning organ—in other words, from the time of its first appearance it is actively engaged in carrying on the circulation in the body of the embryo and in the placenta. In this respect it differs from the other organs of the body. During the process of their development, with a few exceptions, they are not physiologically active, or their activity during fœtal life is of a different kind from their adult function. Since this is so, it seems likely that an investigation of the functional activity and the regulating mechanism of the heart during fœtal life would reveal facts of some importance in connexion with the study of the adult heart.

THE SINU-ATRIAL NODE AND THE ATRIO-VENTRICULAR NODE AND BUNDLE.

The special advances which have occurred within recent years include the knowledge that has been gained of the atrio-ventricular bundle, and also of the sinu-auricular node of Keith and Flack.

The first of these structures, as you are aware, forms a connecting band between the musculature of atria and the ventricles of the heart. It can usually be detected by macroscopic examination, and it originates in a node of tissue situated in the wall of the right atrium, near the orifice of the coronary sinus. From that node the bundle passes towards the ventricular septum, below the membranous portion of the septum, and divides into right and left branches—the right branch passing downwards in the septal wall of the right ventricle and the left passing through the ventricular septum to the wall of the left ventricle. Each division of the bundle breaks up into branches, which ramify under the endocardium of the ventricular chambers. The network which the branches form is a very complex one, and it can best be demonstrated by a method of injection, for the bundle and its branches are surrounded by a loose connective tissue, or possibly even a large space, into which Indian ink can be injected, and the fluid passes along the course of the branches.

The sinu-auricular node of Keith and Flack is a node of tissue with distinctive histological characters, placed near the entrance of the vena cava superior, on the lateral wall of the right atrium, at the junction of the sinus venosus and atrium in the sulcus terminalis. There may be other connexions between atrium and ventricle, but I do not propose to discuss the evidence for the existence of these.

Of the function of these structures the atrio-ventricular bundle appears to regulate the sequence of the atrio-ventricular contractions, while the sinu-atrial node has been termed the "pace-maker of the heart," and in it there originates the wave of contraction which spreads over the whole atrium.

THE EMBRYOS STUDIED.

The material which I have prepared and studied consists of some specimens from a series of human embryos. Sections of the first and youngest of these were entrusted to me by Mr. Henry Wade and by Professor B. P. Watson, while for some of the others used in this investigation I am indebted to my friend, Dr. H. J. F. Simson, and to these gentlemen I wish to record my grateful thanks.

The work of examining these embryos and of making the models has been carried out in my laboratory in King's College, and I wish to acknowledge the untiring assistance I have received from my skilled laboratory assistant, Mr. Weston.

HEART OF EMBRYO 3 MM. IN LENGTH.

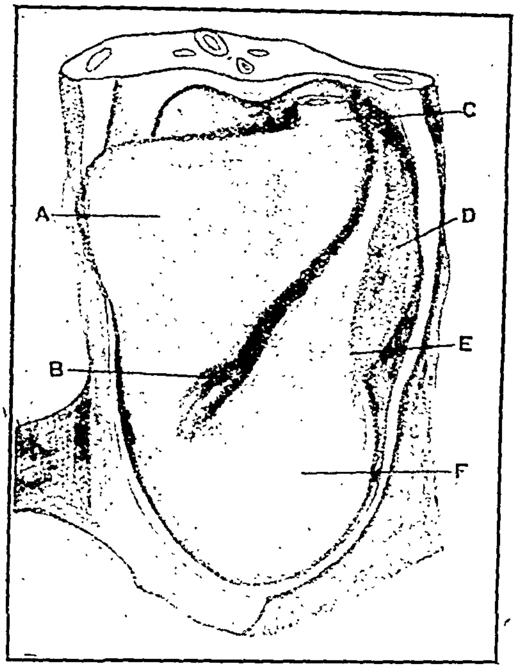
I begin at the stage at which the embryonic heart presents itself as a twisted tube-like structure, dilated and contracted at intervals, enclosed in the pericardial sac.

The first specimen shows the heart from a human embryo almost 3 mm. long, and presumably in about the third week of development. The external form of the embryo, with its yolk sac, amnion, chorion, were reconstructed at a magnification of 50 diameters. The model of the heart and adjacent part of the trunk has been reconstructed in wax plates at a magnification of 200 diameters.

Features of the Heart.

Viewed from the front the ventricle and the bulbus cordis are seen. (Fig. 1.) The former is a conical chamber which already forms the apex of the heart, while the bulbus cordis forms a long irregularly tubular structure which lies to the right of the ventricle and then above it. It communicates with the ventricle by a slightly constricted orifice, and passes onwards to bend up into the conus arteriosus.

FIG. 1.



Reconstruction of heart of human embryo three to four weeks old. A, Bulbus cordis. B, Bulbo-ventricular groove. C, Conus arteriosus. D, Auricle (atrium). E, Auricular, or atrial, canal. F, Ventricle.

The bulbus cordis is a chamber of the heart whose wall is formed by myocardium, and which in animals such as the dogfish carries semilunar valves internally. In the embryo it is lined by a tissue from which valves are afterwards formed. The ventricle and bulbus are separated by a long oblique groove—the bulbo-ventricular groove.

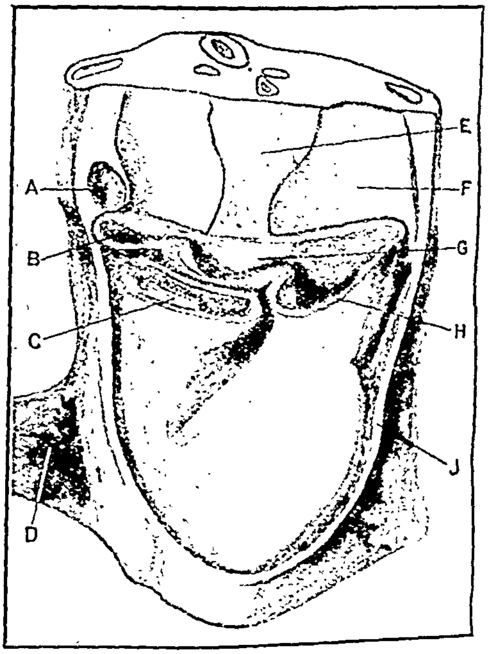
The atrial, or auricular, portion of the heart lies dorsally and in a cranial direction, and only small portions are seen from the front. The dorsal view of the heart shows the large single atrium and the sinus venosus opening into its right portion, after receiving the great veins. Even at this stage a pulmonary vein is present which opens into the atrium to the left of the sinus venosus. The atrial canal lies entirely on the left side.

Internal Structure.

At this stage of its development the heart wall consists of two distinct layers—an endocardial tube, invested externally by myo-epicardial wall. These two layers of the wall are in some parts widely separated, the endocardial tube forming a very narrow tube in the interior of the space included by the myo-epicardial wall. (Fig. 2.) The space between the two tubes is filled by an extremely delicate reticulum derived from the endothelial tube. In the atrial canal and in the bulbus the greatest interval is found between the two walls. In the sinus venosus, atrium, and lower portion of the ventricle the lumina of the two tubes correspond, and the myo-epicardial wall is lined by the flattened endocardium. Fig. 2 shows the relative size of the two tubes in the bulbus cordis region. Horizontal section of the model shows the relative position and size of the chambers. (Fig. 3.)

The myo-epicardial wall forms a continuous sheet, and extends without interruption from the sinus venosus to the bulbus cordis. The cells forming it already show some fibrillation, indicating their transition into contractile muscle cells. The veins entering the sinus venosus have no definite muscular walls; they are merely endothelial-lined spaces containing blood. The myo-epicardial wall is thickened in the ventricle and in the lower part of the bulbus, and already trabeculæ are present in those regions. The endothelial tube also forms a continuous wall, the lumen of which is dilated at intervals.

FIG. 2.



Internal structure of Fig. 1. A, Right duct of Cuvier (cut). B, Sinus venosus. C, Endothelial tube of bulbus. D, Amnion. E, Dorsal mesentery of heart. F, Dorsal wall of body cavity. G, Auricle (atrium). H, Myo-epicardial wall of auricle. J, Pericardium (divided).

Valvular apparatus.—The sinu-atrial junction is guarded by a valve, consisting of a single flap, formed by an infolding on the right side of the sinu-atrial junction—the right venous valve. (Fig. 3.) There is no valvular apparatus either at the atrio-ventricular junction, nor in the ventricle and bulbus, unless the loose connective tissue which separates the endothelial tube and the myo-epicardial wall in these two regions has some such action.

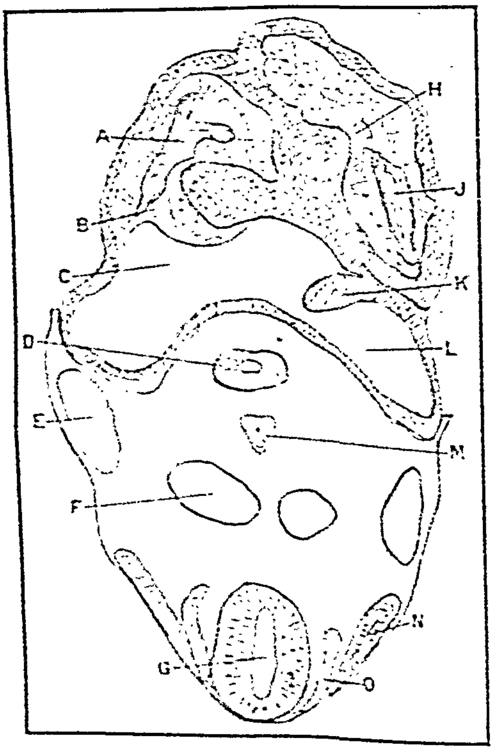
The atrial wall is infolded slightly on its anterior and cranial aspect, apparently from the pressure of the conus arteriosus, and this infolding is the earliest indication of the vertical septum which later on divides the atrium into two halves.

Mechanism.

There is no evidence of the formation of any specialised tissues in the wall, and the mechanism of the heart at this stage consists in a rhythmic peristaltic contraction which begins at one end of the muscular tube, in the sinus venosus, and passes thence along the wall to the arterial end.

If we seek in the animal kingdom for a comparison with a heart at this stage we find it in the dogfish, whose heart consists of exactly similar chambers, occupying very much the same relative position, and resembling very closely in all details the corresponding parts in the young human embryo. The nature of the circulation which can be carried on by a heart of this kind is of the simplest character—namely, one in which there is a single circulation, of what may be called the "venous type," through the heart, for the heart in the fish has merely to drive the blood to the gill arches, where it is oxygenated and whence it passes to the rest of the body.

FIG. 3.



Transverse section of three to four weeks embryo. A, Endothelial tube in muscular (atrial) canal. B, Dorsal connective tissue reticulum. C, Cavity of auricle (atrium). D, Lung bud. E, Left duct of Cuvier. F, Left dorsal aorta. G, Spinal cord. H, Connective tissue reticulum of bulbus. J, Endothelial tube of bulbus. K, Right venous valve. L, Sinus venosus. M, Oesophagus. N, Somite. O, Neural crest.

It may be stated with assurance that at this stage of development there is no question of the existence of nerve control. There is no sympathetic system, and the cranial and spinal nerves have not developed beyond the most primitive stage, in which the neural tube has a neural crest on each side, but has no ventral roots growing out from it.

HEART OF EMBRYO 6 MM. IN LENGTH.

From the stage at which the heart is a continuous tube I now pass to the next stage of its development, in which a subdivision of the primary chambers is occurring.

The model shows you the heart of an embryo 6 mm. in length, or approximately six weeks old. The external form of the embryo shows that at this stage the limbs are beginning to appear. The model of the heart has been reconstructed at a magnification of 100 diameters. (Figs. 4, 5, and 6.)

The anterior view shows a large bulbo-ventricular chamber, divided partly into right and left halves by an indentation on its lower margin. From the right half of this chamber the distal portion of the bulbus cordis ascends vertically and passes into the conus arteriosus. The atrium (or auricle) has expanded, and its right and left wings appear on either side of the ascending stem.

Arrangement of Chambers.

The arrangement of the chambers is as follows. (Fig. 8.) The sinus venosus, now relatively reduced in size, opens into the right posterior wall of the atrium by a pouting slit-like orifice with right and left margins. It is very like the ileo-cæcal junction, and from the upper border of the orifice a fold passes vertically in the atrial wall, like the retinacula of the ileo-cæcal value. The atrium is incompletely divided into right and left halves by a vertical septum—septum primum—which is perforated at its upper dorsal portion to form the secondary foramen ovale. The atrium is of large size, and throughout the heart there is an extraordinary difference between the size of the chambers and the size of the communications which connect them.

The atrio-ventricular canal is short, and is now divided into a right and a left aperture by the fusion of its upper and lower boundaries in the centre, leaving on each side a small orifice, the right and left atrio-ventricular orifices. (Figs. 7 and 8.) This division has been effected by the development of two large endocardial cushions, of which I shall say more subsequently.

The ventriculo-bulbar chamber is incompletely divided by a septum growing up from below, and from its right upper angle the bulbus cordis ascends. The proximal portion of the bulbus is lined by two large endocardial cushions which pass for some distance down into the ventriculo-bulbar cavity (Fig. 8), while in the distal portion there are four such swellings placed around the circumference of the tube. It must be noted that the muscular wall of the whole organ is still continuous throughout, but changes are occurring in it.

In the division of the atrium and the imperfect division of the ventriculo-bulbar chamber, the condition of the heart resembles that of the amphibian, in which there is a morphological division of the auricle, and a functional subdivision of the ventricle and bulbus, in response to the need for carrying on both a venous (pulmonary) circulation and an arterial, left-sided, systemic circulation.

Minute Structure.

The chief interest in the structure of this specimen, from the standpoint of its functional activity, lies in the regions of the sinus venosus and the atrial canal.

1. *Sinus venosus.*—The sinus venosus opens into

the atrium by a narrow slit-like orifice, whose characters have already been described. The structure of the sinus wall shows a distinct modification in the appearance of the sinu-atrial node. In the upper part of its right wall a well-marked thickening is found, and the histological features of this thickening show that it is not of the same structure as the other portions of the wall. Furthermore, at the sinu-atrial junction a distinct vessel is found lying in the wall, and around it is the modified tissue. It may be pointed out that the position of the sinu-atrial node can be identified in the fully developed heart most readily by the existence of a distinct vessel which traverses it. There can be little doubt that the appearances found in the present specimen indicate the earliest formation of the sinu-atrial node as a modification of the tissue forming the wall of the sinus. (Fig. 7.)

On the left wall of the sinus opening an endocardial cushion is found, and the tissue of the sinu-atrial node appears to pass in the dorsal wall of the sinus towards this cushion. The tissue composing the node consists of rounded cells with large, round, deeply staining nuclei. The adjacent cells of the muscle wall of the atrium and sinus on the other hand, are spindle-shaped, and the cell substance is fibrillar and their nuclei are elongated.

2. *Atrial canal.*—The atrial canal is much modified by formation of endocardial cushions. In the earlier specimen this canal was lined by the delicate connective tissue reticulum all round. In place of that former lining, two large masses of connective tissue are present, situated one anteriorly or above and the other posteriorly, and two smaller cushions are making their appearance, one on the lateral side of each of the *a.-v.* openings. (Fig. 7.) The larger cushions are not confined to the region of the canal, but the anterior passes to the lower border of the septum primum, while the posterior one passes in the floor of the atrium towards the sinu-atrial orifice.

Above the atrial canal two pulmonary veins are found passing to the left atrium. Where they approach the atrial wall the muscular coat of that chamber is continued on to these veins, but a considerable part of the atrial wall is at this level composed of connective tissue, and not of muscle. The superior, right and left walls of the atrial canal are intact—that is, they consist of a sheet of definitely muscular tissue, which passes from the atrial wall to the wall of the ventricle. The inferior (posterior) wall is also complete, but its internal surface, in contact with the posterior endocardial cushion, is very irregular. An inner and outer layer can be recognised; between them is a loose connective tissue. (Fig. 9.)

This formation apparently precedes the appearance of tissue which can be definitely recognised as "bundle" tissue, and it occurs in the position in which the node and proximal part of the bundle are laid down. In embryos slightly more advanced than this specimen a bundle of fibres, staining somewhat deeply, is found occupying this position. It can be identified from the surrounding tissue by its staining properties. Whether it is an ingrowth into the reticular tissue described here or is derived by transformation of the reticular tissue I am unable to say. From the evidence presented of the local formation of the sinu-atrial node I am inclined to think that the atrio-ventricular node and bundle are also formed locally.

The external layers of the posterior wall of the atrial canal can be traced onwards to the upper portion of the muscular interventricular septum.

Mechanism.

It is interesting to note what the mechanism of the heart at this stage is.

The muscular coat is continuous, and no doubt the contraction is largely rhythmical in character. The node in the sinus wall constitutes a starting point for the contraction, which from that point sweeps onwards over the muscular wall of the atrium, atrial canal, and ventricle. But now a pulmonary circulation is definitely established, pulmonary veins open into the left division of the atrium, and it is essential that the contraction of the mouths of these veins should occur as the earliest stage of atrial contraction to prevent blood being driven back along them. The necessity for this probably affords the explanation of the extension of the sinu-atrial nodal tissue to the left side, towards the pulmonary veins.

The condition of the heart is that of the amphibian, and in the amphibian it has been shown that a sinu-atrial node such as I have described exists.

The musculature of the atrial canal is still intact, and the two *a.-v.* orifices open into a common chamber, from which the blood is expelled by a single orifice into the distal half of the bulbus cordis.

SUBSEQUENT STEPS IN DEVELOPMENT.

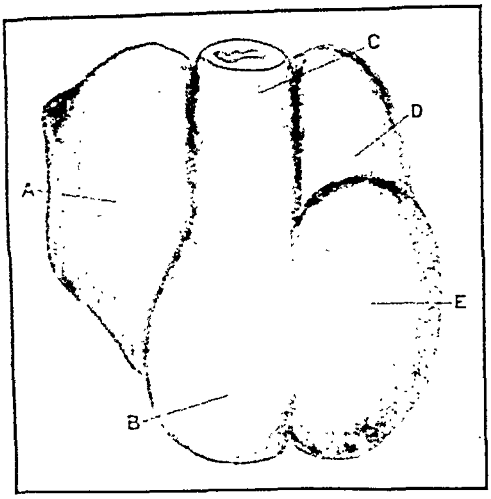
The subsequent steps by which this single channel is divided into two can be briefly explained by short reference to the figures. The endocardial cushions lining the bulbus cordis meet and fuse in their upper parts, and so constitute an aorto-pulmonic septum, dividing the cavity in a spiral fashion into the stem of the pulmonary artery and the aorta. From this septum an extension occurs downwards and obliquely to the right. The septum meets the right end of the anterior endocardial cushion and encircles the right *a.-v.* orifice, while more anteriorly it passes down to meet the upgrowing interventricular septum and blends with it. Thus the flow of blood from the left *a.-v.* orifice passes on one side of the septum into the aortic channel, while the blood entering by the right *a.-v.* orifice passes on the other side of the septum to the pulmonary artery. From this it will be seen that the membranous part of the septum, the vestibule of the aorta, and the entrance to the pulmonary artery are all formed from the downgrowth from the bulbus septum.

It is not my purpose here, however, to describe in detail the changes which are associated with the formation of the valves of the heart beyond saying that the *a.-v.* valves are formed from the endocardial cushions which surround the *a.-v.* openings and which project into the ventricles, while the semilunar valves of the aorta and pulmonary artery are formed from endocardial cushions in the distal part of the bulbus cordis.

HEART OF EMBRYO 20 MM. IN LENGTH.

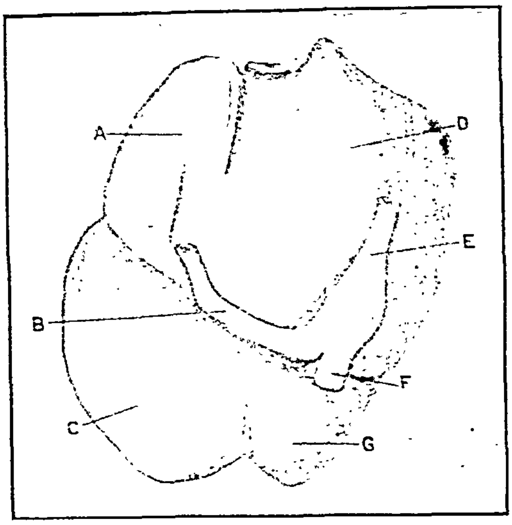
I now pass to the next stage of the development of the heart, in which the bulbus cordis, in its distal part, has become completely divided into pulmonary artery and aorta, and the right and left ventricle are separated from one another by the completion of the interventricular septum from above by a downgrowth from the septum of the bulb. At this stage the lungs are more fully developed, and the specimens I show are from an

FIG. 4.



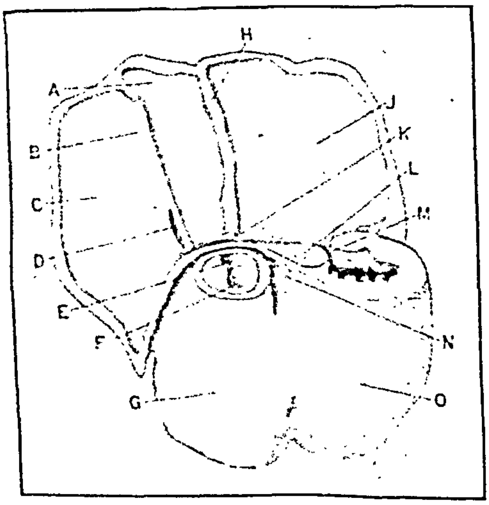
Reconstruction of heart of human embryo about six weeks old. A, Right auricle (atrium). B, Right ventricle. C, Upper part of bulbus cordis. D, Left auricle (atrium). E, Left ventricle.

FIG. 5.



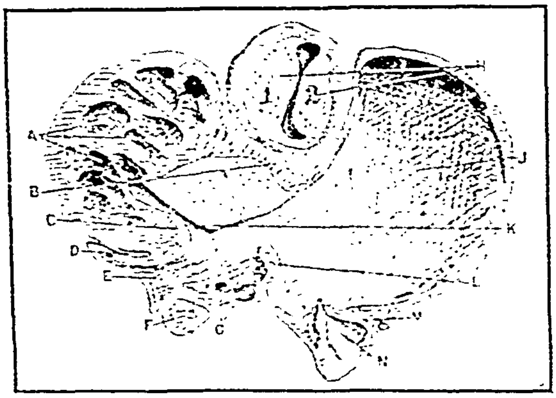
Same as Fig. 4, viewed from the back. A, Left auricle (atrium). B, Sinus venosus. C, Left ventricle. D, Right atrium (auricle). E, Right anterior cardinal vein. F, Right posterior cardinal vein. G, Right ventricle.

FIG. 6.



Interior of same heart viewed from the front. A, Intersepto-valvular space. B, Septum spurium. C, Right auricle (atrium). D, Opening of sinus venosus into auricle. E, Aortic division of cavity of bulbus. F, Pulmonary division. G, Right ventricle. H, Interauricular septum (septum primum). J, Left auricle (atrium). K, Communication between R. and L. auricles (foramen ovale primum). L, Endocardial cushion. M, Left a.-v. orifice. N, Bulbo-ventricular groove. O, Left ventricle.

FIG. 7.



Horizontal section of heart (see Fig. 4). 1 and 2, Endocardial cushions in bulbus cordis. A, Trabeculæ of left ventricle. B and D, Continuity of auricular and ventricular wall. C, Lateral endocardial cushion. E, Left auricle. F, Left horn of sinus venosus. G, Pulmonary veins. H, Endocardial cushions. J, Right auricle. K, Left a.-v. orifice. L, Septum primum. M, Sinu-atrial node. N, Sinus venosus.

FIG. 8.

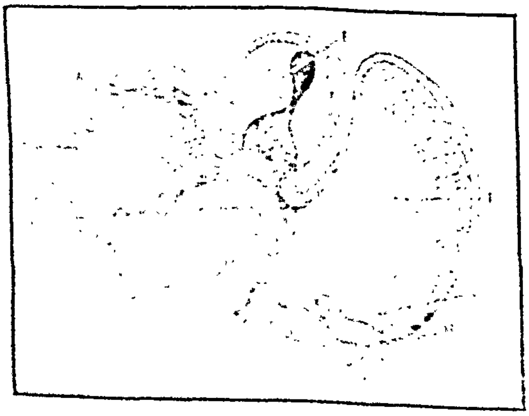


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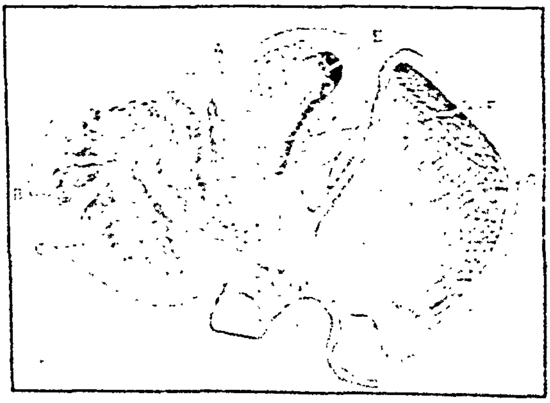
FIG. 9.



[illegible]

embryo of 20 mm. length, or about the eighth week of development.

Structure.

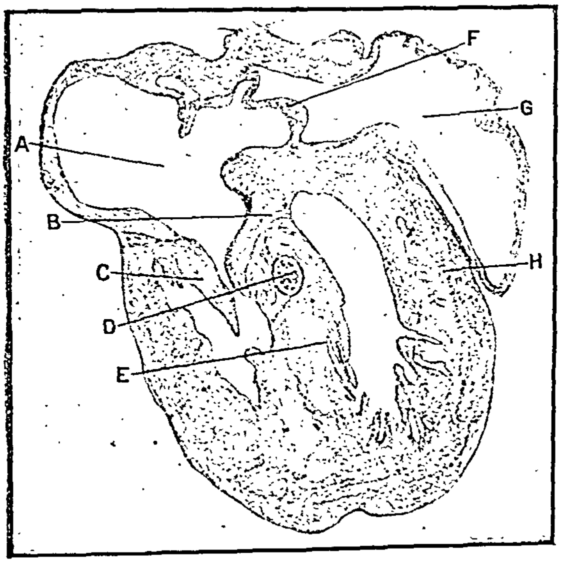
The heart is now practically a four-chambered organ, though the right and left atria are still connected by the opening of the foramen ovale secundum, and in its shape it resembles more closely the adult heart.

The sinus venosus has been largely incorporated into the right atrium, and the pulmonary veins are fully developed.

Atrial canal.—The atrial canal can still be recognised as the narrow band which surrounds the junction of atrium and ventricle. The epicardial layer overlying the original muscular wall of this portion has become very much thickened and has invaded the underlying muscular tissue and largely replaced it. The endocardial cushions surround the atrio-ventricular orifices, and their margins projecting into the ventricular chambers have become undermined to form the cusps of the tricuspid and mitral valves.

The aorto-pulmonic septum has grown down, and fused with the right margin of the anterior endocardial cushion and also with the upper margin of the interventricular septum. At the junction of the two parts, the reticular tissue noticed in the former specimen, and derived from the posterior wall of the atrial canal, has now developed further and encloses the *a.-v.* bundle. The bundle itself forms a compact, darkly staining mass, surrounded by a loose layer of areolar tissue, and it can be traced in a downward direction to the right and left surfaces of the ventricular septum, while in the opposite direction it passes towards the anterior portion of the auricular septum, and in this way the original connexion of the atrium and ventricle is maintained. (Figs. 10 and 11.)

FIG. 10.



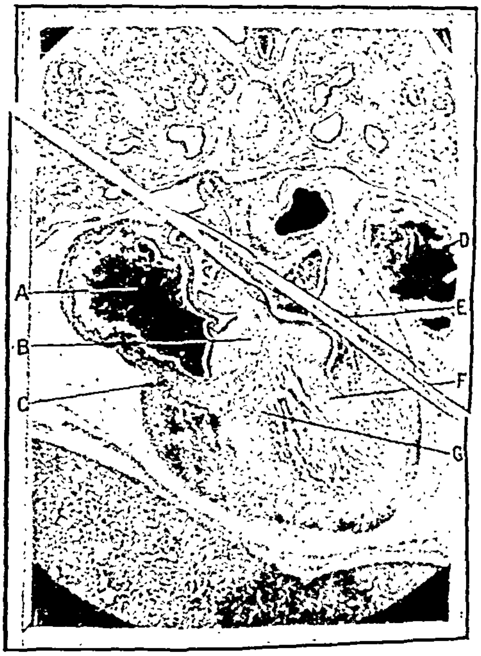
Horizontal section of heart of 20 mm. human embryo (seven to eight weeks). A, Right auricle (atrium). B, Auriculo-ventricular junction. C, Marginal cusp of right *a.-v.* orifice. D, Auriculo-ventricular bundle, in ventricular septum. E, Interventricular septum (muscular portion). F, Inter-auricular septum, septum primum. G, Left auricle (atrium). H, Muscular wall of left ventricle.

Mechanism.

The mechanism at this stage is now practically that of the adult heart. The interior of the right atrium is subdivided by partial septa, so that the current of blood from the vena cava superior is directed to the atrio-ventricular foramen, while that from the vena cava inferior is directed more to the foramen ovale.

The muscular contraction of the atria, originated in the sinu-atrial node can now sweep over the atrial chambers, and the impulse can be conveyed from the atrial wall to the walls of the two ventricles. The two ventricles can now beat simultaneously and not as they did in the original peristaltic movement, when the wave of contraction affected the left ventricle and then passed from it to the more distal portion of the ventriculo-bulbar chamber which gives rise to the right ventricle.

FIG. 11.



Horizontal section at a lower level than Fig. 10 (photograph). A, Right auricle (atrium). B, Auriculo-ventricular bundle. C, Auriculo-ventricular junction, muscle wall being broken down by connective tissue. D, Left auricle (atrium). E, Left *a.-v.* orifice. F, Muscular interventricular septum. G, Trabeculæ in right ventricle.

At this stage, too, the nerve connexions of the heart have been fully formed, and so the characters of the cardiac contractions can be brought into harmony with the special needs of other parts of the body.

The evidence does not show that the atrio-ventricular bundle is derived from nerve tissue, but rather that the connexions it possesses with the central nervous system are established after the bundle has formed, and that the nerves are of secondary importance in regulating the cardiac rhythm. They have rather the function of coördinating the movement of the heart as a whole with the demands of the circulation throughout different parts of the body.

CONCLUSIONS.

The conclusions may be summarised as follows:—

1. In the first stage of its development the heart is a self-regulating organ. Its rhythmic activity is shown by peristaltic waves of contraction which sweep over it from end to end, and at this stage it

possesses a continuous muscular coat. It is quite independent of the central nervous system.

2. In the next stage—i.e., when the primitive chambers are being divided—a new mechanism arises in the form of a node of specialised tissue situated at the junction of sinus venosus and atrium, which passes thence to the dorsal wall of the atrium and the region of the pulmonary veins. This is the first of the nodal tissues to appear, and is the precursor of the sinu-atrial node of the adult heart.

3. The *a.-v.* bundle and node make their appearance about the time of the further division of the chambers of the heart, as a bundle of fibres lying under the posterior endocardial cushion of the atrial canal, and extending from the atrial wall to the ventricular muscular septum. The evidence goes to show that this bundle is derived from the tissues in which it appears, and that from the first it is surrounded by a sheath of loose connective tissue. Fibres and cells from the central nervous system invade this bundle, and also go to other portions of the heart wall, but the intrinsic regulating mechanism appears to arise independently of the nervous system, and is connected only secondarily through that system with other parts of the body.

THE DIAGNOSIS OF APPENDICITIS.

BY WILLIAM H. BATTLE, F.R.C.S. ENG.,
SENIOR SURGEON TO ST. THOMAS'S HOSPITAL, ETC.

THERE is too much tendency when considering the diagnosis of this disease to forget that it varies extremely in its manifestations, and that it must be regarded from various standpoints according to its mode of onset and the stage to which it has advanced when first seen by the skilled observer. It is not advisable to labour the subject; indeed, from the number of communications which appear on appendicitis it is almost necessary to apologise for anything likely to add to the literature of that disease, and in order to avoid any unnecessary elaboration I will put forward briefly a few points which may be useful. It will be best to make a classification into (1) acute appendicitis; (2) appendicitis which has ended in localised suppuration; (3) appendicitis with spreading inflammation of the peritoneum; (4) cases in which there is appendicitis with suppuration, but in which the defensive barriers have been broken down and the pus suddenly and generally diffused; and (5) recurrent attacks. It is the first of these to which I intend to limit my remarks.

Acute Appendicitis.

In acute appendicitis, limiting the term to acute inflammation of the appendix seen within the first 48 hours, there will be a variation in the symptoms in different individuals according to age, sex, position of appendix (pelvic, iliac, retrocæcal, outer side of cæcum), nature of the lesion in the appendix, and whether the attack is a first one or not. The amount of pain varies; it may be severe though transient, referred to the iliac fossa, unaccompanied by appreciable fever or more than a temporary increase in the pulse-rate. There may be but little tenderness, and that of short duration, yet at the removal of the appendix (if this is done early) the surface may be coated with lymph. At other times the patient may call out with pain, having been awakened from sleep, and becomes quite collapsed, so that the administration of stimulants is necessary to bring him round. This pain may continue for hours and then stop suddenly or pass off gradually. It differs widely, then, in intensity. Most agree that it is bad. Usually it is referred to the region of the umbilicus and passes later to the right iliac fossa, where it becomes localised. When the appendix is in the pelvis the pain is less clearly defined, but is said to be "low down"; it is often increased by pressure on the right lower rectus, which is rigid. Vomiting is usually present, coming on soon after the onset of the pain. It does not always continue for long, but if it does so the attack is probably of a severe nature. In many attacks of appendicitis there is no vomiting, but there is almost always a feeling of nausea. There may be no shock or collapse, but in some instances this may be very marked.

To these symptoms there are added those of fever—a quickened pulse and respiration and a rise of temperature, mostly to 101–3°F., but it may be much higher (106°). The patient looks ill, has a furred tongue and foul breath, whilst the bowels are usually confined; in severe cases diarrhœa is common. Even in the more acute cases the tongue may be quite clean. Examination of the abdomen shows diminished respiratory movements, chiefly in the hypogastric region. It feels stiff and may be rigid, especially about the lower part of the right rectus, which is doing its duty of guarding the inflamed appendix from disturbance. Tenderness may be widely spread, but is most easily elicited on pressure over the right iliac fossa, or if the appendix is in the pelvis on rectal or vaginal examination. Frequency of micturition and dysuria are present when the inflamed appendix is in the pelvis.

It is very seldom that we can find any tumour in the iliac fossa within 24 hours of the onset of an acute attack; the rectus muscle prevents even a distended appendix of considerable size from being felt; there is often a sense of fulness underneath the muscle, especially if the appendix is retrocæcal. An enlarged appendix may, however, be felt when the patient is under an anæsthetic. A large number of these acute attacks luckily undergo resolution, the pain subsides, the temperature falls, the pulse-rate diminishes, and convalescence begins at the end of two or three days. As the rigidity of the rectus muscle diminishes, a swelling is felt about the appendix which indicates a localisation of the inflammatory process, and the illness is, for the time, practically over. In a few days more this swelling has quite disappeared. Unless the medical man draws the attention of the patient to this swelling it is probably not noticed by him, and when questions are asked in a later attack as to a former swelling—a valuable point in the history—the patient does not know. And in most cases there is no history of rectal or vaginal examination sent with the case. Although the pulse and temperature may be normal the patient is not safe until the swelling has quite gone.

With the cessation of pain there may be a loss of the protective contraction of the muscles, although there is still tenderness in the region of the appendix. This sometimes occurs within 48 hours of the commencement, and may be wrongly regarded as a sign that the attack has subsided, being only of a mild character, yet on operation a gangrenous appendix may be found. The explanation may be that the appendix is shut in behind the cæcum or encircled by the omentum, for when it has given way into the general peritoneum there is usually no relaxation of the muscles, and the pulse increases in frequency.

What I wish to emphasise is that attacks of acute appendicitis vary very much, and ideas of the gravity of a particular attack will vary somewhat according to experience. Regard any attack of abdominal pain with suspicion if with it there are fever, rigidity of muscles, and tenderness in the lower abdomen, especially if that tenderness is over Clado's point.

There may be quite another picture presented within the first 48 hours—that of a more severe storm which seems likely to hurry the patient into his grave before he can be relieved. The commencement may be a rigor, the temperature very high, the effect on the nervous system and on the heart profound, whilst the local signs of peritonitis quickly increase in severity and extent from hour to hour. In these cases there is no hesitation as regards operation; the patient's friends demand it, he is so very ill. The other cases also cry for early operation, but the cry is often unheeded because the receiver is not trained to messages pitched in the lower key. We should be all agreed of the need for operation in all cases as soon as possible. It is in the interest of the patient that it should be done. If we could cut short an attack of typhoid fever by removing the appendix we should do it at once in every case, and be very glad to do it. A neglected attack of appendicitis may be more deadly than one of typhoid and far more distressing. Last year there was a good deal of discussion in the medical world as to the need for immediate operation—at all events within the first 48 hours: there were few dissentient voices amongst the surgeons who expressed opinions. Most had settled this question long before, but the general agreement expressed may have helped some who were uncertain to make up their minds finally in favour of early operation. Another question which arose from this was whether a surgeon could give an opinion of any value as to the nature of the pathological change in the appendix on which the attack depended. I have contended that he can do so in a large number of instances, not always, because it is often quite impossible to get the real history of the case, or the signs and symptoms are obscure. In this respect the surgeon is much better placed than the physician, for the former sees the case and examines the appendix when removed, whilst the latter rarely sees the appendix, and very often is not told of the pathological changes which were found at the operation. I did not see Mr. Edmund Owen's letter[1] in which he denied the accuracy of this statement until long after it had appeared in THE LANCET, therefore there did not seem any urgency for a reply when I did so. The essential thing, need for early operation, had been granted, the other which was of far less importance could wait. When I wrote my original letter I had in my mind three consecutive cases of operation in private in which the state of the appendix had been stated correctly, and after reading Mr. Owen's letter I took the next series during an emergency week at St. Thomas's Hospital. Operation was successful in all. The cases which were seen in private were as follows.

CASE 1 (seen with Dr. A. Charpentier and Dr. F. E. Walker).—A boy, aged 6, who complained of a sudden abdominal pain in the early morning of the previous day. He was seen at 5.30 P.M., and during the day had suffered from severe abdominal pain and vomiting. His pulse had been rapid all the day and was still the same—120. The temperature had been high—102-103° F. The boy was breathing rapidly and his alæ nasi were working. He was quite intelligent and had a clean tongue; still, there was a look of distress about him. His abdomen was rigid, not moving with respiration, and there was some dulness in the right flank. A diagnosis of commencing peritonitis due to gangrenous appendix, which contained a concretion, was made. Operation was carried out as soon as possible. Appendix 4 inches. There was a gangrenous patch limited to the part surrounding a concretion. Thick very offensive purulent fluid about the cæcum and in the pelvis. All the forceps applied to the shortened meso-appendix came away before a ligature could be applied, but there was no bleeding, both arteries and veins being thrombosed. Drainage.

CASE 2 (seen with Dr. G. F. Cooper.)—A married lady, aged 28, who admitted that she had suffered from occasional attacks of abdominal pain, during which she had vomited at times, but denied that she had ever had appendicitis, was seen at 5 P.M. She had been awakened with abdominal pain on the previous morning and this continued all day, but was not very bad until night, when there was a sudden increase in it with vomiting and a rapid pulse. She was given morphia and was still showing the effects of it, but was better in some ways, the temperature being 100° F. and the pulse 100. There was some tenderness of the abdomen, but not much rigidity; there was also resistance with a more generalised tenderness spreading to the left. The tongue was dry, the bowels confined, and there was slight general distension of the abdomen. Appendix 4½ inches, irregularly enlarged and acutely inflamed. There was a constriction about 1¼ inches from the proximal end with dilatation beyond, which had not ruptured. It was full of offensive purulent fluid. There was also a concretion, which was pressed to the narrowed part of the canal, and the mucous membrane over it was gangrenous, but had not yet yielded. There was some free fluid in the pelvis. As the appendix was removed intact it was not considered necessary to drain the wound.

CASE 3 (with Dr. Frank Deas and Dr. James Scott).—A married lady, aged 35, giving a history of two previous attacks of appendicitis five months and three weeks previously respectively. After "a party" on the previous night she had felt some uneasiness in the abdomen, and at 10 o'clock next morning had severe pain in the abdomen which lasted for some hours and then ceased rather abruptly. She vomited twice. When examined there was no pain, but the surface of the abdomen was bright red from the application of fomentations. There was tenderness in the iliac fossa with some muscular rigidity, but she could draw a full breath without pain and was not distended. The pulse was 140. This was not regarded as a serious sign because she was neurotic and very much afraid of operation, having lost a favourite brother after an operation for appendicitis. A diagnosis was made of perforation of the appendix beyond a stricture, the stricture being towards the distal extremity. This opinion enabled us to postpone operation until after removal to the Cottage Hospital, a matter of great importance as the house was new, not yet fully furnished, and badly lighted from an operator's point of view. Appendicectomy was performed at 10 o'clock next morning. Appendix 5 inches long; strictured about an inch from the tip; dilated beyond and perforated at the tip, which was adherent to a coil of bowel. There was very little free fluid.

Three patients were operated on in succession during a night in October, 1913, and the following are brief accounts of their cases.

CASE 4.—The patient was 8½ years old. The illness had begun two days before with a dull pain in the right side. The pain grew worse next day, and before admission was very bad and localised to the right iliac fossa. The bowels acted after castor oil. The patient had vomited once the night before admission. The temperature was 101° F. and the pulse-rate 120. The lower abdomen did not move well. There was marked rigidity below the umbilicus and the greatest tenderness in the iliac fossa. There was dulness in both flanks. The patient was lying on his back with the knees flexed, and was evidently in great pain. An incision was made through the right rectus. There was offensive fluid in the peritoneum, but to no great amount. Appendix 4 inches, large, retrocæcal, adherent, and much inflamed generally. Two concretions were present, and over these gangrenous patches which had given into the general peritoneal cavity. Drainage through the wound brought foul-smelling fluid away for some days. Ten days after operation the pulse was still over 100.

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[1] THE LANCET, June 21st, 1913, p. 1762.

CASE 5.—The patient was 14 years of age. There was no history of previous illness. Two days previously, in the morning, he had felt pain, localised at first in the right iliac fossa, but spreading later across the lower abdomen. He continued work till the morning of admission, when he was obliged to remain at home because of the severity of the pain. He was flushed and looking very ill. The abdomen moved very little. There was general rigidity of the muscles, most marked on the right side. Tenderness was general, chiefly over McBurney's point. On examination per rectum the patient complained of being tender on the right side, but nothing abnormal could be felt. No change in percussion note. The temperature was 93° F. and the pulse 80. The appendix was large and acutely inflamed, lying to the outer side of the cæcum, resembling in size and shape an adult human thumb. A concretion was present in the terminal part over which the mucous membrane was becoming gangrenous. No drainage, although there was some thin fluid in the pelvis.

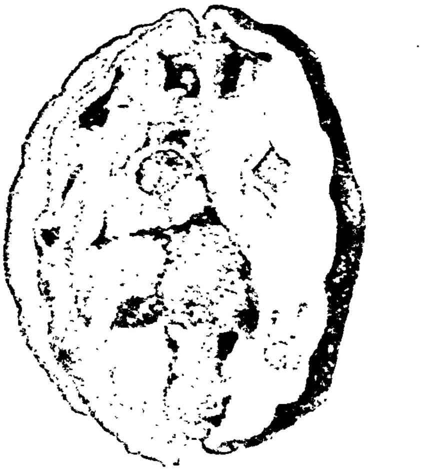
CASE 6.—The patient, aged 16, gave a history of one previous attack of pain in the right iliac fossa for which he had been treated medically elsewhere. Twelve hours before admission he had complained of pain in the right iliac fossa, but had not been sick. The abdominal wall was not rigid or tender anywhere excepting over McBurney's point, where there was slight tenderness. There was no distension and no local swelling. The pulse was 110. The appendix was 3 inches long and twisted. The meso-appendix was bound down by adhesions of old standing, giving the appendix the appearance of being partly strangled. There was lymph on the surface, and an acute inflammation of the distal end with thickening. No drainage.

In Case 6 the diagnosis was not quite correctly given. It was thought that a strictured appendix was the cause of the symptoms, but as a matter of fact the appendix was twisted, and this twist produced an obstruction to the lumen, the effect being that of a stricture. Another case may be given in confirmation of the fact that it cannot always be said what is the correct state of the appendix, notwithstanding the certainty that there is inflammation of it.

CASE 7.—A man aged 21 came into hospital during the same week as the subjects of the last three cases with a history of an attack of sudden pain at 2 o'clock in the morning. By 6 o'clock the pain was so violent that he decided to come up to the hospital, and he vomited several times on the way. He had never had any similar attack, and his bowels had acted the day before without medicine. The abdomen moved well on respiration, but he still complained of severe pain in the right iliac fossa. There was some tenderness over the appendix, with rigidity of the lower rectus. There was no distension, a pulse of 72, and a temperature of 93·4° F. Operation later in the day showed a thickened appendix attached to the lower part of the cæcum by inflammatory exudation. It was about 3 inches long. Inside was a patch of ulceration with a sloughing centre and thickened base, on which there were two bristles of small size, and a metallic concretion.

On the other hand, there are various acute diseases which render the diagnosis from acute appendicitis difficult and almost impossible, and from time to time some case is met with which adds to the list. Renal calculus has frequently given symptoms which have led to a wrong diagnosis when in the right kidney, and when it has passed into the ureter, but a case of transference of symptoms from the left kidney to the right side of the abdomen is practically unknown; therefore the following case is important.

CASE 8. [illegible]—The patient, aged 23, was admitted on June 19th, 1912. She was suffering from an acute abdominal illness, and gave the following history. About four years previously she had a similar attack with pain in the abdomen, and was ill for 15 weeks. Two years ago she had a repetition of the symptoms, and suffered off and on for a year. She was under the care of a medical man who advised her to have the appendix removed. Five days ago she became ill again with pain in the right lower abdomen and vomiting. The pain continued, and two days later she again vomited. Dr. Godfrey saw her on the 10th, and found her complaining of pain in the same part of the body, with resistance to pressure and tenderness. The temperature was 102° F., and the pulse rapid. On the 12th there was still a temperature varying from 100° to 102°. She looked ill, had a furred tongue with offensive breath and pulse 100. The abdomen did not move well, and she complained of pain which was limited to the right lower part, where there were tenderness and rigidity of muscle. Nothing abnormal was found on examination beyond this, and rectal examination was negative. The bowels were constipated. In a day or two the symptoms subsided, but returned with severity, so she was sent to St. Thomas's Hospital on June 19th. The abdomen was then very tender all over, but not rigid. Nothing abnormal could be found. Temperature, 100·6°; pulse, 120; tongue still furred and breath foul; specific gravity of urine 1012, acid, heavy deposit of urates, no albumin. The appendix was removed; it was normal. Examination of the right side of the abdomen revealed nothing abnormal; the ovaries and tubes were healthy, and the uterus was retroverted. She vomited a good deal, almost continuously for two days, but the temperature came down to normal. On the 25th it was reported that the Widal test for typhoid was negative. On the 26th she was examined very thoroughly by the resident physician, who found no evidence of disease of the chest. The vomiting, which continued, appeared to be functional, whilst the temperature, which was still irregularly high, might have been due to a sore throat of which she was complaining. On this day she was removed to a small ward and placed in charge of special nurses. July 5th: The patient had ceased to vomit. General condition improving. Had been complaining of pain in her right loin for some time. The urine was acid, with a slight trace of albumin, but with no blood; some pus cells were found. She continued to complain of pain in the right loin, so was sent to the X ray department to have the right kidney examined. The report was returned: "There are six shadows in the left kidney region. The right kidney is normal." This was on July 17th, and on the 22nd she was again X rayed. The same group of shadows were seen. She was still complaining of pain in the right side. There was also a change in the character of the urine, the specific gravity of which was 1015, pus being present with [illegible] in large quantities, as also [illegible] casts. On July [illegible] the left kidney was removed. Examination [illegible] that it was full of stones and there was very little [illegible] left. Its appearance is well shown in the illustration. It measured about [illegible] in length. The surface was somewhat



Calculi of left kidney which produced symptoms resembling those of acute appendicitis.

irregular but smooth, and the capsule non-adherent. The largest stone was lying in the pelvis and practically filled it. The smaller stones were scattered throughout the substance of the organ. At the upper end there was a small cystic space containing a rounded stone. After the operation the patient improved quickly, but even on August 3rd she still complained of occasional pain in the right side. She left on August 15th. From Oct. 28th to Nov. 12th she complained of pain accompanied with fever (temperature 101° to 102°) and sickness. The pain was along the course of the left ureter, where she had tenderness also. The ureter was examined in the X ray department, but nothing abnormal could be seen.

In the interesting address on Reflex Pains in Diseases of the Abdominal Viscera, by Mr. A. E. Maylard,[2] he refers to the occasional transference of pain in renal calculus to the opposite kidney. In this case there was not only a transference of the pain but a condition of fever, probably due to a temporary blocking of the renal pelvis, which for a time prevented the escape of pus into the urine. The combination of pain in the right side of the abdomen, tenderness over the iliac fossa, with rigidity of the muscles and fever, made the resemblance to an attack of acute appendicitis very close. The absence of any swelling in the abdomen, owing to the fact that the kidney was so small, or change in the urine during the attack rendered diagnosis impossible when first seen. At that period in the illness, had it been appendicitis, there should have been evidence of swelling either in the iliac fossa or in the pelvis on rectal examination; in the absence of this we did not feel justified in recommending an operation. Exploration was obviously required on a return of the symptoms.

Harley-street, W.

COMMON ERRORS IN THE TREATMENT AND DIAGNOSIS OF DIETETIC DISORDERS IN INFANTS.[1]

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ON thinking over the mistakes which I have made in the diagnosis and treatment of cases of illness in infants attributable in any way to dietetic causes, I am surprised to discover that a preponderance of these arose in connexion with disturbances of the motor functions of the alimentary tract rather than with disturbances of the digestive functions proper.

When an infant suffers from so-called indigestion we are very apt to think of undigested food and inactive or absent ferments, and we turn lightly to the evidence of chemical analysis and of naked-eye examination of vomitus or stools to supply the key to the situation. I do not wish in any way to belittle the value of the information thus afforded; but the point I would particularly emphasise is that a very large number of cases of so-called indigestion prove intractable to treatment because we fail to recognise that the symptoms are due to a perverted or incoördinated performance of the motor functions—a result dependent more on *habit* than on the particular qualities of the food which for the time being the infant may be consuming.

The neuro-muscular mechanisms which control the locomotion of food through the body are extremely complicated, and they are largely dependent for their efficient working, not only during infancy but during the whole of life, on the nature of their early experiences and education. Each link in the complicated chain of neuro-muscular coördinations which effects the locomotion of food through the alimentary tract, whether it be associated with the act of deglutition, with the rhythmical openings and closings of sphincters, or with the peristaltic contractions of muscles, is dependent on a delicate and complicated reflex, which is initiated in its due chronological order by the act which immediately precedes it, and thus for the harmonious working of the whole series one indispensable condition is the harmonious coöperation of the parts. It is quite true that errors in diet, and especially errors in diet during the very early days of life, may produce symptoms which we commonly call indigestion, but it must be remembered that these symptoms may be perpetuated as bad habits long after the cause which provoked them has ceased to exist. And thus it comes about that the series of mistakes in diagnosis and treatment which I propose to chronicle in this lecture will be mainly concerned with symptoms which, though originally produced by faulty methods of feeding, were wrongly ascribed to defects in the food and were wrongly treated by changes and alteration in the diet. There is only one cure for faulty habits of this kind, and that is re-education.

Very shortly after I was qualified I had the good fortune to see a case which was then going the round of the children specialists. It was a case of intractable vomiting in a very young baby, the cause of which was as obscure as the treatment adopted was unsuccessful. Everybody who saw the case suggested as a basis of treatment some radical change in the character of the food. In spite, however, of unremitting attention the infant died when about six weeks old. At the necropsy the œsophagus was found to be enormously dilated with irregular thickenings of the muscles. At its junction with the stomach the muscles were extremely hypertrophied, and the lumen showed a marked degree of atresia. In many respects the dilated œsophagus with its sacculations and thickenings had analogies with the conditions we find in cases of congenital dilatation of the colon, or Hirschsprung's disease. Whether in this particular case the dilatations of the œsophagus were of congenital origin, or whether they were secondarily acquired as the result of spasm of the cardia or incoördination of the neuro-muscular mechanism concerned in the propulsion of food down the gullet, will never be known; but reviewing the whole history of the case as I now remember it I cannot help inclining to the view that this was a case of cardiospasm in an extreme form.

Of recent years attention has been directed both by Lust[2] and Aschenheim[3] to a condition in infants which has been called "rumination," and in which a very intractable form of regurgitation or vomiting persists. It is supposed to be due to some abnormal or perverted coördination of the neuro-muscular mechanisms of the œsophagus. I have seen one or two cases which I now conclude were examples of this kind of rumination, but which at the time I did not recognise as such. Further, I am disposed to think that the essential pathogenesis of cases of rumination such as those described by Lust and Aschenheim, as well as of cases of Hirschsprung's disease, and of the case of dilatation of the œsophagus already referred to, is of a comparable, if not of an identical character in each instance—that is to say, that all these conditions are due to ill-coördinated muscular functions. I cannot understand otherwise how it can be that such marked hypertrophy can coexist with such marked dilatation. It seems to me that nothing else than persistent spasms in certain sections or areas can account for the hypertrophy in one part and the dilatation in another. I believe that cases of cardiospasm in infants are much more common than is generally supposed, and that the few published cases in no way represent the true frequency of the condition. I am sure they are seldom diagnosed, and I now feel sure I have missed many myself.

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[2] Brit. Med. Jour., vol. i., p. 616, 1910.

[1] An abstract of a lecture delivered at the Medical Graduates' College and Polyclinic, Chenies-street, London, W.C., on Feb. 19th, 1914.

[2] Monatschrift für Kinderheilkunde, 1911, vol. x., No. 6.

[3] Zeitschrift für Kinderheilkunde, 1913, vol. viii., p. 161.

Some little time ago I showed,[4] with Mr. Douglas Drew, at the Section for the Study of Disease in Children of the Royal Society of Medicine, a case which we then supposed to be one of congenital stricture of the distal end of the œsophagus. Subsequent events, however, proved that the stricture was probably functional, and not organic in nature, for Mr. Drew succeeded without any difficulty in dilating up the lower end of the œsophagus, and since then the infant has been able to swallow solids with ease, and the symptoms have practically disappeared.

Intractable vomiting is by no means uncommon in infants, and it may be due to obstruction to the onward flow of the food current at any point in the alimentary canal. The obstruction may be due to persistent muscular spasms or to other causes; but certainly, in my experience, pyloric spasm is one of the commonest causes, if not the most common, of vomiting of this kind. The difficulty of making a correct diagnosis in the days when we had no X rays was very considerable; but now, with the aid of a bismuth meal and the X ray screen, the detection of the exact point at which obstruction occurs is easy and accurate.

At the present time so much attention is given to pyloric stenosis, whether of the congenital or acquired type, that there is small risk of the condition escaping notice; indeed, in my judgment, it is diagnosed, and cures claimed, far more frequently than is justified by events. I remember the time, however, when no mention of the condition appeared in the text-books, and when its very existence was known only to a few individuals. The first case I saw was in the year 1895, when my old teacher, the late Dr. W. B. Cheadle, asked me to look after a case of his which was suffering from persistent and violent vomiting. Although we both recognised that the symptoms were due to obstruction in the neighbourhood of the pylorus, owing to the waves of contraction which passed from left to right across a greatly dilated stomach, and which were quite obvious to the naked eye, neither of us suspected hypertrophic pyloric stenosis during life, nor at the necropsy did we recognise that the condition was one of extreme interest and rarity. Mr. Jackson Clarke, then pathologist at St. Mary's Hospital, examined the specimen, and reported that the fusiform tumour which surrounded the pyloric orifice was not a neoplasm, but consisted of hypertrophied muscles only. Some years later (1897) I read an account of the disease,[5] written by Dr. H. Ashby, of Manchester, which induced me to inquire into the literature of the condition. I subsequently published my account of this case in the *Archives of Pediatrics*.[6] Placed in its chronological order, our case was the twenty-fourth to be described, but since that time an enormous number of cases have been recorded and a great literature has grown up round the subject.

Now, passing from symptoms due to incoördination of the neuro-muscular mechanisms of the upper reaches of the alimentary canal, concerning which mistakes in diagnosis are often made, to symptoms connected with the motor functions of the large and small intestine, I would preface my observations by saying that mistakes in the diagnosis of such conditions usually arise in connexion with one or other of the following symptoms: (1) diarrhœa, (2) constipation, and (3) colicky pains.

1. *Diarrhœa.*—This is often wrongly attributed to some indigestible quality of the food, when the true explanation is hypersensitiveness of the neuro-muscular mechanism concerned in the locomotion of food through the intestinal canal, a condition commonly known as lienteric diarrhœa. I see many cases of this kind in which change after change in the character and quantity of the food leaves the infant in exactly the same condition. In such cases a vicious and intractable reflex has been acquired which can only be cured by patient attempts at re-education.

I see many cases of diarrhœa with so-called undigested curds in the motions which are regarded as due to indigestion, but which are in fact due to starvation. Frequent dejections of this kind are often associated with debility which is due to inanition, for in starvation the mucous membrane of the bowel manifests, as it were, a paralytic secretion with frequent alvine discharges which to the inexperienced at once suggest some irritation due to food causes. The presence of so-called undigested curds in the motions is usually the misleading evidence on which the diagnosis is based. I have repeatedly demonstrated, by means of the "test-feed," that infants passing stools of this character are the victims of inanition, and that so far from obtaining food which disagrees, they obtain, as a matter of fact, no milk at all, or only a very small quantity, from the mother's breast. Even the fact that these so-called undigested curds of casein continue to appear in the motions when all milk is withdrawn from the diet, and when the infant only subsists on whey, egg water, or even water, does not appear to suggest to the sceptically minded that they have no more connexion with coagulated casein than they have with hard-boiled white of egg or any other substance with which they have a superficial resemblance. To prove their origin these so-called curds have been submitted to chemical analysis, and even to bio-chemical tests. They are known to contain considerable quantities of fatty acids, mostly in combination with calcium, forming in fact insoluble soaps. Further, they contain a small proportion of albumin, and a remainder which is of uncertain chemical composition but containing nitrogen in relatively the same proportion as occurs in casein. On this evidence, and on the evidence of the superficial appearance to small curds of coagulated casein, these white bodies have been regarded as the undigested remains of milk. But if a stool consisting mainly of these so-called curds is carefully washed out in a bowl of water and the little white balls are teased out and disentangled, they will be found to consist of coiled-up plaques of mucus, which when floated out in the water cannot possibly be mistaken for milk curds or anything else except mucus. The fact that soaps, fatty acids, albumin, bacteria, and calcium salts can be detected in these little white balls by chemical analysis in no way weakens the argument that they are the pathological products of the activity of the mucous membrane, and not the undigested remains of milk, for on similar evidence the mucous discharges from the nose or respiratory tract might be considered of milk origin, for their chemical analysis is the same.

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[4] Proceedings of the Royal Society of Medicine, Section for the Study of Disease in Children, 1913, 33.

[5] Archives of Pediatrics, 1897, p. 493.

[6] 1900, p. 241.

I do not mean to imply, by the somewhat dogmatic statements above expressed, that milk residues do not at times appear in the stools and especially in cases of lienteric diarrhœa. What I mean is that these small white particles, generally about the size of a pea, which look like pieces of coagulated milk, and which are found in the stools of infants suffering from colicky pains, are really pieces of stringy mucus which have become partially inspissated and coiled up into tight balls by the peristaltic movements of the bowel. By teasing out and unravelling these little balls it is open to all to convince themselves of the truth of my contention. Further, such conditions, when treated on the ground that they are undigested milk, do not improve.

Diarrhœa, or at least the too frequent passage of dejections, is often attributed to some fault in the character of the food, when the true etiological explanation is that the hypersensitive neuro-muscular mechanisms of the bowel are stimulated into activity by some preceding event—as, for instance, by forcible sucking at a relatively dry breast or at some artificial nipple which is pierced with too small a hole. It must be remembered that although the locomotion of food through the alimentary tract is generally regarded as consisting of a number of independent phases, such as deglutition, intestinal peristalsis, or defæcation; nevertheless each independent neuro-muscular mechanism, whether it be of œsophagus, stomach, or intestine, is closely associated and bound up in a definite and correlated series, action or cessation of action in the one being the liberating stimulus for activity in the next. Thus violent sucking often initiates painful peristalsis or even lienteric diarrhœa, but such diarrhœa is not satisfactorily dealt with by changes in the character of the food.

2. *Constipation.*—Turning now to constipation as a symptom which is often, in an etiological sense, wrongly interpreted and wrongly treated, I may say that there are three common causes of constipation in infants, although the number of occasional causes is almost infinite. The common causes are: (1) dulling or disorganisation of the rectal reflex by previous over-stimulation and exhaustion of the nerve centres (purgative medicines, enemata, suppositories, and previously existing diarrhœas); (2) over-feeding, especially with fat; and (3) underfeeding (chiefly in the case of breast-fed infants). Inasmuch as these causes are in their etiology as widely separated as the poles, it is clearly most irrational to expect that constipation can be treated by any one uniform method—as, for instance, by the administration of castor oil, grey powders, or by increasing the percentage of the fat in the food.

Before we attempt to treat constipation we must discover the cause. I have certain stock questions with which I ply the mother in order to elucidate the actual cause of the constipation. They are as follows: 1. Are the motions hard or soft? 2. Are they large or small? 3. What remedies have you tried? 4. What food and how much have you been giving the baby? By means of these questions I can generally discover whether the rectal reflex has been *tampered* with by injudicious methods of stimulation, also whether the infant has been obtaining *too much* or *too little* food. If the variety of constipation does not fall under any of these headings I search for other causes.

As regards treatment, the cure of cases of constipation due to dislocation of the normal rectal reflex can only be effected by re-education—often a difficult matter and best promoted by massage and the teaching of a new reflex. This should be applied with absolute regularity every day.

Constipation due to excess of fat must be treated by a reduction in the percentage of cream in the case of artificially fed infants and by controlling the quantity of milk consumed in the case of breast-fed infants or possibly by dieting the mother. Formerly I used to treat a number of infants suffering from this variety of constipation by the routine administration of olive oil. Olive oil is of course invaluable in cases in which the infant is suffering from fat starvation, but it only aggravates the condition in the class of case I am now referring to. It was in consequence of the realisation of this mistake that I came to use petroleum as a lubricant in place of olive oil, and since this discovery, now some eight years ago, I have practically used no other form of aperient.

Cases of constipation due to starvation very seldom come under my notice in artificially fed infants, but they are very common among breast-fed infants of the lower classes. I could give details of dozens of cases which have been brought to my clinics, and which have previously been treated ineffectually with aperients and purgatives, but which have immediately improved when the want of food had been corrected.

3. *Colicky pains.*—Finally, I would say a few words about that common symptom of disturbed motor-function which is so often wrongly ascribed to food causes—namely, colic or wind. So-called colic or wind in infants is nearly always due to some spasm of sphincter or group of intestinal muscles which interferes with the normal locomotion of food through the alimentary system. Wind may indeed be actually retained in the stomach by spasm of the cardiac sphincter, but much more often the pain which is supposed to be due to wind is attributable to the arrest in spasm of the normal waves of contraction which pursue one another throughout the whole length of the intestine. The application of the bismuth meal and the X ray screen has revealed some very interesting examples of enterospasm in infants, which has produced troublesome symptoms the nature of which was not altogether clear. One of these cases was as follows: an infant at the Nursery Training School in Hackney had repeated attacks of screaming with serious and violent vomiting. The child was doing badly and losing weight. One day I happened to be at the school when one of these attacks was in progress, and chancing to place my hand on the abdomen I felt some very forcible waves of contraction passing across the upper part of the abdomen. As some of the symptoms were not altogether inconsistent with pyloric spasm, I admitted the infant into the Queen's Hospital and thoroughly investigated the case by means of bismuth feeds and X ray examination. When given a feed of thin

Benger's food thickened with 2 oz. of carbonate of bismuth the infant seemed in less pain and almost ceased vomiting. The interesting fact, however, was that the food, instead of experiencing a check at the pyloric valve, passed through this aperture unusually quickly, and continued to travel down the small intestine and through the ileo-cæcal valve in a perfectly normal manner and at a perfectly normal rate, but when after some six hours it reached the splenic flexure, here it appeared to encounter an unexpected check and the bowel wall lapsed into a condition of somewhat prolonged spasm. From this time forward the locomotion of the bowel contents was irregular, jerky, and spasmodic. Owing to this discovery, and taking advantage of the benefit which the large doses of bismuth seemed to confer on the child, I continued to give very large doses of bismuth combined with petroleum before each meal. The improvement in the infant was immediate; it at once began to put on weight, and within 14 days was returned to the school in a greatly improved condition from which it has not up to date relapsed. Bismuth combined with petroleum seems to exercise almost a charm on disordered peristaltic movements. This case appears to me to be instructive because it illustrates my point that symptoms which are really due to disturbances of the motor function of the bowel can easily be mistaken for symptoms due to inappropriate food, and as such be ineffectively treated. This particular case had been treated for weeks by modifications in the diet and by drugs directed to soothe the irritability of the stomach.

If I have given undue attention to the consideration of the diagnosis and treatment of symptoms referable to disturbances of the motor functions of the alimentary canal as distinguished from those connected with the actual digestion of food it is not because I belittle the importance of dietetics in the prevention and cure of such accidents. I recognise very fully indeed that in the first place these perverted motor functions are produced by wrong methods of feeding, often during the first few days of life. It is very easy to teach impressionable nerve centres incorrect or perverted reflexes which may have most disastrous results. To these perverted reflexes Pawlow has given the name *Bedingungsreflexe*, which may be translated as conditional or facultative reflexes; but by whatever name they are known I am sure that they play a leading rôle in the production of such conditions as rumination in infants, pyloric spasm, enterospasm, constipation, and even diarrhœa. They can only be cured by methods of re-education. It is consequently of the greatest importance to be able to distinguish symptoms which are due to defective digestion proper from those which are due to perverted reflexes, learned, perhaps, a long time previously, and for which at the time being there may be, in an etiological sense, no dietetic basis.

Harley-street, W.

ASYLUM WORKERS' ASSOCIATION.—The annual general meeting of this association will be held at 11, Chandos-street, Cavendish-square, W., on Wednesday, May 20th. The chair will be taken at 3 P.M. by the President, Sir John Jardine. The annual report will be submitted, officers elected, and presentations will be made of medals for long and meritorious nursing service. Matters of much importance to asylum workers will be discussed, and it is hoped that there will be a representative gathering of members and friends of the association.

A CASE OF SUB-TOTAL GASTRECTOMY
PERFORMED FOR CANCER OF THE STOMACH FIVE YEARS AGO.

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IN May, 1909, five years ago, I was asked by Mr. F. Gordon Brown, of Finsbury-circus, to see, in consultation with him, a patient who had been suffering from epigastric pain accompanied by sickness for upwards of two years. She was 51 years of age and rather stout, though she had lost a stone in weight recently. The pain, which was very severe and never really left her, was referred to the mid-sternal region. Food relieved it but not completely. The vomiting had been growing more and more frequent. At first it consisted only of a watery fluid, but for some months past the fluid, towards the end, had been stained a reddish brown. Food was hardly ever returned. There was no history of melæna, but no examination of the fæces was made.

On examining the abdomen there was a tender area to the left of the middle line in the epigastric region, and once or twice an ill-defined, deep-seated hardness was felt there. No enlarged glands could be found. The patient had been for some time restricted to a diet of milk and lime-water with some relief, both as to pain and vomiting. A very guarded prognosis was given, chiefly because of the persistence and severity of the pain.

The operation was performed at St. Thomas's Home on May 8th, Dr. A. P. Gibbons and Dr. A. B. Howitt being present. The abdomen was opened in the middle line and a hard mass was felt at once in the wall of the stomach close to, but not apparently involving the pylorus. There were some enlarged glands along the greater curvature, but as there were no adhesions of any importance it was determined to excise all the affected portion. The gastro-hepatic and the great omentum were cut through and sutured, and the duodenum divided and closed. An incision was then made across the stomach, running from the right side of the œsophagus downwards and slightly to the left, so as to remove the whole of the stomach except a small portion at the cardiac end. The upper portion of this incision was closed with a double row of sutures; the lower end was sutured to the edges of an incision of corresponding length in the jejunum, so as to form a gastrojejunostomy. Two pints of saline were given subcutaneously during the operation, and five more partly subcutaneously, partly by the rectum, in the course of the next 24 hours. The patient was sick once 48 hours after the operation, bringing up some bile, but in other respects recovery was quite uneventful. She left the home on June 9th able to take ordinary light diet. By September she had regained her weight and was able to take all ordinary food without discomfort. Since then she has continued perfectly well and has resumed her work, leading a very active life.

The portion of stomach removed was sent to the Museum of the Royal College of Surgeons of England. There was a characteristic carcinomatous growth originating on the margin of an old chronic ulcer. Recurrence, of course, may take place yet, not along the lines of the incisions, but possibly in some outlying glands, or even in the liver. I have known carcinoma develop in supraclavicular glands as long as 14 years after the removal of the corresponding mamma. There can be no question, therefore, that carcinomatous cells may lie latent for years until circumstances become favourable to their growth. But with this proviso, the operation may be said to have cured the patient, so far as any operation can cure a patient of cancer.

What proportion of cases of chronic ulcer of the stomach end by becoming carcinomatous is uncertain. That a very large number of cases of carcinoma of the stomach originate in chronic ulcers is not uncertain; and considering the ease of the operation (if the ulcer has not been left too long already so that it has eaten into the pancreas or other neighbouring organs), the good prospect of recovery, and the impossibility of deciding at the time whether the induration around a chronic ulcer is purely inflammatory, or malignant, or both, I believe that recovery would be as frequent, and that the subsequent standard of health would be higher and the duration of life longer if partial gastrectomy were performed in such cases instead of simple gastro-enterostomy. It is true the induration around a chronic ulcer sometimes disappears in a marvellous way after an operation, but in nearly all the cases in which this has been recorded there has been a recent attack of acute inflammation, often associated with perforation, grafted upon the old ulcer, and the induration has been largely due to this. The chronic ulcers to which I refer, and for which I consider partial gastrectomy to be preferable, are distinguished by their sharply defined and circumscribed outline. Induration such as this does not disappear, and is only too likely to become the seat of malignant disease. Complete removal ensures that the ulcer will cause no further trouble, and practically abolishes the risk of cancer.

Wimpole-street, W.

A PEDUNCULATED INTRABRONCHIAL TUMOUR (SARCOMA) CAUSING BRONCHIECTASIS.[1]

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THE patient, aged 33, complained of cough, profuse expectoration, and occasional blood-spitting. Her family and personal history were unimportant, there being no history of tuberculosis or cancer in her immediate relatives. At the age of 20 she became a nurse at the Cheyne Hospital, Chelsea, and she had to leave there in 1900 on account of a "severe attack of anæmia." She next became a school nurse under the Poor-law authorities at Parsons Green, Sutton, and Hanwell. At Parsons Green she had a transient attack of pleurisy; at Hanwell she had her first attack of hæmoptysis. She then left off nursing and became first an out-patient and then an in-patient of the Brompton Hospital. Next she was an out-patient and in-patient of the Mount Vernon Hospital, and later entered the Hampstead and Northwood Sanatorium. During this time she had had numerous slight attacks of hæmoptysis. but while at Northwood she had such a severe attack that her life was despaired of, although she eventually recovered. In 1902 she was for a while a private patient of Dr. F. T. Hebb, to whom I am indebted for the notes of the early stages of her illness. Her condition for the next eight years was variable, but slowly downhill, and in May, 1910, she was admitted to the Westminster Hospital under the care of Dr. R. G. Hebb, to whom I am much indebted for permission to publish the case.

On admission she was thin and pale. The skin was moist, the legs œdematous, and the fingers "clubbed." Both knee-joints were much swollen and slightly painful. The temperature varied between 96° and 99° F. daily. She had repeated fits of coughing with copious expectoration of purulent sputum. This sputum contained streptococci, pneumococci, and M. catarrhalis, but tubercle bacilli were not found after the most thorough search. It is worthy of note here that tubercle bacilli never had been found in the sputum when examined at the Brompton or Mount Vernon Hospitals or the Northwood Sanatorium. On examination of the chest the right side was seen to be sunken in and to move badly on respiration. Vocal fremitus was increased all over the right side, which was quite dull on percussion. All sorts of added sounds could be heard on auscultation, and at times well-marked amphoric breathing could be made out, *but not always.* Vocal resonance was increased. The larynx showed some slight interarytenoid thickening, but was otherwise normal. The liver and spleen were thought to be slightly enlarged, and the urine contained 0·1 per cent. of albumin and numerous hyaline casts. The fluid from her swollen knee-joints was examined and found to be sterile. The diagnosis of bronchiectasis was made, and this was admirably confirmed by a radiograph taken by Mr. E. S. Worrall, which showed cavitation of the entire right lower lobe. She was treated by the ordinary remedies for bronchiectasis, and in addition an autogenous vaccine was prepared from her sputum. She was discharged in August *in statu quo.*

The patient was readmitted in January, 1911, her general condition being somewhat worse, but her physical signs as before. The case appearing suitable for an attempt at drainage of the lung by surgical means, and the operation being agreed to by the patient, Mr. Rock Carling successfully opened and drained the lung on March 8th. The opening was made as low as possible, portions of the eighth and ninth ribs being removed; the lung was carefully stitched to the parietal pleura and chest wall and then opened with a cautery and the bronchiectatic cavities entered. A tube and some gauze were used for drainage. After the operation she did well and seemed to improve for 12 days, but suddenly on March 20th she had a severe hæmoptysis and died rapidly within ten minutes. This hæmoptysis was the only attack she had had while under observation at Westminster Hospital.

Necropsy.—The body was emaciated and pale. Surgical wound in right scapular line 2 inches long, and portions of the eighth and ninth ribs missing here. This wound led into the lower lobe of the right lung, which was bound to the chest wall by old adhesions and recent surgical sutures. The right pleural cavity was dry. The right lower lobe contained four obliquely placed cavities situated midway between the anterior and posterior surfaces of the lobe. These cavities communicated with one another, the lowest draining by the surgical wound, and the highest opened into the main bronchus to the lower lobe. These four cavities were filled with clot and débris. In the right bronchus, 1 inch from the bifurcation and just above the highest of the four cavities just mentioned, was a pedunculated tumour about the size of a walnut. This tumour was attached by a short pedicle to the wall of the bronchus, and on cross section was seen to be of firm consistency with patches of softening scattered about it. The colour of the tumour was white, the softened areas being somewhat more yellow than the rest. The left lung was voluminous and contained inhaled blood. The stomach contained blood. The kidneys, spleen, and liver showed amyloid degeneration, and in addition the liver showed numbers of small hard white secondary deposits of the size of a large pin's head to that of a pea. These were scattered throughout the liver substance, but more so at the periphery than in the deeper parts. There was nothing else noteworthy about the viscera.

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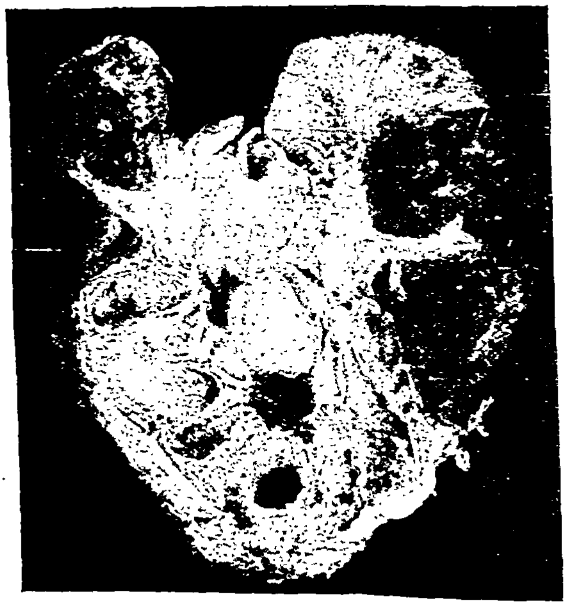
[1] A paper read before the Medical Section of the Royal Society of Medicine, April 28th, 1914.

Histological examination.—The tumour was seen to be covered partly by columnar epithelium and partly by squamous epithelium (metaplasia). In places the epithelium is much degenerated. The tumour itself is divided into loculi by fibrous bands, which in places are of considerable thickness; these loculi are filled by small round and cuboidal cells, the nuclei of which are round, and though small are relatively large when compared with the cell. In places the tumour is very vascular, and there are large areas of degeneration in several parts (? caused by hæmorrhage into the growth). In some situations the arrangement of the cells is adenomatous, and therefore might by some be classed as a carcinoma. The cells, however, are of mesoblastic type, and it would be more correct to class it as a mesothelioma (adenosarcoma), the histology closely resembling those appearances seen in tumours of supposed congenital origin. The secondary deposits have a similar structure, but no degeneration is visible.



The right lung bisected to show a pedunculated tumour in the bronchus. Four cavities are also seen in the base of the lung, and a surgical drainage hole at the lowest point.

Remarks.—The points of interest in the case are: (1) the rarity of the condition; (2) the impossibility of diagnosing the condition except with the bronchoscope: (3) the slow growth of the tumour and the long history; (4) the intermittent occurrence of amphoric breathing, doubtless due to movements of the tumour in the bronchus; and (5) the mode of termination by ? hæmorrhage from the growth. As regards the mode of termination and the difficulties of diagnosis it is interesting to compare this case with two cases of pedunculated tumour of the stomach that Dr. Gossage and myself showed in November, 1913.[2] In both these stomach cases the mode of termination was by hæmorrhage from the growth, which also showed extensive areas of degeneration as in the case under discussion.

Wimpole-street, W.

A CONSIDERATION OF SOME CASES OF EXOPHTHALMIC GOITRE TREATED BY OPERATION.

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Of late years evidence has been accumulating as to the value of surgical treatment in cases of Graves's disease. This line of treatment is theoretically indicated owing to the evidence that has been brought forward in support of the following conclusions.

1. *That the Disease is Due to an Excess of Thyroid Secretion.*

Unless there is strong evidence that the symptoms are produced by over-activity of the thyroid body there would be theoretically but little indication for the removal of a portion of the gland. Evidence in favour of this theory has been sought for along two lines.

(*a*) *Experiments performed upon animals.*—Edmunds[4] and French[5] have shown that if animals such as monkeys, dogs, and rats be injected with an extract of human goitres the disease could be produced in them. It is true that Klose[10 11] and Carlson[1] have also deduced from experiments that the disease is due to an alteration in rather than an excess of secretion of the thyroid. Such experiments upon animals are, however, of very doubtful value, for it is uncertain what effect a heterogeneous extract prepared from human beings could have upon an animal of an entirely different species.

(*b*) *Clinical evidence.*—Several cases have been reported where large doses of thyroid extract have been taken and have given rise to the symptoms of exophthalmic goitre. In the case described by Von Notthaft,[22] a man took excessive doses as a cure for obesity and rapidly developed the disease. When the extract was discontinued he recovered. In a larger number of recorded cases the administration of thyroid extract in cases of simple enlargement of the gland has been followed by the onset of symptoms of Graves's disease. In all cases of exophthalmic goitre there is evidence of overgrowth of the thyroid gland, although in rare cases such an overgrowth cannot be demonstrated clinically. The nature of the overgrowth is very constant, and consists of a cellular hyperplasia suggesting that the gland is hyper-active. In addition to the above changes it is not uncommon to find a certain amount of hyperthyroidism in association with localised overgrowths of the thyroid, although it is rare for such symptoms to constitute a true case of exophthalmic goitre. These symptoms of hyperthyroidism may occur with adenomata, with primary carcinoma, and even, as recorded by Mori,[21] with secondary growths. The above facts afford strong evidence in favour of the disease being due to over-activity of the thyroid gland.

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[2] A. M. Gossage and Braxton Hicks: Proceedings of Royal Society of Medicine, 1913 (Medical Section), vol. vii., No. 2.

2. *That the Results of Medical Treatment are Unsatisfactory.*

If these cases reacted well to medical treatment surgical interference would of course be unnecessary, in spite of the fact that the condition is dependent upon an overgrowth of the thyroid. There is, however, increasing evidence that medical treatment is not altogether satisfactory, and is associated not uncommonly with a high mortality. Attention is also being directed to the important fact that medical treatment is often slow, so that even if the disease be ultimately cured the patient may have suffered several years' incapacity.

As regards the mortality, Mackenzie[17] states that in his experience about 25 per cent. of the patients died directly from the disease, whilst Leedham-Green,[15] from a large number of collected cases, gives the mortality under medical treatment as more than 15 per cent. On the other hand, Hale White[8] investigated the cases treated in Guy's Hospital during a period of 20 years. Of over 200 cases 102 alone were traced. Of these 15 had died. He estimated that in a similar number of normal people there would be in the same period of time 8 deaths—that is to say, the mortality in cases of exophthalmic goitre is roughly double that of normal people. Although this death-rate does not seem high, it must be remembered that in the first place only 50 per cent. of the cases were traced, and since it is probable that one of the reasons of the failure to trace the remaining numbers is the fact that many were dead, it seems only fair to assume that these figures under-estimate the mortality. In the second place, these figures do not include 18 patients who died in hospital, these alone giving a mortality of 9 per cent. The above set of figures are sufficient to show that the mortality of the disease is relatively high.

Of equal or even more importance is the length of time during which these patients are incapacitated while under medical treatment. It is being more frequently recognised that the majority of cases are invalided for a very considerable period, and some of them are indeed totally unfitted for work for many years, or even for the rest of their lives. Thus Mackenzie[16] collected 33 of his own patients where the disease lasted five years or ended fatally, and Kuttner[14] traced 9 cases which had been under medical treatment for 15 years. In my own 10 cases 5 of them had had the disease and had been prevented from participating in any active work for a period of two years. It would seem therefore that, in addition to a relatively high mortality, treatment by medical means is very often extremely prolonged.

3. *That the Operative Mortality is not Necessarily High.*

Until the last few years it had been widely believed that the operative mortality in this condition was extremely high, so high, in fact, that many regarded the operation as unjustifiable. The figures of Kocher,[13] Dunhill,[2] and C. H. Mayo[19] have done much to dispel these fears. Kocher,[12] in a series of 865 operations, has reported a total mortality of under 3 per cent Dunhill[2] has only had 4 deaths in 230 cases, and Mayo[19] has had a series of 278 cases without a single death. In my own series of 10 cases, which were all well-marked examples of the disease, there has been no mortality, and at no time had there been any fear of a fatal termination, although several of the cases showed a well-marked reaction to operation.

4. *That the Results of Surgical Treatment are Very Satisfactory.*

In considering the end results of surgical treatment account must be taken not only of the operative mortality but also of the mortality due to the disease in those who recover from the operation. The sum of these figures must be compared with the number of deaths from medical treatment, and operation only advised if the surgical results show a distinct improvement on the medical. The second factor of importance is the length of time for which the patient is incapacitated after operation as compared with the incapacity associated with medical treatment. Kocher[13] found that of his 669 cases 22 died at a later date. Five of these died from some heart condition which was possibly dependent upon the presence of the goitre. In the majority of recorded lists either no note is made of a late post-operative mortality or the figures show that there was no such mortality. As a general rule the reaction from surgical treatment is prompt and a large proportion are permanently cured. Fuller[6] found that 85 per cent. of the 600 cases he collected were completely cured and the relief was prompt. In my own cases, although so short a time has elapsed, one is completely cured and the remainder with the exception of one case are greatly relieved. With regard to the single exception, the patient is better than before operation, but owing probably to the fact that she had to return to relatively hard work shortly after operation she has not yet made as favourable progress as the other cases.

5. *That the Danger of Post-operative Myxœdema is Slight.*

It is frequently asserted that, since in a certain number of cases the thyroid returns to its normal condition after a given interval, some of those cases in whom operation has been performed will in the same period of time develop myxœdema, the remaining portion of the thyroid having returned to its normal state and giving insufficient secretion. I can find, however, no evidence in medical literature that such cases do arise. Fuller[6] states that in the cases he collected a few which showed improvement immediately went on to athyroidism, but no further details of the symptoms are given, and it is probable that these were examples of the rapid onset of myxœdema due to the fact that too much thyroid tissue had been removed at operation, there being several such cases recorded by other surgeons. Such a condition, however, is due to an error of technique and cannot be regarded as an objection to the operation carefully performed.

Details of Present Cases.

In the last year I have operated upon 10 cases all of which were well-marked examples of Graves's disease. I have not included among them several cases of parenchymatous enlargement or simple adenomata which were associated with mild hyperthyroidism, as it is doubtful whether such cases should be considered even as mild varieties of Graves's disease. The details of these cases both as regards their symptoms and the after-results are given in the appended table. The symptoms have been in existence for periods varying from two

Table giving Details of 10 Cases of Exophthalmic Goitre treated by Operation.

Case.	Age.	Sex.	Married or single.	Duration.	Symptoms.	Operation.	Pathological report.	Anæsthetic.	Result.	End result.
1	47	F.	M.	18 months.	Pulse 130. Palpitations; headaches; marked nervousness; skin moist, sweating; much dyspnœa; exophthalmos; Möbius, von Graefe; tremors; thyroid diffusely enlarged.	Dec. 16th, 1913. Hemithyroidectomy.	Marked cellular hyperplasia; few patches of colloid.	Open ether.	Slight increase first few days.	Feb. 19th, 1914. Scar perfect; no tremors; exophthalmos barely visible; feels in perfect health; does housework with ease.
2	44	F.	M.	5 ,,	Pulse 140. Palpitations; flushings; very nervous; skin moist; dyspnœa; moderate exophthalmos; Möbius, von Graefe, Stellwag, and Joffroy all present; tremors; thyroid, diffuse enlargement; amenorrhœa three months; thyroid thrill.	Dec. 3rd, 1913. Hemithyroidectomy.	Marked cellular hyperplasia, with some colloid.	,,	Slight reaction.	Feb. 25th, 1914. Letter from medical attendant. Nervousness much less; tachycardia and palpitations much less; greatly improved.
3	19	F.	S.	7 ,,	Pulse 130. Very weak and tired; palpitations; very nervous; much sweating; much dyspnœa; extreme exophthalmos; Möbius, von Graefe, Stellwag, and Joffroy all present; tremors; thyroid, diffuse enlargement; thrill and pulsation; three months' medical treatment.	Nov. 26th, 1913. Hemithyroidectomy.	Cellular hyperplasia with colloid hypertrophy.	,,	Considerable reaction; pulse 130 for three days; catamenia three days after operation.	Feb. 26th, 1914. Much improvement for two months; relapsed a little after returning home; had to work; now pulse 100; exophthalmos marked in service.
4	33	F.	M.	2 ,,	Pulse 100. Debility; palpitations; loss of weight; nervous; dyspnœa; sweating; much exophthalmos; von Graefe and Stellwag present; thyroid, diffuse enlargement; catamenia regular; no blood changes.	Nov. 12th, 1913. Hemithyroidectomy.	Diffuse colloid overgrowth.	,,	Considerable reaction; pulse 120; temperature 99·5°; alteration in voice two days.	March 8th, 1914. Much improved; slight dyspnœa; returned to work two months; can do it easily.
5	25	F.	S.	2 years.	Pulse 106. Palpitations; nervous; sweating; dyspnœa; sleeplessness; slight exophthalmos; Möbius, von Graefe, Stellwag, and Joffroy; diffuse thyroid; tremors; three months' medical treatment.	Oct. 22nd, 1913. Hemithyroidectomy.	Cellular hyperplasia with little colloid.	,,	Considerable reaction; temperature 101°; pulse 100; rapid recovery.	March 7th, 1914. Nearly well; slight dyspnœa and exophthalmos; can get about in usual way.
6	27	F.	M.*	2 ,,	Pulse 100. Palpitations; nervous; dyspnœa; sweating; anæmic; exophthalmos; Möbius, Stellwag, and Joffroy present; nervous; diffuse thyroid; blood count, 14·5 per cent. lymphocytes.	Sept. 4th, 1913. Hemithyroidectomy.	Richly cellular overgrowth; no colloid.	,,	Slight reaction; acute appendicitis ten days later.	Nov. 30th, 1912. Much improved; slight palpitations; no tremors.
7	24	F.	M.	2 ,,	Pulse 150. Palpitations; systolic murmur present; heart dilated; very nervous; much sweating; much dyspnœa; marked exophthalmos; Möbius, von Graefe, Stellwag, and Joffroy present; catamenia regular; blood—reds 5,700,000, lymphocytes 17·5 per cent.	Feb. 12th, 1913. Hemithyroidectomy.	Much cellular hyperplasia; slight colloid.	,,	Considerable reaction for two days.	March 10th, 1914. Cured; feels in perfect health; eight months pregnant; not nervous; no tremors or exophthalmos.
8	41	F.	S.	2 ,,	Pulse 112. Weakness; fainting fits; palpitations; nervousness; much sweating; marked dyspnœa; occasional diarrhœa; marked exophthalmos; catamenia regular; Möbius, von Graefe, Stellwag, and Joffroy present; marked tremors; diffuse thyroid; sent home to rest for three weeks before operation.	Jan. 14th, 1914. Hemithyroidectomy; preliminary ligature of inferior thyroid artery.	Richly cellular hyperplasia; small amount of colloid.	Open ether; rectal ether.	Considerable reaction; pulse 100; vomiting two days.	March 5th, 1914. Much better; still dyspnœa and palpitations on exertion; exophthalmos present.
9	23	F.	S.	2 ,,	Pulse 120. Palpitations; very nervous; sweating; dyspnœa; some difficulty in swallowing; occasional diarrhœa; extreme exophthalmos; Möbius, von Graefe, Stellwag, and Joffroy all present; tremors; amenorrhœa; six months' medical treatment; no improvement.	Feb. 18th, 1914. Hemithyroidectomy; preliminary ligature of inferior thyroid artery.	Cellular hyperplasia.	,,	Marked reaction; diarrhœa; vomiting; restlessness; temperature 100°, pulse 140; recovery after three days.	Considerably improved as regards nervousness; too recent.
10	40	F.	S.	7 months.	Pulse 110. Palpitations; very nervous; much sweating; dyspnœa; exophthalmos; Möbius, von Graefe, Stellwag, and Joffroy present; severe diarrhœa; marked tremors; slight dysphagia; brother died from exophthalmic goitre; no operation; one month's medical treatment.	Feb. 18th, 1914. Hemithyroidectomy; preliminary ligature of inferior thyroid artery.	Cellular and colloid hyperplasia.	,,	Marked reaction for two days; temperature 102°.	Much improved; still in on medical side; nervousness less; pulse 90; palpitations less.

* One child.

months to two years, and the pathological changes found were of interest. As Berry[21] has pointed out, there are very few records of the changes found in the early stages. It will be seen from the table that the earlier cases all showed a certain amount, or even an excess, of colloid material,[2] which is suggestive that the primary change is one of colloidal increase. The later cases showed a marked cellular proliferation and the presence of little, if any, colloid material, the pathological changes being therefore in accordance with those usually described with this disease.

Success in operating to a large extent depends upon a careful consideration of the time at which the operation should be performed. There are certain acute cases where the symptoms appear suddenly and progress with great rapidity. In many of these the thyroid shows but little enlargement in the earlier stages. Operation in such cases is associated with a very high mortality, so that this form of treatment should never be advocated.

In the more common varieties of the disease it is very important to realise that the symptoms show very considerable variation in their severity. Not infrequently there are exacerbations which last for a week or more and are followed by periods during which the symptoms are in abeyance. If possible such cases must be watched and operative treatment carried out in one of the intervals between the exacerbations.

Three of my own cases came into hospital with very marked nervousness, rapid pulse, dyspnœa, and tremors. They were all given a period of three weeks' complete rest in bed, at the end of which time the severity of the symptoms was considerably improved and operation was safely carried out. The failure to recognise this fact and the tendency to operate during a period when the symptoms are marked is, in my opinion, largely responsible for the high mortality reported in earlier series of cases.

In addition to this fluctuation in the symptoms the length of time that the disease has existed is also of importance. Plummer[23] has pointed out that the greatest height of intoxication is reached during the latter half of the first year and then rapidly drops, so that operation is more likely to be successful if performed either early in the disease or at a later period, and as far as possible in my own series I have tried to perform the operation either within the first six months or after a period of two years. It will be noted that in one case operation was performed at the eighteenth month of the disease, but in this case, which was carefully kept under observation, it was found that in the relatively quiet intervals the symptoms were comparatively mild. In the later stages of the disease—that is to say, after several years—there is an increase of danger owing to the presence of secondary degeneration in other viscera.

The danger of performing operations on other parts of the body in patients suffering from Graves's disease must also be kept in mind. In such circumstances there is the same stimulation of the thyroid secretion as occurs when the thyroid itself is operated upon, but this is not counterbalanced by the fact that a portion of the thyroid has been removed. If, therefore, an operation has to be performed on some other organ it is always wiser if possible to carry out first the operative treatment on the thyroid and to perform the other operation at a later date.

It will be noticed that one of my cases developed acute appendicitis two weeks after hemithyroidectomy. Operation was unhesitatingly carried out for this condition with no ill-results.

As regards the question of anæsthesia, much difference of opinion has arisen as to whether the operation should be performed under a local or general anæsthetic. On the one hand, Kocher[15] and Dunhill[2] strongly advocate the use of a local anæsthetic, the latter regarding its use as a most important factor in the success of operative treatment. On the other hand, Mayo[20] in the majority of cases prefers open ether.

Personally, I have in every case used a general anæsthetic, open ether being always employed, and I am of the opinion that it is more important to overcome the mental fear which is so marked a factor than to eliminate the slight toxic effect of a general anæsthetic. It is true that in all cases this anæsthetic has been administered by one highly skilled in its use, but in no case has there been the slightest difficulty or trouble. I consider the avoidance of mental excitement to be of so much importance that in the last three cases the patient has not been informed of the date of the operation, and has had this carried out without her knowledge. A solution of ether in olive oil (5 oz. of a 50 per cent. solution) was administered per rectum by the method advocated by Gwathmey[7] 20 minutes before operation. On reaching the theatre the patient was unconscious, and the anæsthetic was then continued with ether on the open mask. The fear of the operation and the disagreeable preliminaries are thus avoided. It is, of course, necessary if such a method be used to obtain the consent and assistance of the relatives.

Operative Details.

As regards the operative details, hemithyroidectomy has been performed in every case, and unless there was some evidence suggesting that the left lobe should be removed a right hemithyroidectomy was the operation of choice. Kocher's horseshoe incision passing over both lobes was used. The two anterior jugular veins being tied and divided, the anterior border of the sterno-mastoid was freed and retracted. The pretracheal muscles were then divided and carefully dissected off the gland. The upper pole was dissected and the vessels ligatured *en masse* and the upper pole freed. The importance of keeping within the capsule and even leaving a small layer of the gland on the posterior surface was fully recognised, thereby safeguarding both the parathyroids and the recurrent laryngeal nerves. The drawback to this method is that in this position the inferior thyroid artery has already divided into its branches. If these be cut separately and then picked up with forceps there is often very free hæmorrhage owing to the marked vascularity of the gland. For this reason I have in the last three cases laid bare the artery just internal to the carotid sheath by separating the fascial planes, as advocated by Jones,[9] and applied a ligature to the artery in its continuity. Even after this preliminary step it is remarkable that a considerable amount of hæmorrhage may occur from the separate branches as they are divided. The whole lobe is then carefully dissected off the trachea and the isthmus divided. Any bleeding points are ligatured; a small tube is inserted into the wound for 24 hours; the muscles sutured with catgut; and the skin with silkworm gut. In spite of many expressions to the contrary it would appear to be of great importance that the gland should be most carefully handled, and in my own cases

I have used great care not to compress the gland in any part of the operation. Each stage should be slowly and carefully performed, so that in the majority of cases the operation will occupy from three-quarters to one hour. In none of my cases was it necessary to perform a preliminary ligature of the vessels. Certain cases have had most marked symptoms, but after a short period of complete rest in bed these had sufficiently abated to allow the operation of hemithyroidectomy to be safely carried out. It is probable, however, that in cases of longer standing such a preliminary form of treatment would be insufficient, and that ligature might have to be carried out some time previous to the hemithyroidectomy.

In most of the cases there was a considerable amount of reaction for the first two days after the operation. The pulse and the temperature both showed a slight rise, and in two of the more severe cases there was a considerable amount of restlessness. To combat this large doses of saline were given per rectum and fluid by the mouth, hypodermic injections of morphia not being restricted.

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MALIGNANT TUMOURS OF BONES:

A NEW METHOD IN CONSERVATIVE OPERATIVE TREATMENT.

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IN malignant tumours which affect bone the surgeon is now compelled to resect the bone. In tumours of the extremities, if the tumour involves the greater part of the bone, amputation is necessary. Generally the resected portion of the bone is replaced by pieces of living or dead bone from the same patient or from some other person. Experiments have shown that the transplanted living bone has generally died and become replaced by new bone, and the same replacement also takes place in the transplantation of pieces of dead bone, but more slowly than when living bone is employed.

To avoid the resection of the affected portion of bone it occurred to me to sterilise the bone and thus to kill all the elements of the tumour, and then to allow the dead bone to remain in its natural connexion with the healthy part of bone. After the sterilisation the bone resembles exactly the piece of dead bone inserted after a resection; it is covered with the soft parts and the wound is treated in the same way. In fact, in this method the bone which is killed corresponds to transplanted bone. The chief advantage of the method consists in the complete and natural connexion of the killed bone with the sound bone, such a connexion as cannot be produced by the most ingenious operation. Moreover, the sterilisation is technically much more simple and easy than the resection and transplantation.

The sterilisation is performed by means of steam under high pressure. For this purpose an ordinary autoclave is used, or even a steam kettle may be employed; in it steam is formed under a pressure of from 3 to 5 atmospheres. Upon the spout of the kettle I put a thick-walled rubber tube from 1½ to 2 metres long, and on the other end of this tube I fasten a piece of metal tubing. This metal piece has many holes for the escape of the steam. I make use of two models: for the sterilisation of the front side of the bone a straight metal tube with terminal holes as in Fig. 1—it gives a direct stream of steam; for the hinder surface of the bone I use a larger flattened tube which is slightly curved, and the concave side has the holes for the escape of the steam. (Fig. 2.)

FIG. 1.

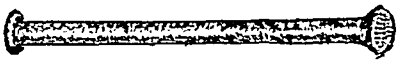
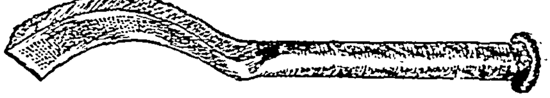


FIG. 2.



The sterilisation proceeds as follows. After the removal of the tumour in the soft parts I scrape off the rest of the tumour upon the bone and lay bare the bone as for a resection. To protect the soft parts from burning I cover them with three or four thicknesses of gauze; upon this I put a thin sterilised layer of asbestos, and finally a metal plate. This metal plate is used to guard the soft parts from the hot condensation water which might trickle through the gauze and the asbestos. Then the curved metal tube is passed under the bone and the steam is turned on.

I have made the following experiments to determine the time necessary for the sterilisation of the different bones. The femur was sawed through; into its medullary cavity I pushed a thermometer, and I placed the curved metal tube upon the outside of the bone. After from 4 to 4½ minutes the thermometer showed from 75° to 80° C., a temperature not only enough to kill all the cells, but also any bacteria present. Moreover, it appeared that not only the surface near the steam reaches such a temperature, but also the opposite side of the bone. To heat the tibia to from 75° to 80° C. it is necessary to apply the steam for 3 minutes, for the lower jaw-bone 1½ minutes, and for the condyles of the femur 8 minutes. To determine how far the over-heating extends sideways in the direction of the sound bone I put the bulb of the thermometer on the bone at a distance of from 2 to 3 cm. It appeared that at 2 cm. distant the temperature is only 45° to 50° C., and at 3 cm. distant from 35° to 40° C., so that the effect of the steam only extends to about 2 cm. from the steam. If the greater part of the bone is to be sterilised the sterilisation must be effected bit by bit, the metal tube being pushed along the bone. The experiment shows that it is not necessary to sterilise the front surface of the bone by itself, for it is included in the sphere of activity of the steam which has sterilised the medullary cavity.

This method is only an attempt to extend the field of conservatism in the treatment of malignant tumours of bone.

THE INFLUENCE OF THE X RAYS ON SOME CASES OF PERSISTENT SUPPURATION.

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MEDICAL OFFICER IN CHARGE OF THE ELECTRICAL DEPARTMENT, ST. BARTHOLOMEW'S HOSPITAL.

TWO years ago I tried the effect of the X rays upon a case of chronic suppuration of very long duration, which had resisted other forms of treatment, including surgical operation. The suppuration was arrested, the part healed, and the cure has lasted to the present time. Three other cases of a similar kind were then treated, and equally good results were obtained. During the past year other cases have been treated so as to investigate the action of the X rays upon chronic suppuration, and the results show that this form of treatment has an influence upon its progress, lessening it in some cases, and in others permanently arresting it. Many cases are still under treatment, but a short account will be given of the first four cases, as they have been kept under observation for the longest time.

CASE 1.—A patient aged 22. A case of infective periostitis and prolonged suppuration of three years' duration. The past history showed that in 1904 the patient had had an abscess on her chin; it had healed spontaneously. In 1908 another abscess had appeared in the same situation. It "broke," and began to discharge. The discharge was small in amount but persistent. Early in 1910 a surgical operation was performed, and another in November of the same year, but after each the discharge soon reappeared. In February, 1911, the patient was admitted to hospital, the sinus was excised, the bone scraped, and the wound stitched. In July it was necessary to repeat the operation, as the discharge had recurred. A piece of dead bone was removed and some more was scraped away. In October a fifth operation was carried out, again without any lasting benefit. In December X ray treatment was commenced. There was then a sinus leading down to bone in the region of the symphysis of the lower jaw, with granulations extending for a quarter of an inch around and the outlying skin was adherent. One application of X rays was made in each period of three weeks, full doses being given (tint B, Sabouraud's method of measurement). After the fifth application the discharge greatly diminished; after the eighth it further diminished and became intermittent; and after the eleventh it ceased, and no more was noticed for three months. During this time the skin grew over the granulations, and the closed sinus and the site of the former suppuration was marked by a deep dimple with a small area of red skin at its base. At the end of the three months a slight discharge was again noticed and another application of X rays was made, and one more (the last given) a month later. The discharge ceased altogether, and no more was noticed during the succeeding 15 months. The patient was kept under observation during this time, and was last seen in February, 1914.

CASE 2.—A patient, aged 15. A case of chronic infective periostitis with chronic suppuration lasting six months. Past history: In December, 1911, a painful swelling appeared on the right side of the face over the lower jaw. The skin became red and then "broke," and a purulent discharge made its appearance and continued day after day without cessation. In June, 1912, the patient was taken to hospital. An operation was performed and a piece of dead bone was removed. The discharge soon reappeared. On July 23rd X ray treatment was commenced. There was then a firm swelling to be felt on the body of the lower jaw in the region of the angle, measuring about 1½ inches by ½ inch. The skin overlying was red; and at its centre was a sinus from which pus was oozing. Smaller applications of X rays were given than in Case 1, but at shorter intervals, one each week. After the second application the discharge lessened and became intermittent, and after the third the sinus closed and no more discharge was seen from that time onwards. Three more short applications were made, the last on Sept. 9th. In January, 1913, the swelling had diminished in size, and the skin overlying was slightly erythematous and a little keloid was present in it. In December the swelling could not be felt, and the keloid had disappeared. In March, 1914, a pink scar marked the site of the former suppuration and swelling.

CASE 3.—A patient aged 20. This was a case probably of hygroma which was subsequently infected. Past history: In 1908 the patient noticed a painless swelling on the back of the forearm just above the wrist. It very slowly enlarged. In 1911 the swelling was incised, and a "dark brown" fluid escaped. Soon after, a second swelling, similar to the first, appeared close to it, nearer the elbow. A third swelling also appeared over the wrist, but it disappeared spontaneously. The discharge from the first swelling persisted in spite of local treatment. On April 30th, 1913, X ray treatment was commenced. At that time there was a tense swelling on the posterior aspect of the forearm, about an inch in diameter, slightly movable, and slightly raising the overlying skin, which was normal and not inflamed. This was the second swelling noticed by the patient. Immediately below was a sinus, from the opening of which was oozing a sero-purulent fluid. The bones of the forearm were X rayed and found to be normal. Applications of X rays were made once a fortnight. After the second application the discharge considerably diminished, and after the third it disappeared altogether. One more application was made. In January, 1914, the sinus was still closed. The swelling was still palpable, but it was considerably smaller.

CASE 4.—A patient aged 11. A case of tuberculous bursitis; operation and subsequent chronic discharge. Past history: In January, 1913, the patient developed pain and swelling in front of one knee. In March an abscess in the prepatellar bursa was opened and the cavity scraped out. Tubercle bacilli were found. The wound healed by first intention, but later on it reopened at one point and pus continued to discharge slowly. In July, X ray treatment was commenced. At that time there was a thin sero-purulent discharge from a sinus leading to the prepatellar bursa. There was also clinical evidence of tuberculous infection of the knee-joint. The treatment was repeated once every fortnight. After the second application the discharge diminished, and after the third it disappeared. The patient was afterwards admitted to the Lord Mayor Treloar's Home at Alton. The disease became quiescent in the knee, but there was no more discharge from the former sinus (January, 1914).

These four cases showed chronic suppuration, small in amount, and in superficial situations. Case 1 received full applications of X rays at longer intervals; Case 2 received small applications at short intervals; and Cases 3 and 4 received medium applications at intervals of medium length. The dosage was measured by Sabouraud's method. The most suitable technique with regard to dosage, penetration power of the rays, and the use of filters is difficult to decide, particularly as the *modus operandi* of the X rays in producing their effects on the tissues is not known. In arresting the process of suppuration the X rays do not act only (if at all) by destroying the pyogenic organisms. In some experiments that were made to test the action of the X rays upon cultures of bacteria the pyogenic organisms were not destroyed. I am inclined to the belief that the X rays produce some local tissue reaction against the invading organisms, and at the same time some general reaction. In many of the cases that have been treated there has been considerable improvement in the general health, although in some of them the suppuration has not been arrested.

I am indebted to Mr. D'Arcy Power for permission to publish Case 1.

Upper Wimpole-street, W.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

Exhibition of Clinical Cases and Pathological Specimens.

A MEETING of this section was held on May 8th, Mr. CHARTERS J. SYMONDS, the President, being in the chair.

Dr. OLIVE RIVIERE showed a case of Spleno-myelogenic Leukæmia. It was that of a boy aged 12, who was admitted to hospital in December, 1913, with history of cough, breathlessness, pain in the right shoulder, and general weakness of one year's duration. He then was well nourished with a somewhat plethoric aspect. The spleen reached to the umbilicus; the liver 1 in. below the costal margin. Signs of enlarged thoracic glands were found mainly consisting of increase of oval interspinous dulness on the right side and impairment at the lung apex. A skiagram confirmed this. The urine contained much albumin. He had been treated by arsenic, X rays, and benzol. During the time the boy had been under observation he had felt well, had gained 6 lb. in weight, and his temperature had kept within normal limits. The pulse was accelerated, about 116. The liver had remained unaltered, but the spleen had increased in size both downwards and forwards. The area of lung impairment, indicative of enlarged chest glands, had also increased, and now extended between the first and ninth dorsal spines on the right side. The leucocytes had increased from 167,000 to 425,000 per c.mm.

Mr. SIDNEY A. BOYD showed a case illustrating the treatment by Splenectomy for Splenomegalic Cirrhosis with Ascites. The woman, aged 23, came under observation in November, 1913, for ascites, for which she had been in hospital in 1908. The notes of the case stated that the spleen was then somewhat enlarged. Paracentesis abdominis was performed several times, but the fluid quickly re-accumulated. Laparotomy was then performed, and the condition was thought to be due to tuberculous peritonitis. There were "some very suspicious caseous masses at the junction of the Fallopian tubes with the uterus, and partly on the broad ligaments. No definite tubercles could be seen elsewhere. The peritoneum looked very red, was much congested, and bled very freely." The abdomen was drained with a rubber tube for 24 hours, a large quantity of fluid escaping. She had made a good recovery from this operation, and remained in good health until October, 1913, when she noticed the abdomen again becoming distended. Upon examination in November, 1913, the patient was found to be a well-nourished young woman, not anæmic nor icteric, and with no signs of disease in the chest. The abdomen was greatly distended, the girth at the umbilicus being 36 in. No dilated veins were visible on the abdominal wall. The scar of the previous operation had stretched somewhat and bulged forwards. The distension was obviously due to ascites, and in the upper part of the abdomen an enlarged spleen could be felt. The liver was not palpable. Eight days later laparotomy was performed, the old scar being excised, and a large quantity of straw-coloured fluid escaped. There were no signs of tuberculosis on the parietal or visceral peritoneum, but a few adhesions were present between the coils of intestine. Except for some adhesions around the pelvic organs the latter appeared normal. The liver felt hard and irregular on the surface and smaller than normal. The spleen was considerably enlarged, and its convex surface was free from adhesions. The parietal peritoneum was somewhat thickened. The incision was closed and healed well in seven days. The Wassermann reaction was negative. The ascites rapidly recurred after the operation. Paracentesis was performed and 15 pints of fluid drawn off. This was repeated, when 11 pints were drawn off. Splenectomy was then performed through a vertical incision at the outer edge of the left rectus. It was not possible to deliver the spleen through the wound on account of a broad band of adhesion from the posterior border to the posterior abdominal wall. The pedicle was therefore first tied off in sections and divided, and the adhesions posteriorly then dealt with. The branches of the splenic artery and vein were very large, but very little blood was lost. The liver was inspected and found to be in an extremely cirrhotic state, being not more than two-thirds the normal size, very hard and granular on the surface. There was practically no omentum present, only a few tags, or omentopexy would have been performed. The incision was closed in the usual way. The patient recovered well from the operation and her convalescence was smooth. The ascitic fluid collected again, but more slowly than before the operation. Three and a half weeks after the operation paracentesis was performed, 11½ pints being drawn off. Eleven days later the girth had increased from re-accumulation of fluid, but after this it gradually decreased and the fluid disappeared. It had *not since* re-collected, and the patient's general condition was good. Dr. A. G. Gibson had cultivated, after 18 days' incubation, a thick Gram-negative, non-motile bacillus which could not be continued in subculture. The remainder of the culture tubes remained sterile. This case was of interest both from the point of view of diagnosis and also from the effect of removal of the spleen. The case was obviously not one of Banti's disease (regarding Banti's disease as the terminal stage of splenic anæmia). There had been no anæmia, no leucopenia, no gastro-intestinal hæmorrhage. The spleen was known to have been enlarged in 1908, when laparotomy was performed for chronic peritonitis, probably of a tuberculous nature. Was it possible that the whole condition was due to tuberculosis—the splenomegaly, the hepatic cirrhosis, and the ascites? (Various French authors had raised the question of tuberculous hepatic cirrhosis.) The first laparotomy cured the ascites for five years. The second laparotomy had no effect on the ascites, which rapidly recurred. Removal of the spleen certainly had a direct effect upon it. The ascites could not have been due solely to perisplenitis, as the fluid re-accumulated at first after removal of the spleen and the abdomen had to be tapped. Nor would simple mechanical relief to the portal circulation, which splenectomy would entail, account for the result for the same reason. Removal of the spleen was *not* likely to influence the hepatic cirrhosis so favourably in a few weeks as to cause the ascites to disappear. On the other hand, if the spleen be regarded as a primary seat of infection by the organism grown from it, secondary to which a chronic peritonitis developed and also hepatic cirrhosis, this was an explanation which would satisfy all the conditions. This was the view which Mr. Boyd was inclined to take, and to consider the illness from which the patient suffered six years ago as an independent one, as far as the ascites was concerned. Time alone would tell whether the removal of the spleen had arrested the progress of the cirrhosis, but from the point of view of relieving the ascites the operation had already justified itself.

Dr. ARTHUR F. HERTZ showed three cases of Thomsen's Disease in members of the same family, two brothers aged 25 and 13, and a sister aged 16. The degree of hypertrophy of the muscles was very marked,

Dr. F. PARKES WEBER showed a case of Progressive Vertebral Ankylosis ("Spondylose Rhizomélique"). The patient was a man aged 67. The whole of the vertebral column and the cranio-vertebral articulations appeared to be ankylosed in a position of kyphosis characteristic of such cases. The ribs apparently did not move with respiration, which was altogether diaphragmatic. He could open his mouth a little. The movement in both shoulders was much limited, more in the right than the left. The hip-joints were severely affected. The more distal joints of his limbs were free, excepting that he could not extend his knees completely. In the semi-recumbent position he could feed himself with a spoon. He could walk about a little with the help of a stick. Some tremulousness of the hands, suggesting that of paralysis agitans, was often observable. Roentgen skiagrams of the patient's neck (lateral view) showed that all the bodies of the vertebræ were united by a layer of bone at their anterior margins. There was no history of any venereal disease, and the blood serum gave a negative Wassermann reaction for syphilis. The teeth and gums were in a very bad condition, with much stone-like incrustation. There was much muscular rigidity or hypertonicity, as if the muscles were "on guard" to shield the joints or prevent sudden "jarring" movements of the body.

Dr. **WEBER** also showed a specimen of Spasmodic Stricture of the Œsophagus (Cardiospasm) with Fusiform Dilatation above it. The patient from whom this specimen was taken was a man aged 80, who had been suffering more or less (on and off) from obstruction in the œsophagus since the latter part of 1904. In February, 1906, he was in a very starved condition, and as no soft bougie could be passed through the cardia into the stomach, Dr. Zum Busch performed a gastrostomy. After the operation the patient improved very much, and the gastrostomy opening was allowed to close. It was completely closed in March, 1908, and it was quite clear that there was no carcinomatous stricture of the œsophagus present, but the old trouble had returned and the patient had to be fed by a hard œsophageal bougie, as at that time no soft bougie could be passed through the cardia. When he left the hospital again in May, 1908, he was feeling well and had gained 13 lb. in weight. In November, 1909, Dr. Zum Busch had again to dilate the cardia on account of spasmodic stricture. Since that time the patient had been an in-patient occasionally on the medical side of the hospital. In April he had two attacks of cardiac syncope, from the latter of which he died. The post-mortem examination showed that the cardia, which did not appear much (if at all) thickened, admitted the passage of the middle finger; yet the stomach was empty, and the œsophagus contained food. There was decided fusiform dilatation of the lower part of the œsophagus. There could scarcely be any doubt that in spite of the characteristic absence (or almost entire absence) of hypertrophy of the cardia the dilatation of the œsophagus was secondary to the cardiospasm. But what the exact cause was of the cardiospasm in the severe and dangerous type of cases, of which the present one was an excellent example, remained a mystery.

The **PRESIDENT** showed a specimen of Cancer of the Rectum; excision after application of radium. It was removed from a man, aged 73, in April last. In October, 1913, there was a typical annular growth, 1½ inches from the anus. A piece of mucous membrane about the breadth of the finger between the two ends of the growth was unaffected. In October, 2 mgm. of radium were applied on five consecutive days for six hours. In November both to the finger and to the eye all appearance of growth had disappeared. There was a complete ring of cicatricial tissue, the free part of the bowel being no longer visible. In February last colostomy was necessary for the relief of symptoms due to the stricture. In April the disease was removed by the perineal route, the proximal end being sutured to the anal portion without division of the sphincter. Complete union of the bowel took place and the colostomy wound was closed a month later. The specimen showed what appeared to be a cicatricial stricture. There was healthy mucous membrane above, whilst below it looked smoother than normal and the muscular coat seemed thickened. Two small hard glands were present in the meso-rectum. Microscopically the typical appearance of a cicatrising cylindrical epithelioma was seen in the section, through the stricture and also in the lymphatics. The whole of the rectum below the stricture, though appearing thickened, did not show any growth. The specimen was exhibited to show the favourable effects of radium.

Mr. T. L. **ELLIS** and Dr. H. D. **ROLLESTON** showed a case of Arthritis associated with Psoriasis. The patient, aged 35, had never had syphilis, gonorrhœa, or rheumatic fever. Twenty years ago he had had left-sided pleurisy, and about the same time he had injured the left knee, but he had no further trouble with it until about four years ago, when it became painful and stiff, psoriasis having appeared one month before. Two years ago he was treated for six months with arsenic, and both the psoriasis and the arthritis disappeared. In November, 1912, the psoriasis and the arthritis gradually recurred, and in April, 1913, he was treated with ionisation without any improvement. Radiography showed slight irregularity of the inner surface and inner condyle of the femur and the head of the tibia near the articular surfaces, thus suggesting slight superficial ostitis. Some carious teeth were removed, and about this time the right knee became affected. In October last he had in addition some stiffness of the temporo-maxillary joints, some more bad teeth were removed, and a vaccine, prepared from streptococci and pneumococci isolated from the sockets, was given with some slight benefit. The psoriasis practically disappeared under arsenic and local treatment (butyl-salicylate was employed as well as the ordinary external applications), but the arthritis did not, as on a former occasion, show a corresponding improvement. The arsenic was discontinued on account of abdominal pain, and the psoriasis was returning. The nails showed the results of psoriasis. Aspiration of the knee and bacteriological examination of the fæces had failed to throw any light on the cause of the arthritis. The urine yielded a diphtheroid organism and a Gram-positive coccus. The temperature had been practically normal throughout. Leucodescent lights and strapping had been employed, and quite recently, in the light of R. Pemberton's conclusions that rheumatoid arthritis was a metabolic disease due to intolerance to ordinary quantities of protein and carbohydrate food, a restricted diet combined with thyroid extract was being tried. The knees were swollen, painful, and stiff.

Dr. **JAMES GALLOWAY** exhibited specimens from a case of Splenomegaly with Gastro-intestinal Hæmorrhages (shown at the meeting of the section on Feb. 13th). The patient was prepared for operation first by the removal of free abdominal fluid—about 30 pints of fluid were drawn off the day before the operation—and by other appropriate measures. The operation of splenectomy was performed in March. The spleen was removed through an incision corresponding to the outer edge of the left rectus muscle. The spleen itself had very few adhesions, but there was a little difficulty in finding and isolating the pedicle. A large thin-walled vessel, no doubt the splenic vein, was ligatured, but a few minutes later the cavity from which the spleen was being removed filled up rapidly with venous blood, probably from the splenic vein. On stopping the hæmorrhage and clearing out the cavity the opening of the splenic vein was seen and more carefully ligatured. The operation in the later stages had to be performed as rapidly as possible on account of the exhaustion of the patient. The immediate result of the operation seemed to be satisfactory. The patient recovered in quite a remarkable way from the shock and the next day the number of red blood cells was found to be 2,300,000. The temperature rose rapidly after the operation, however, and again fell, till four days later it had reached the level of 100° F. Once more a rise of temperature occurred, and along with this there was evidence that a certain portion of the wound was not healing. Quantities of fluid began to flow through the wound from the abdominal cavity, and gradually the greater portion of the wound opened out, much ascitic fluid passing into the dressings. In spite of this condition the patient exhibited remarkable powers of resistance, and it was not till ten days after the operation that he showed definite signs of exhaustion. No signs of general peritonitis were at any time observable; he died from what appeared to be exhaustion 15 days after the operation. Post-mortem examination revealed an infected condition of the external wound and, to a slight extent, of the cavity from which the spleen had been removed in the immediate neighbourhood of the wound, but there were no indications of any widespread or generalised peritoneal infection. The liver was markedly cirrhosed, the cirrhosis being of a coarse, multilobular type. The cut end of the splenic vein at the point of ligature was well healed. The splenic vein itself was enlarged, markedly tortuous, and in parts thrombosed. The remains of the vasa brevia were also enlarged and the veins of the mucous membrane in the lower portion of the œsophagus and the neighbouring part of the stomach were greatly enlarged and congested.

Dr. J. **ALISON GLOVER** read a short paper on a case of Rupture of an Aneurysm of the Abdominal Aorta in a young woman.

SECTION OF OPHTHALMOLOGY.

Pathological Observations on the Filtration Angle in some Glaucoma Cases.—Ideal Glaucoma Incision.—Variable Flap Operation for Chronic Glaucoma.—Herbert's Small-flap Operation for Glaucoma.—Exhibition of Cases and Specimens.

A MEETING of this section was held on May 6th under the presidency of Sir ANDERSON CRITCHETT.

Mr. BASIL T. LANG showed a stereoscopic X ray photograph of a case of Traumatic Enophthalmos; also a bottle specimen showing an early stage in intra-ocular suppuration.

Dr. J. S. BOOKLESS showed a Congenital Cataract, probably of the Coppuc type.

Mr. R. AFFLECK GREEVES read a paper entitled "Pathological Observations on the Filtration Angle in some Glaucoma Cases." He spoke of glaucoma cases in which there was no closure of the filtration angle by a peripheral anterior synechia. The cases described in the paper resolved themselves into three groups. In the first were cases in which an irido-cyclitis was, or had been, present. He described the invasion of the spaces of Fontana by granulation tissue containing capillary vessels, this tissue ultimately forming a solid mass of scar tissue, with which the pectinate ligament became incorporated. In the second group the tissues of the pectinate ligament were unaltered, but the spaces were blocked by large swollen cells, apparently of a phagocytic nature. In the third group the spaces of Fontana were open, but simple retinal detachment was present. In these latter cases the author suggested the rise of tension and the retinal detachment were due to the same cause—namely, an alteration in the composition of the intra-ocular fluid. Mr. Greeves also commented on secondary glaucoma with intra-ocular growth, and said he thought that in some cases an inflammatory element might be present. Microphotographs illustrated the paper, shown by the epidiascope.

Lieutenant-Colonel H. HERBERT, I.M.S., read a paper on the Ideal Glaucoma Incision. He said the section most suitable for the relief of glaucoma was a limited subconjunctival incision in the transverse vertical plane, a millimetre behind the limbus, the conjunctiva at this point being only loosely attached. A sufficiently near approach to this section could be obtained by puncture and counter-puncture with a very narrow tapering knife. Though sufficiently peripheral superficially to facilitate diffusion of aqueous backward under the conjunctiva, it reached, the deep surface of the cornea well in front of the root of the iris. Although making only a limited opening into the anterior chamber the incision was superficially long, so widening the area of diffusion. Thus the tendency to localised vesicular change from filtration through the conjunctiva was reduced to a minimum. It was this change which had been mainly responsible for the late infections reported after trephining. Permanent filtration through this incision was secured in chronic glaucoma if the wound were kept open 24 hours. One method of doing this was to fix a gilded metal rod by sutures so that it lay in the incision though upon the conjunctiva, depressing the latter into the scleral groove. The method had the advantage of never emptying the anterior chamber, and during the operation there was only slight leakage. The operation, therefore, seemed to be one of the safest imaginable. Apart from the danger of late infection being lessened, there was less risk of intra-ocular hæmorrhage, and interference was reduced to the minimum. Ordinarily there was no need to interfere with the iris. The details still required to be fully worked out. It was desirable to avoid all unnecessary displacement of conjunctiva, which tended to localise filtration, and in the second place it was necessary to provide sufficiently free leakage of aqueous in congestive and absolute glaucomas.

Mr. N. BISHOP HARMAN submitted a paper on a Variable Flap Operation for Chronic Glaucoma. He devised the operation so as to allow the surgeon some latitude in the grading of the effects intended to be produced. Most of the methods now used were very rigid; the same was done for every kind of eye and every texture of sclera, whether thin or soft, or tough and gristly. After initial scleral section with the keratome the author's modified twin scissors were used to cut a corneo-scleral flap. The blades of the scissors had been so modified that they cut a U-shaped piece free, except for a narrow stalk of attachment to the cornea. This flap was freely movable; the ordinary tension of the eye lifted it above the general level of the sclera. It was so mobile that it could be twisted over on itself; then it was found to lift the conjunctiva and form a sort of inclusion tissue keeping open the scleral fistula. If the sclera were unusually tough the flap could be removed with the touch of the knife. He favoured the operation as securing the desired variation, and the twisting of the flap in particular promised to be very effective.

Mr. W. G. LAWS read a paper entitled "Herbert's Small-flap Operation for Glaucoma." He was inclined to return to the original type of the operation and make lateral cuts with the knife, for scissors must crush and injure the tissues before dividing them; and in glaucomatous eyes the tissue was already of lowered vitality. For that reason he did not apply antiseptics to the conjunctival sac, nor even douche it before operating; he simply cleansed the edges of the lids with 1 in 3000 perchloride. Out of 140 cases he had had intra-ocular hæmorrhage in only three at the time of the operation, and these he described. He did not believe in one form of operation for all glaucoma cases, particularly where the anterior chamber was shallow.

Mr. A. L. WHITEHEAD (Leeds), in discussing the papers, pointed out that after the glaucoma operation fistulous tracts were set up from the anterior chamber towards the spaces of Fontana, lined with epithelium which was probably derived from the anterior chamber. When the operation failed it seemed to be due to the occurrence of a new fibrous tissue formation, which closed the operation wound whatever the operator did. He narrated some cases bearing out his contention.

SECTION OF PATHOLOGY.

Cell Division.—Pseudo-tuberculosis Hyalina Testis.

A MEETING of this section was held on May 5th, Dr. F. W. ANDREWES, the President, being in the chair.

Mr. H. C. ROSS gave a lantern demonstration to illustrate the similarity between certain types of cell division artificially produced by auxetics and certain figures found in the blood in pernicious anæmia. This was in support of his previous work on division of lymphocytes.—An animated discussion followed in which Sir RONALD ROSS, Dr. J. A. MURRAY, Dr. E. F. BASHFORD, Dr. J. W. CROPPER, and Mr. S. G. SHATTOCK took part.

Dr. MURRAY and Dr. BASHFORD then gave a kinematograph display illustrative of the mitotic division of cells in the blood of the newt, in order to show that the phases previously demonstrated by staining methods in fixed films were reproductions of the actual process.

Mr. SHATTOCK, under the name Pseudo-tuberculosis Hyalina Testis, described a condition simulating a nodular tuberculosis of the body of the testis. The term "pseudo-tuberculosis" had rightly been discarded in the nomenclature of infective processes; they no longer spoke, e.g., of a streptotricial pseudo-tuberculosis. The lesions were named after the bacteria or animal parasites causing them. Nevertheless for non-infective lesions the term might still be convenient. Many forms of nodular fibrosis of the lung from dust inhalation were striking simulants of tuberculous disease. In the present case so close was the likeness that the testicle would have certainly been condemned if split through for inspection at an operation prior to a contemplated epididymectomy. The lesion was due to the hyaline degeneration and swelling of the intertubular stroma around groups of seminiferous tubules, of which the cells were similarly thickened and which were in different stages of obsolescence. In the extreme stage the tubuli were represented by thick-walled hyaline cylinders, with the narrowest chink to represent a lumen, the whole of the epithelium having disappeared. As a final change the lumen itself became obliterated. The nature of these structures was determinable by finding epithelium and spermatozoa in their lumen in the earlier steps of the change. Groups of similarly thickened tubuli occurred in this specimen without any accompanying hyaline swelling of the pertaining stroma. Mr. Shattock, on examining the testicles of the aged, had found similar groups of obsolete thickened tubuli, which might be so extensive as to produce macroscopic foci and irregular tracks simulating a tuberculous lesion, without any corresponding involvement of the stroma. The thickening possibly resulted from the local action of the effete products of disintegrating epithelium, and, having a toxic origin, was allied in kind to the hyaline and amyloid thickening of the capillaries in more general disease. In syphilitic and in leprous orchitis tubuli showing the same change might be encountered, whilst the thickening of the walls of the tubuli in the hypoplasic undescended organ had long been pointed out. Such hypoplasic testicles probably functioned for a brief period, their early obsolescence being followed by disintegration of the tubular epithelium, and as a further result by thickening of the walls of the tubes.

MEDICAL SOCIETY OF LONDON.

Ascites and its Treatment.

A MEETING of this society was held on May 11th, Sir DAVID FERRIER, the President, being in the chair.

Dr. DE HAVILLAND HALL opened a discussion on a case of Ascites and its Treatment. The patient was a lady, aged 34, who married at the age of 22, but had had no family. She was seen in September, 1908, and stated that 11 years previously she had had a severe illness with elevated temperature lasting six weeks. Five years later she had influenza with swelling of the abdomen and enlargement of the liver. She was ill for five or six months and had attacks of faintness. She made a good recovery and continued well until the autumn of 1907, when she over-exerted herself while riding—as a result she suffered from dyspnœa. In March, 1908, some cyanosis was noticed, and she was kept in bed for five weeks. After this she had various courses of treatment, including one at Nauheim. When first seen by Dr. de Havilland Hall the patient had a pulse of 108 per minute, it was irregular, intermittent, and small in volume. The area of cardiac dulness was increased, the impulse was outside the mid-clavicular line, there was no thrill and no distinct murmur could be detected. Nothing abnormal was found in the lungs. There was no œdema of the ankles. The liver was enlarged and there was free fluid in the peritoneal cavity. The urine contained neither albumin nor sugar. The diagnosis recorded at the time was "dilatation of the heart with enlargement of the liver, not due to cirrhosis." During the course of the patient's illness she was seen in consultation by Dr. Hale White, Sir R. Douglas Powell, and Sir William Osler. Dr. Hale White considered that the ascites was caused by disease of the liver. Sir R. Douglas Powell expressed the opinion that the condition of the heart was chiefly responsible for the ascites and other symptoms. Sir William Osler only saw the patient later in her illness, when a definite diagnosis was out of the question. In spite of medicinal treatment the ascites increased, so the patient was tapped with Southey's tube in April and June, 1909. The following July Mr. W. G. Spencer performed omentopexy. Six weeks later paracentesis was again required. In April, 1910, femoral drainage was carried out. In June of the same year the abdomen was opened, the lower pole of the spleen was scarified through its capsule, an area of parietal peritoneum the size of the palm was dissected off, and the left kidney decapsulated. The peritoneal cavity was wiped out and a drainage-tube was left in. In January, 1911, doubled strands of large-sized floss silk were passed, after Mr. Sampson Handley's method. One end was left in the peritoneal cavity and the other was brought out through a button-hole over the lower ribs to the posterior fold of the axilla, and a second strand was passed under the right breast. After the last operation the patient gave up all hope of recovery, and though at times she consented to take some drugs she would not continue any definite line of treatment. On several occasions when the output of urine had fallen below a pint in the 20 hours, and once to 12 ounces, the administration of tabloids of pituitary extract had the effect of increasing the amount of urine to nearly 4 pints in the 24 hours. Unfortunately the good effect soon passed off. The repeated tappings, 49 in all, gradually weakened the patient, she got œdema of the lungs and ankles, and in May, 1913, after a cheerful "Good night" to her family, she took 240 grains of medonal and died comatose 48 hours later. The post-mortem examination was made by Dr. B. H. Spilsbury. The pericardium was completely obliterated by old adhesions; over the apex and the posterior surface of the heart there was extensive calcification, forming an almost complete carapace for that part of the heart. The heart was apparently not enlarged. Slight thickening of the free edges of the mitral cusps was present. The myocardium showed advanced fatty degeneration. The peritoneum was thickened, especially over the liver and spleen. Firm adhesions were found over the liver and spleen and between the coils of the small intestine. The liver weighed 72 ounces and showed everywhere most advanced passive congestion, as did also the spleen and kidneys. Dr. Spilsbury regarded all the changes as the result of the pericardial disease. Dr. de Havilland Hall pointed out the difficulty of the diagnosis in the case under consideration. Sir R. Douglas Powell was in favour of the cardiac origin of the trouble, whereas Dr. Hale White regarded the liver as the primary seat of the mischief. The question of pericardial adhesion was not definitely raised by any of the physicians who saw the patient, but in the light of the post-mortem examination the history of the case emerged fairly clearly. It was impossible to give a correct diagnosis to the first illness from which the patient suffered, but the illness which occurred five years later was more probably rheumatic than influenzal, and the commencement of the pericarditis might be assigned to this time. Dr. de Havilland Hall laid it down as an axiom that in the presence of the signs of cardiac failure and the absence of any valvular lesion the existence of mural degeneration or pericardial adhesions must be postulated to explain the symptoms, and these two conditions often coincided, as in the case under consideration. The case emphasised the fact that the symptoms of adherent pericardium might be almost entirely of hepatic origin and might give rise to the erroneous diagnosis of cirrhosis of the liver—i.e., Pick's *pseudo-cirrhosis* syndrome. After discussing the medicinal treatment of ascites, Dr. Hall described the various operative methods which have been employed for the relief of chronic ascites. (1) Omentopexy—the Drummond-Morison or Talma operation; (2) Dr. Essex Wynter's plan of femoral drainage; (3) the formation of adhesions between the spleen and the abdominal wall and decapsulation of the kidney; (4) drainage by means of strands of silk passing from the peritoneal cavity into the subcutaneous tissue of the thorax; (5) the formation of a communication between the internal saphenous vein and the peritoneum; (6) the direct union of the internal saphena vein to one of the branches of the portal vein; (7) an operation recently devised by Rosenstein with the object of providing a permanent drain from the peritoneal cavity into the bladder; and (8) a method called the auto-serum treatment had been advocated. After having punctured the peritoneal cavity and drawn some of the ascitic fluid into the syringe the needle was withdrawn only so far as to leave the point just under the skin. The fluid was then injected into the subcutaneous tissue. The dose to start with was 3 c.c. and the amount should be gradually increased. The injections should be given about once a week, and 10 or 12 might be needed. They were said to cause a great increase in the output of urine. Dr. de Havilland Hall recommended paracentesis by means of Southey's tube, so as to allow of the gradual emptying of the peritoneal cavity and the avoidance thereby of shock.

Sir R. DOUGLAS POWELL said that Dr. de Havilland Hall deserved the thanks of the society for bringing forward a case of great value and importance in so complete a manner. It would afford an opportunity of discussing many interesting methods of treatment of abdominal dropsy and the importance of a correct diagnosis as a guide in differentiating cases to which each method might be expected to be most applicable. The case was interesting and important, too, in exemplifying in a striking manner how much treatment of disease had been advanced by the Listerian methods. He remembered well after his student days how impossible it was even to open an abdomen or a joint, much less to scrape, detach, transplant, or anastomose any portion of their walls. Each of the many methods of treatment adopted in this case gave relief (1) from direct pressure in abdomen and (2) by lightening the load of the heart through serous depletion (which had become checked by intra-abdominal pressure).

For those purposes the abdominal tappings and laparotomy were probably most efficacious. But the continued loss of serum proved in time very exhausting and could not long be endured by persons of broken constitution. Mr. Handley's and Dr. Wynter's methods were less exhausting by keeping the serum in the organism, and whilst affording mechanical relief to the local impediment at the same time relieved the general circulation by stimulating kidney secretion. The auto-serum treatment seemed also in some degree to act as a diuretic. It was to be observed, however, that the mechanism of defect in the circulation in this case was of a kind quite different from that which obtained in cases of cirrhosis in which anastomotic diversion of blood current was often of great value. He had, for instance, seen a case of uræmic convulsions completely relieved by Edebohl's operation of stripping the renal capsules, but here, as in cirrhosis, the difficulty was one of local obstruction of vessels. In the present case the difficulty was of central source in a failure of heart power from intrinsic disease of that organ. The *vis a tergo* of the circulation was impaired and was not sufficient to propel the blood through the great venous channels. The great portal and other abdominal sections of the venous reservoir—or, as it was picturesquely termed by Professor Keith, the venous cistern—became stagnant, and the aspiratory aids to the circulation or *vis a fronte* were insufficient to compensate for the defect. Hence abdominal stagnation and serous effusion. It was still a mystery why in some cases of heart failure abdominal dropsy either alone or out of all proportion to general œdema occurred, and in others (the majority) the reverse. In the presence of such central failure so much benefit could not be expected from anastomoses effected by omentopexy or adhesions as would arise in cases where the difficulty was due to obstruction in the capillary terminals of the portal vessels. By retaining more blood in the arterial system, and by stimulating such muscular substance as could respond in the heart, such remedies as digitalis and pituitary extract were of temporary use in increasing the kidney function.

Dr. W. **HALE WHITE** spoke of the possible value of pituitary extract as a diuretic. From physiological researches one would expect it to increase the output of urine, but he had found that it did so only temporarily. Copaiba had often proved an excellent diuretic for people with ascites. Collections of fluid connected with diseases of the heart might occur in one locality only, and this fact illustrated how little we knew as to the cause of œdema in heart disease. For the sake of argument he would dissent from the view that the case was primarily one of heart disease. There was a considerable degree of cirrhosis and the liver had been noticed to be large and nodular. He thought it would be agreed that passive congestion from heart failure did not give rise to a degree of cirrhosis which was obvious at an operation or post mortem. We had little knowledge of the cause of cirrhosis. Alcohol could only be considered as a contributory cause. It was much commoner in London than in either Glasgow or Aberdeen, where spirit drinking was certainly not less. Mahomedans had been shown to be affected by it. In the cases described by Dr. S. A. K. Wilson under the title "progressive lenticular degeneration" a gross form of cirrhosis of the liver was an important feature. It also occurred in children when there was no suggestion of alcohol drinking. There was, therefore, some cause for cirrhosis at present unknown. He questioned whether an ascites which frequently recurred was found apart from a morbid condition of the peritoneum. In polyserositis the peritoneum usually bore the brunt of the disorder, and in that condition the abdomen might be tapped an enormous number of times. Kelly had, however, described a variety in which the pericardium was chiefly affected. He would suggest that the nature of the case which formed the basis for the discussion was polyserositis and cirrhosis, though possibly he had exaggerated the importance of the cirrhosis.

Mr. **WALTER G. SPENCER** said that he regarded the Talma-Morison operation as a physiological anastomosis. The difficulties in the operation devised by Dr. Essex Wynter were that fluid leaked into the legs and prevented the patient from getting about, and there was the mechanical difficulty of keeping the tube from becoming blocked. The same applied to Mr. Sampson Handley's method. He had found that the silk strands used became permeated with young fibrous tissue. The value of the Talma-Morison operation was further enhanced by the opportunity it gave of exploring the abdomen, for by that means gummata might be discovered or papilliferous ovarian cysts. Exploration by laparotomy might throw an important light on such cases.

Dr. H. **MORLEY FLETCHER** said that the diagnosis was not perfectly clear even now, although that of polyserositis was highly probable. It was still uncertain whether it was usual to find a great amount of cirrhosis of the liver in such cases. He did not think that the heart was primarily at fault. What was the cause of the mediastino-pericarditis found? It was generally believed to be tuberculous, but might possibly be due to some other infection. The degree of cirrhosis was in advance of what one would expect to find.

Dr. B. H. **SPILSBURY** said that the post-mortem appearances were very unusual. The liver weighed 70 ounces and was in a very advanced state of cirrhosis. The capsule was greatly thickened. The cirrhosis was not uniformly distributed, but rather was suggestive of a late syphilitic cirrhosis. The fact that the cirrhosis was more pronounced on the superficial part of the organ suggested that it was due to nutmeg congestion. A careful examination of the deeper parts of the liver revealed congestion of the intralobular veins and fresh fibrosis taking place side by side. He concluded that it was an extremely rare form of replacement fibrosis, secondary to congestion. Possibly it was the remittance of the congestion which accounted for the unusual degree of replacement fibrosis in such cases. He had seen only five similar ones out of some hundreds of examples of ordinary nutmeg congestion.

Dr. **DE HAVILLAND HALL** briefly replied.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

Address on Insanity.

THE spring meeting of the South-Eastern division of this association was held on April 30th at Chiswick House, Chiswick, Dr. **JAMES CHAMBERS**, the President, being in the chair. The election took place of representatives on the general council of the association for 1914–15.

Dr. T. **SEYMOUR TUKE** read a communication giving interesting records of work done at Chiswick House since the transfer in 1893 of the licence (granted in 1845 to the late Dr. Harrington Tuke) from the Manor House, Chiswick. In a retrospect of these 21 years he expressed the view that the results of much extended knowledge of insanity and its pathology had not been as great as one might have expected. This was decidedly disappointing. Some 70 years ago and more his distinguished grandfather, Dr. Conolly, succeeded, with the help of other physicians, in convincing thoughtful people that insanity was a physical disease. The advantage to the community at large, and especially to the insane, of this education of the public could not be over-estimated. Then came a period of eagerness on the part of scientists to attain a more accurate knowledge of the pathology of insanity. As a result there were a constantly increasing number of post-mortem and laboratory observations. But the question now suggested itself, How much have these scientific investigations helped the practical physician who undertakes the treatment of the disease? Is the percentage of permanent cures of insanity in the United Kingdom as much higher now than it was 30 years ago as might be expected after so great an amount of research? Dr. Tuke enumerated some of the reasons why in his opinion successful treatment had not made a greater advance. Foremost among these he put the increasing selfishness of the age and the greater frequency with which the word "uncertifiable" was used in regard to cases which had really passed the "border-line," also the increasing dilatoriness on the part of general practitioners about signing certificates, even in cases in which there ought to be no hesitation. With regard to the latter, he was inclined to fear that much valuable time was often lost while waiting for the results of laboratory investigations. Such adjuncts to the means of diagnosis had an undoubted value; but while they were being collated days were passing in many cases during which therapeutic measures for the benefit of the patient might have been adopted that ought never to be delayed. Among these he specially referred to removal from unfavourable surroundings, and said that no drugs could ever supersede good air, wisely regulated exercise, freedom from unnecessary control (however well intentioned), and nursing by those accustomed to deal with the insane. He feared there was too much dependence at the present time on the hypodermic introduction of drugs and other forms of chemical restraint.

A short discussion followed, in which Sir GEORGE SAVAGE, Mr. JAMES STEWART, Mr. J. NOEL SERGEANT, and others took part.

A vote of thanks to Dr. Tuke terminated the proceedings.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—The last meeting of the session was held at the Leeds Infirmary on May 1st, Dr. T. Wardrop Griffith, the President, being in the chair.—Dr. R. G. M. Ladell read a paper entitled "Some Practical Points in Connexion with the Use of Therapeutic Suggestion." He said that therapeutic suggestion could be practised without actual hypnosis. Even where hypnosis was aimed at in nine out of ten cases the patient did not actually sleep, and it was a great mistake to let the patient think that sleep was a necessary preliminary to cure. Hysterical subjects were not good cases as they were already under the influence of their auto-suggestion. Neurotic cases, drug takers, and alcoholics were suitable cases for treatment. Neurasthenics required other treatment as well, but therapeutic suggestion was of great assistance. It was important that the patient should understand that the treatment differed widely from the popular idea of hypnotism as set forth in novels and plays. It strengthened the will power instead of sapping it, and the subject remained his own master all through. Suggestions must be adapted to the patient. With some patients one could be dogmatic; others required reasoned arguments. The effect was cumulative and could not be judged by a single sitting. Nothing should be done to any patient which was not done with the object of facilitating his cure. Experiments should only be performed on healthy subjects.—Dr. M. J. Stewart showed a series of microscopic preparations illustrating some of the conditions under which local deposits of cholesterin occur in the tissues, with remarks on the cellular reactions induced. The specimens shown included chronic mastitis, with rosette-like groups of giant cells arranged round bunches of the crystals; squamous epitheliomata with advanced cornification; teratomata of the testis; subacute cholecystitis; adeno-carcinoma ovarii papillare; fibro-xantho-sarcoma; and thyroid cyst. The most striking feature of the cellular reactions induced was the constant occurrence of large numbers of giant cells of the foreign-body type whenever the crystals were deposited in the midst of living vascular tissue.—Dr. G. W. Watson showed a case of Ulcerative Colitis which had made a striking improvement under treatment. The patient was a man, aged 40, who had been troubled with severe abdominal pain, associated with diarrhœa and the passage of bloody and mucous stools, for over a year. Cæcostomy had been performed in Newcastle with absolutely no benefit. When he came under observation three months ago emaciation was extreme, his weight being only about 7 st. He was treated with sterilised kaolin, and from the first week of administration he began to improve. At the present time he weighs over 12 st. and feels perfectly well.—Cases and specimens were also shown by Professor J. B. Hellier, Dr. W. Gough, Mr. J. A. Coupland, Mr. J. F. Dobson, Dr. R. A. Veale, Dr. T. Churton, Mr. S. W. Daw, Mr. E. R. Flint, Dr. C. W. Vining, and Dr. A. H. Miller.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this society was held on April 23rd, Dr. E. W. Hope, the President, being in the chair.—Dr. K. Grossmann, Dr. R. Stopford Taylor, and Dr. R. W. McKenna showed a case of Epithelioma of Eyelid Treated by Radium. The tumour grew painlessly for 12 months. Radium was applied for 500 hours in all, at first for seven hours daily, and then for four hours daily, with the result that the tumour disappeared and the condition of the eye became almost normal. The pre-auricular gland, which was enlarged when treatment was undertaken, gradually diminished.—Dr. John Campbell read a note on Five Cases of Osteitis Deformans. The father and four children were affected. No history of syphilis could be obtained, and there was no evidence of the same. The father, who was shown, presented the characteristic attitude and deformities. The pain was not severe; diarrhœa, weakness, and emaciation were progressive features. Palpitation and dyspnœa distressed him. There were no blood changes, and the Wassermann reaction was negative.—The President, Mr. G. P. Newbolt, Mr. K. Montsarrat, and Mr. R. W. Murray discussed the note; Dr. Campbell replied.—Dr. J. Murray Bligh read a paper on Infant Feeding. He began by giving a comprehensive review of the art of infant feeding in Roman, Tudor, Elizabethan, Stuart, and Victorian times. He showed that from the middle of the sixteenth century to the middle of the nineteenth century the professional wet nurse was the only alternative to maternal suckling. The advent of the bottle and artificial foods dated from the beginning of the nineteenth century. In his opinion the bottle was an invention of which Herod himself might be proud, and he held the view that the effect of artificial feeding on family life was only comparable with that of poverty and syphilis. Underwood's work was referred to as creating another epoch. Dr. Bligh deplored the waste of energy shown by brilliant investigators who devoted their time solely to the preparation of artificial foods and the sterilisation of milk rather than to the much more important problem of the increasing lack of power possessed by the woman of to-day to suckle her own infant. In his opinion the modern mother was censurable and abysmally ignorant. He concluded with the remark that the vocation of woman was the adequate fulfilment of her destiny.—The President drew attention to the fact that the infant of to-day was cared for on all sides and in all ways to a remarkable extent. He emphasised the value of the Notification of Births Act in dealing with the infants, and stated that it was the duty of all sanitarians to get the mother to do her duty.—Professor J. M. Beattie pointed out that the electric sterilisation of milk was to prevent certain diseases due to the consumption of unsterilised milk, and said that no one was a more ardent believer in maternal suckling than himself.—Dr. F. H. Barendt spoke as a family man, and referred to the old saying, "nine months in and nine months out."—Dr. N. P. Marsh regretted that the wet nurse had fallen into disrepute. In their order of merit he placed sterilisation of milk first and scalding of milk second. He upheld the value of percentage feeding, and regretted the costliness of this method. —Dr. Bligh replied.

A CORNISH CENTENARIAN.—Mrs. Hannah Bailey died at Falmouth on May 1st, aged 101 years. The deceased was born on August 7th, 1812.

CARAVAN CLUB.—The annual dinner of the Caravan Club of Great Britain and Ireland took place at the Café Monico on May 6th, the chair being taken by Major Alfred C. Tunstall, R.A.M.C. (T. retired). The secretary, Mr. Harris Stone, in proposing the toast of "The Road," referred to the accidental coincidence that May 6th was April 23rd (O.S.), St. George's Day, so that while they were feasting in London there were thousands of gipsies feasting in Eastern Europe, celebrating the arrival of spring and the resumption of nomad life after a comfortless winter within the walls of a house, who would invite every passer by to join in their feasting and festivities. Dr. T. N. Kelynack, in responding, dwelt upon the hygienic and economic advantages of the open-air life, which was on all fours with modern ideas as to the superiority of prevention over cure of disease, and he said that all in delicate health would do well to join the ranks of the caravanners, while incidentally they would escape part of the increasing burden of rates and taxes. He mentioned also the great public services which were rendered by Lady Aberdeen's caravans in Ireland and by those of the Women's Imperial Health Association. "The Caravan Club" was proposed by Mr. Wilfred Mark Webb and responded to by the Chairman. Commander Charles Eldred, R.N., proposed the toast of "The Visitors," which was responded to by Dr. Albert Wilson, who said that at present the nation was going to pieces "on its nerves," and he suggested caravanning as a remedy. In responding to the toast of his health Mr. Stone spoke of the services that the Caravan Club could render to the country in case of war, for he personally knew of an enormous amount of equipment which could be placed at the disposition of the army and the medical department.

Reviews and Notices of Books.

Defensive Ferments of the Animal Organism against Substances out of Harmony with the Body, the Blood Plasma, and the Cells; their Demonstration and their Diagnostic Significance for Testing the Functions of Different Organs.

By EMIL ABDERHALDEN, Director of the Physiological Institute of the University at Halle a.S. Third enlarged edition. With 11 text figures and 1 plate. English translation by J. GAVRONSKY, M.R.C.S. Eng., L.R.C.P. Lond., M.D. Halle; and W. F. LANCHESTER, M.A. London: John Bale, Sons, and Danielsson, Limited. 1914. Pp. 242. Price 7*s.* 6*d.* net.

IN our review of the second German edition of this work[1] we expressed the wish that the second edition might have as rapid a success as its predecessor. Our wish has been more than fulfilled. Now we have an English translation of the third German edition. It took less than three months to exhaust the second German edition—an indication that this new field of research has excited much interest. At the outset we desire to compliment the translators on the manner in which they have rendered into English the German text. For the words "fremd" and "eigen," as they are used in the original, it is difficult to find an exact equivalent, but we think the terms "harmony" and "disharmony" used by the translators fairly meet the conception of the author. We have only one suggestion to make: we could have wished that the text had been arranged in chapters, more especially as there is no index. On comparing this edition with the second German edition we find a few additions here and there. In the "Contents" three items have been added, but otherwise the text is much the same. There is a not inconsiderable addition to the bibliography. A review of the first edition will be found in THE LANCET of Jan. 4th, 1913, p. 39. The word "albumen" is sometimes used where "protein" might be preferable, and we are introduced to a new word, "decomposites," for "spaltproducten."

We have already dealt so fully with the two German editions that it now only remains to emphasise a few points. Having regard to the fact that blood plasma is unable, either in the majority of animals or in man, to produce decomposition of albumins, peptones, and polypeptones, or fats, and only in some instances of carbohydrates, the question arises whether the blood plasma exhibits new properties in cases in which substances are introduced, and which are out of harmony with the plasma and particularly with the body. The author's experiments prove conclusively that by introducing substances which are out of harmony with the species and with the plasma, the body defends itself by the production of specific "ferments" that are directed against special kinds of substrates. The ferments in the plasma persist for a long time after the introduction of disharmonious substances, whether they be products of proteins or of carbohydrates. The lymph is regarded as a "buffer"—a "neutral" zone—between the cells of the blood and those of the body. The application of these phenomena to the diagnosis of pregnancy—serodiagnosis—is now acknowledged. The animal organism, within certain limits, generally defends itself by means of ferments—e.g., proteolytic, pepsin, trypsin, erepsin—against compounds that are capable of decomposition and that consist of many elements. The application of these discoveries to pathology, to clinical medicine, and to the functions of organs is illustrated with regard to carcinoma, nephritis, and other diseases.

We feel sure that this translation will be welcomed by all who take an interest in a new biological problem of commanding scientific and practical interest.

International Clinics.

Twenty-third Series, 1913. Vols. I., II., III., and IV. London and Philadelphia: J. B. Lippincott Company. Vol. I., pp. 302; Vol. II., pp. 312; Vol. III., pp. 303; Vol. IV., pp. 312. Price 35*s.* net the four volumes.

VOL. I. of this series includes diagnosis and treatment, medicine, pædiatrics, surgery, obstetrics, electrotherapeutics, and a review of the progress of medicine during the year 1912. The volume opens with a well-written paper by Dr. George E. Malsbory on the treatment of poliomyelitis, including an opening section on the prevention of the spread of the disease, the question of the possibility of stomoxys calcitrans as an infective agent being considered. Stress is laid upon the necessity for keeping the upper respiratory tract clean, and if the temperature should rise high a hot bath gives much relief. Dr. Francis Reder provides an interesting note upon a sign of diagnostic value in obscure cases of chronic appendicitis. This sign is elicited by rectal palpation. If the finger be passed for some 3½ or 4 inches above the anus an aggregation of circular fibres known as O'Beirne's valve will be felt. When the finger has reached and recognised this and any pain felt by the patient owing to the presence of the finger has subsided, the finger is "gently pushed upward toward the right iliac fossa, when, in the event of an appendix lesion, the finger will touch a point beyond the valve that will cause great pain." Dr. Reder has verified the accuracy of the diagnostic worth of this sign in some 200 cases. We must, however, confess some scepticism as to the trustworthiness of this sign, and we consider a surgeon would be unwise who would decline to operate in the absence of it. A practical and useful paper is contributed by Dr. I. D. Steinhardt on the diagnosis and treatment of scarlet fever. Dr. Albert Abrams discusses the treatment of aneurysms by concussion of the seventh cervical spine, a method which he claims causes contraction of the dilated vessel. In other papers in Vols. II., III., and IV. he refers to this method as an aid to diagnosis, as a means of procuring cardiac contraction, and by a variant of the method—namely, percussion between the third and fourth dorsal spines—he claims to bring about a diminution in blood pressure. In the section on medicine Dr. James Walsh, so well known for his studies in mediæval medicine, reprints an amusing lecture on disease simulation which he delivered at the Fordham University School of Medicine. In the surgical section the most interesting paper is by Dr. J. Torrance Rugh, giving an account of Albee's method of bone-grafting in Pott's disease, with a report of ten cases in which Dr. Rugh performed the operation successfully. He recommends a longer period of support by braces of plaster-of-Paris—namely, eight months or more—after operation than did Albee, who allowed his patients to go without support in from three to six months, but this need for prolonged support with plaster-of-Paris must raise a doubt as to the efficacy of the bone grafts.

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[1] THE LANCET, Nov. 8th, 1913, p. 1325.

Vol. II. commences with two papers dealing with allied subjects by Dr. G. M. Illman and Dr. H. B. Hemenway respectively. The first is a simple account of the therapeutic indications for antitoxins, serums, and vaccines, while the second, entitled, "Principles of Therapy under Modern Biology," deals with, besides bacterial products, such remedies as atoxyl, lactic acid and its ferment, and the use of citric acid for promoting the fluidity of the blood. Dr. H. W. Frauenthal in a very practical paper gives an account of a system of treating infantile paralysis, lateral spinal curvature, and locomotor ataxy by exercises performed before a mirror, so that the patient can see what he is doing and concentrate his mind on exercising the necessary muscles to overcome the deformity or develop coördination. In infantile paralysis electricity is also used. Dr. A. Rose writes on the continuous warm water bath in tuberculosis and infectious diseases in general. Dr. Rose, who prefers to call tuberculosis by its Greek name of phymatiasis, draws attention to the well-known beneficial effects of the continuous bath in cases of chronic sepsis, such as may follow extensive burns. It benefits by removing septic products and by stimulating metabolism. He claims that it is also of great use in cases of tuberculosis, whether pulmonary or in the bones or joints. Dr. C. H. Browning and Dr. H. F. Watson, writing on paroxysmal hæmoglobinuria, quote six cases under their own care and sundry cases from the practice of others which, in their own words, "constitute a very strong basis for the opinion that syphilitic infection is practically invariably present in cases of paroxysmal hæmoglobinuria *a frigore*." In the section of surgery Dr. P. G. Skillern, jun., of the Philadelphia Hospital, publishes a most interesting account of a year's fracture work at the surgical dispensary of the University (Pennsylvania) Hospital. There were 299 cases of fracture treated during the year 1912, including six cases of fracture of the tarsal bones and three of fracture of the metatarsals. Of the tarsal cases three were of the os calcis, two of the astragalus, and one of the cuboid. In the obstetrical section Dr. J. Wesley Bovee gives his experience of the use of iodine in abdominal surgery. He uses a 3½ per cent. solution in 95 per cent. alcohol, and as a preliminary to opening the abdomen and peritoneal cavity for the treatment of affections of the pelvic structures he injects an ounce of this solution into the uterus. Sometimes the fluid escapes into the peritoneal cavity, but no harm is said to result. In the medico-legal section Dr. Gurney Williams, sometime district police surgeon of Philadelphia, publishes the first part of a paper upon rape in children and young girls. The second part appears in Vol. III., and the whole paper is full of practical points which will be useful to those practitioners who are brought into contact with this class of case.

Vol. III. leads off with two papers dealing with tropical medicine. The first, by Dr. C. F. Craig, of the United States Army Medical Corps, is a simply written account of the prophylaxis and treatment of malarial affections. In the second paper Dr. Baily K. Ashford, also of the United States Army Medical Corps, writes on uncinariasis founded on an experience of the disease at Porto Rico. The clinical features of the complaint alone are discussed. The drug found to give the best results was thymol, but in some cases where this was not well borne beta naphthol was substituted. Dr. Norman B. Gwyn writes upon the treatment of pneumonia as seen at the Philadelphia Hospital during the winter of 1912–13. The paper would have been of greater value if the varying treatments and results had been more clearly tabulated. The section on medicine is devoted to two papers by British surgeons—Mr. Peter Daniel and Mr. E. M. Corner—upon Gastro-intestinal Toxæmia. Mr. Daniel attacks Sir Arbuthnot Lane's views on intestinal stasis, while Mr. Corner recommends careful dieting, purgation, and the surgical removal of obstructions if there be any.

In Vol. IV. we note a paper by Dr. A. B. Hirsh, of Philadelphia, on Newer Methods in the Treatment of Neuritis, of which the chief are radiant light and heat combined with the static wave. Another interesting paper, dealing with static electrical treatment, is contributed by Dr. W. B. Snow, of New York. In the section on medicine Dr. F. Proescher writes upon filterable viruses, such as rabies, poliomyelitis, and variola, and the staining of micro-organisms found in them, which may or may not be the causative organism, by means of the thiazine group of dyes. In the neurological section Dr. Walsh has again an amusing paper upon neurotic discomfort and the law of avalanche, in which he lays stress upon the well-known but little appreciated fact that directly the composition of a quack remedy becomes known its popularity disappears.

Spezielle Pathologie und Therapie innerer Krankheiten.

Edited by FRIEDRICH KRAUS and THEODOR BRUGSCH. Lieferungen 17–24. Berlin: Urban und Schwarzenberg. 1913. Pp. 261–714. Price 2 marks each Lieferung.

THIS excellent text-book on special pathology and therapeutics of internal diseases continues to appear in parts at short intervals. The present instalment maintains the high standard already set. The articles contained in it embrace chapters on Varicella, Variola, and Vaccination, by Dr. E. Mairinger, of Vienna; on Epidemic Parotitis, by Professor J. Citron, of Berlin; and on Measles, German Measles, and Scarlet Fever, by Professor Bruno Salge, of Strasburg. Dr. H. Hetsch, of Hanover, deals with Anthrax. There are a good many illustrations, several in colour and of considerable excellence. We note that Professor Salge does not think that the existence of a "fourth disease," apart from mild scarlet fever and rötheln, is established. He points out also that the endocarditis which may accompany articular complications in scarlet fever is usually benign, but that it seems to have the effect of rendering any subsequent rheumatic valvular affection more severe. In regard to anthrax Dr. Hetsch expresses no definite opinion as to the advisability of operative interference in cutaneous cases, surgeons still holding contradictory views.

Dr. Hetsch also treats of glanders in both man and animals. He summarises the methods of diagnosis in order of importance, and he also is responsible for the articles on Foot and Mouth Disease and on Hydrophobia; in this latter is a coloured plate showing Negri's bodies. Dr. Plaut describes the Mycoses under the headings of moulds, blastomycetes, thrush, sporotrichoses, and streptotrichoses. This section is especially well treated. We cannot at the moment think of any work in which existing knowledge of this comparatively new subject is so ably summarised, both from a pathological and clinical aspect. The final section deals with Poliomyelitis, by Dr. Paul Römer. To each section is appended an extensive bibliography.

Although we have laid special stress on the section dealing with the diseases associated with fungi, we should add that the other sections are of the same standard. There are numerous illustrations, including coloured plates of the various diseases, drawings of fungi and coloured representations of cultures, which add to the value of the work as a whole.

Therapeutics of the Circulation.

By Sir LAUDER BRUNTON. Second edition. With 111 illustrations. London: John Murray. 1914. Pp. xxiv. + 536. Price 5s. net.

THE second edition of Sir Lauder Brunton's book on the therapeutics of diseases of the heart and blood-vessels contains a large amount of information, and illuminates many points in the physiology and pathology of heart disease that are not usually discussed in books dealing with this subject. Compared with the first edition, which was founded on eight lectures delivered in 1905, it shows evidence of rearrangement and much rewriting.

It contains 19 chapters, of which the first six deal, broadly speaking, with the physiology of the heart and circulation. Then follow nine chapters on the pathology and pharmacology of the diseases of the blood-vessels and heart. The last four chapters are devoted to treatment. There is an index most lavishly conceived and executed, and in addition an index of the authors quoted. The volume abounds in references to the literature, and gives a clear picture of modern views of cardio-vascular disease as they present themselves to a highly skilled and scientific clinician.

There can be few British medical men who are unacquainted with the author's *lucid* style and practical method of exposition. In this book they will find a sound and up-to-date account of the subject dealt with, and full descriptions of the various therapeutic measures employed in the relief of the symptoms of cardio-vascular disease. It may be cordially recommended to students and practitioners of medicine.

Handbuch der Vergleichenden Physiologie.

Herausgegeben von HANS WINTERSTEIN. 41. Lieferung. Band III. Physiologie des Energiewechsels. Zweite Hälfte. Seiten 947–1089, Titel und Inhalt. Jena: Gustav Fischer. 1914.

THIS part completes the story of the Physiology of Reproduction as set forth by E. Godlewski, of Cracow. It deals with heredity in its various aspects, Mendelism, experimental investigations to explain the observed phenomena, polyspermia, and chromosomes. The remainder of the text is taken up with the literature relating to reproduction, the index (which occupies more than 40 pages), and the list of contents.

MISCELLANEOUS VOLUMES.

OBITUARY notices of two surgeons who died during the past year, one a veteran and the other cut off before his prime, appear in the *St. Bartholomew's Hospital Reports*, Vol. XLIX., 1913. (London: Smith, Elder, and Co. 1914. Pp. 192 + 195. Price 6s. or 8s. 6d.) The sympathetic memoir of Mr. Alfred Willett, from the pen of a colleague whose initials are now as well known at Cambridge as they were at St. Bartholomew's, gives an interesting impression of the internal politics of the Royal College of Surgeons of England. Of Mr. R. B. Etherington-Smith there are two charming memoirs, which deal with different phases of his life; the second, written more particularly from the Cambridge point of view, supplementing the first, which is a touching estimate, by a senior colleague, of the irreparable loss sustained by St. Bartholomew's Hospital through the death of "the youngest and certainly the best-beloved of all our surgeons." The medical and surgical papers in this volume of the Reports are seven in number. Dr. A. F. S. Sladden describes a trial of some tests for pancreatic disease, principally Cammidge's test, Loewi's test, examinations of fæcal fat, and Kashiwado's test; Dr. T. H. G. Shore contributes a note on the blood in myelocytic leukæmia in relation to prognosis; Dr. Hugh Thursfield writes on acholuric jaundice and the operation of splenectomy; Mr. D'Arcy Power contributes a paper, read at Düsseldorf last October, on ulcerative colitis and its treatment by appendicostomy; and Mr. A. L. Moreton describes a case of post-orbital arterio-venous aneurysm successfully treated by ligature of the internal carotid artery by Mr. H. J. Waring. Dr. Garnet W. Twigg describes an investigation into pes cavus as an initial sign of nervous disease, with a short introductory note from Mr. R. C. Elmslie. Lastly, Dr. Haldin D. Davis recounts experiences in the skin department with neosalvarsan since September, 1912, briefly describing cases of special interest. Ninety doses were given during the 12 months under review, without accident or regrettable incident, and from a clinical standpoint the results were considered to be good. The Reports close with a descriptive list of pathological specimens added to the Museum and the customary statistical tables of the in-patients treated during 1912, compiled and analysed by the medical and surgical registrars.

In the *Transactions of the American Climatological Association*, 1913, Vol. XXIX. (Philadelphia: The Association. Pp. 357), to select only a few of the papers, Dr. Henry Sewall discusses the auscultatory determination of early pathological changes in the lungs, in which the importance and manner of distinguishing between intrinsically mural and purely visceral vibrations are respectively urged and described, Dr. G. W. Norris the anatomical causes for the differences in the physical signs over the upper lobes of the lungs, and Dr. Philip King Brown the early lesions of tuberculosis of the lungs; Dr. J. C. Wilson treats of blood spitting in heart disease; Dr. P. M. Carrington considers favourably the relations of the San Diego (California) region to renal diseases; Dr. Guy Hinsdale describes the mineral springs of America in their chemical, physical, and therapeutical characters; Dr. Robert H. Babcock inquires into the cause of bronchial asthma, and summarises our knowledge of the relation between asthma and nasal disease in the light of anaphylaxis; Dr. James M. Anders describes the rôle of physical exercise in the open in the prophylaxis of tuberculosis; Dr. Cleveland Floyd describes the methods, uses, and limitations of artificial pneumothorax in chronic pleuritic and pulmonary infections; and Dr. H. L. Barnes and Dr. F. T. Fulton report 17 far advanced and progressive cases of pulmonary tuberculosis thus treated, in which 12, or 70 per cent., had life prolonged. A year's observations of symptoms in cases of advanced tuberculosis in the Los Angeles County Hospital in connexion with weather conditions are detailed by Dr. C. C. Browning; Dr. W. C. White and Dr. Paul Shuey discuss the influence of smoke on acute and chronic lung infections; Dr. Judson Daland reports some clinical observations on blood pressure; and Dr. Joseph H. Pratt discusses the action of carbonic acid baths on blood pressure in cardiac disease; the effect of climatic changes on rheumatism and neuritis is dealt with by Dr. James Dudley Morgan. There are many other papers dealing with various subjects in internal medicine less intimately connected with climatology. The volume also contains memorials of the late Dr. C. T. Williams, Dr. R. G. Curtin, and Dr. E. L. Shurly.

Dr. CHARLES J. RYAN'S *Health Preservation in West Africa* (London: John Bale, Sons, and Danielsson, Limited. 1914. Pp. 96. Price 5s. net) is devoted mainly to the personal measures necessary for the preservation of health in West Africa, in four different colonies of which land the author has resided, but, as he himself states, much of what he has to say is applicable to tropical countries in general. It is quite true, as the author states in the preface, that some individuals survive, and even thrive, there who are regardless of care; but he very properly insists that this immunity is extremely rare indeed, and to argue that all can do what a few have done is contradicted by experience in every event of life. The book gives in Chapter I. a brief statement of the nature, causation, and characteristics of the principal tropical diseases encountered on the coast. In Chapter II. the necessary personal preventive measures are described. Chapter III. deals with camp sanitation, while Chapter IV. discusses the hygiene of diet, bathing, exercise, and so forth. Sir Ronald Ross, in an introduction, tells us that, while organised sanitary measures have been exceedingly efficacious, no inconsiderable part of the improvement in health that has taken place in recent years in West Africa is due to the work and advice of medical men, such as Dr. Ryan, "who have spared no effort to persuade Europeans there to do their best to protect themselves against the ever-present infections which caused such havoc among their predecessors," and he highly commends the contents of the book. Our survey of the book confirms Sir Ronald Ross's opinion. ——*Lessons in Elementary Tropical Hygiene, for the Use of Pupils in Tropical Schools*, by HENRY STRACHAN, C.M.G., L.R.C.P. Lond., &c. (London: Constable and Co., Limited. 1913. Pp. 116. Price 1*s.* net), treats in the simplest possible language of the most important diseases of hot climates, and instructs the children what they should do to avoid getting ill; there is also some elementary information as to air, water, food, and general sanitation. The pages on disease prevention are written very clearly, and are well adapted to a child's comprehension. They are also illustrated by numerous figures, though these are too small for use by children; probably they are reductions of diagrams. The latter part of the book is so highly compressed as to be difficult of assimilation by the youthful mind; it is probably meant to furnish a groundwork for oral teaching. The percentage composition of foods is hardly to be grasped by young children; and if the figures are given the protein constituents should not be called "nitrogen" (page 92).——In a handy little pocket book, *Indian Home Nursing* (Simla: St. John Ambulance Association. 1913. Pp. 194), Major R. J. BLACKHAM, C.I.E., R.A.M.C., has succeeded in compressing a very large amount of information, adapted to the syllabus of the St. John Ambulance Association. All the matters that are likely to come under the notice of the nurse are dealt with, and the directions are clear and concise. It may be safely recommended.——We noticed the issue of the same author's *Indian Manual of First Aid* in THE LANCET so recently as June 7th, 1913, and now we have before us the fifth edition (Calcutta: Thacker, Spink, and Co. 1914. Pp. 189). The exhaustion within a year of four editions says all that need be said as to the usefulness of the book. The present issue is increased in size by some 15 pages, and several new illustrations have been added. The book is now the official text-book of the Indian Branch of the St. John Ambulance Association, and will be the standard book for all ambulance competitions in India. An Urdu translation has been issued, and translations into other Indian vernaculars are nearly ready.

With the possibility or otherwise of successful invasion of England by Germany and the abstract side of the question of voluntary *versus* compulsory military service, as discussed in *A German Invasion* (London: P. S. King and Son. Pp. 52. Price 1*s.*), by Mr. HENRY SEWILL, M.R.C.S., we do not feel called on to deal; the last few pages, however, deal with social problems as affecting the subject, and the author expresses satisfaction with our condition as compared with that of other countries in regard to the falling death-rate and the reduction in infant mortality. He considers (in which many will not agree with him) that our educational system is proceeding on right lines, and that in the promotion of public health a most urgent factor is slum abolition, in which he will command more general assent, and he deplores the evil effects on the race that must follow a blind system of artificial selection by the voluntary limitation of families.

JOURNALS AND MAGAZINES.

Journal of Pathology and Bacteriology. (Official Organ of the Pathological Society of Great Britain and Ireland.) Vol. XVIII., No. 3. Published from the Department of Pathology, University of Cambridge. Price 7*s.* 6*d.*; yearly subscription £1 1*s.*—Stuart McDonald and W. T. Sewell contribute a note on Malakoplakia of the Bladder and Kidneys in a girl, aged 24, who suffered from renal symptoms, and in whom a perirenal abscess due to B. coli was found. After death there were found in the kidneys and bladder tumours of the type to which v. Hansemann has given the name of malakoplakia. This is the first recorded case in which the kidney has been affected, and the authors suggest that the condition is due to the presence of certain cell-rests of developmental origin, which have been stimulated to activity and have degenerated, possibly under the influence of B. coli.—In a paper on the Technique of Cultivating Adult Animal Tissues *in Vitro*, and the Characteristics of such Cultivations, A. J. Walton describes fully the Carrel technique of the cultivation of the spleen, thyroid, kidney, testicle, and liver of the adult rabbit. The cultivations were successful in practically all cases.—J. W. M'Nee records a number of experiments on hæmolytic icterus. He notes that, as the result of their experiments on the effect of AsH_3 on geese whose livers had been removed, Minkowski and Naunyn in 1886 came to the conclusion that the liver is essential for the production of jaundice, and that true hæmolytic jaundice cannot occur. M'Nee, repeating their experiments, concludes that while it is uncertain whether true hæmolytic icterus can occur, no marked jaundice occurs in geese as the result of the administration of AsH_3 after removal of the liver. This is due, he thinks, to the absence of the endothelial cells of v. Kupffer, which split off the iron part of the hæmoglobin molecule and set free the pigment portion. In dogs in whom jaundice has been produced by toluylendiamin the appearances presented by the endothelial cells of the liver are the same as those seen in geese poisoned by AsH_3. Allowing for the greater importance of the spleen in higher animals, the pathology of hæmolytic icterus is probably much the same in man and dogs as in geese.—W. Henwood Harvey describes a congenital fusiform aneurysm of the first part of the aorta in a young rabbit three months old.—Sheridan Delépine describes the arsenious acid-glycerin-gelatin (arsenious jelly) method of preserving and mounting pathological specimens so that they retain their natural colours, and the use of new forms of receptacles for keeping museum specimens, a method which he claims as superior to the Kaiserling potassium-acetate-glycerin method.—A. C. Houston, in a note on water storage and its advantages, replies to Myer Coplans' criticism of the storage method of water purification, contained in the *Journal of Pathology and Bacteriology*, Vol. XVII., p. 367.—Adam Patrick, in remarks on typhoid bacilluria, with a description of certain atypical coli-typhoid bacilli found in the urine in enteric fever, notes that in 6 out of 17 unselected cases of bacilluria occurring in enteric fever the bacilli present were not B. typhosus but atypical (somewhat unstable as regards their fermentative powers) members of a typhoid-coli group. In four out of the five cases where agglutination tests were performed, the bacilli were unaffected by stock antityphoid serum, but were clumped by the patient's serum.—E. E. Glynn, M. Powell, A. A. Rees, and G. L. Cox, in Observations upon the Standardisation of Bacterial Vaccines by the Wright, the Hæmocytometer, and the Plate Culture Methods, claim that the most scientific method of enumerating bacteria for vaccine purposes is by the use of some form of hæmocytometer chamber.[1] The ordinary chamber, 0·1 mm. deep, may be used, but one 0·02 mm. deep gives slightly better results; an optically plane cover-slip must be used, with a weak solution of carbol thionin as diluting and staining fluid. The results obtained are considerably more accurate than those given by the Wright method or than those obtained by the plate-culture methods. —R. A. Chisholm, in a paper on the Water Content of the Tissues in Experimental Nephritis, points out that acute and extensive necrosis of the renal tubules in the rat, whether produced by uranium nitrate, potassium bichromate, or potassium chromate, leads, when excess of Ringer's fluid is given intraperitoneally, to an excess of water in the kidneys, muscles, and subcutaneous tissues, and in these only, with the possible exception of the alimentary canal. He notes, too, that the presence of subcutaneous œdema is not a measure of the amount of water present in the muscles and subcutaneous tissues.—This number contains an obituary notice of Theodor Albrecht Edwin Klebs, and the Proceedings at the January meeting of the Pathological Society of Great Britain and Ireland.

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[1] THE LANCET, April 11th, 1914, p. 1023

British Journal of Inebriety.—The April number is mainly devoted to articles dealing with the treatment of the inebriate, and more particularly the male inebriate, from the point of view of institutional management. The Rev. S. Scobell Lessey, M.D., Chaplain-Superintendent of Abbotswood House, lays special stress on the value of religious influence as the most effective psychotherapeutic agency in the cure of intemperance. In the institution under his charge, where this influence is relied on to the practical exclusion of any other, he claims that from 50 to 60 per cent. of the cases which have passed through his hands have been permanently benefited. The application of this method presupposes, of course, the willing coöperation of the patient, and Dr. Lessey is very definitely of opinion that without such coöperation nothing can be done to cure inebriety. Amongst the practical difficulties which interfere with the successful management of inebriate homes Dr. Lessey especially notes the lack of means for dealing with refractory and undisciplined patients, and he expresses the hope that power may eventually be given to transfer such patients to a State institution with a more penal *régime*, as is done now in the case of drunkards committed to retreats under the provisions of the Act of 1898.—Mr. J. W. Astley Cooper supports Dr. Lessey's demand for larger penal powers for dealing with incorrigible and troublesome patients. and also demands that the present principle of ordering institutional treatment for specified periods should be abandoned in favour of a system of detention until cure. It hardly seems quite consistent with this view that Mr. Cooper should maintain, as he does, that the coöperation of the patient is one of the main principles on which the successful institutional treatment of inebriety must depend.—In contrast with the advocates of compulsory methods, Dr. Francis Hare describes the free system followed at the Norwood Sanatorium as avoiding some of the most serious difficulties met with in the management of patients under enforced detention; and Dr. H. Crichton Miller, in a brief but interesting paper, argues that the various methods proposed for treating the inebriate are fundamentally alike, though their advocates may not recognise the fact, in that they all aim at bringing about a readjustment of the psychic mechanisms underlying habit.

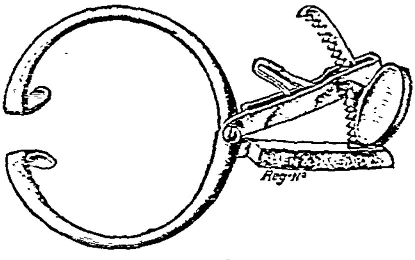
ROYAL STATISTICAL SOCIETY.—At an ordinary meeting of this society on Tuesday, May 19th, at 5 P.M., at the Surveyors' Institution, 12, Great George-street, S.W., a paper on Suggestions for Recording the Life History and Family Connexions of Every Individual will be read by Mr. Walter Hazell.

LITERARY INTELLIGENCE.—Messrs. J. and A. Churchill announce the publication of a new work on "Operative Surgery: the Head and Neck, the Thorax, and the Abdomen," by Edward H. Taylor, professor of surgery in the University of Dublin. All the illustrations, 300 in number, are from original drawings, many being in colours. The same firm also announce new editions of the "Practice of Medicine," by Frederick Taylor, M.D., F.R.C.P. (tenth edition, thoroughly revised, with many new illustrations and skiagrams); "A Manual of Bacteriology," by R. Tanner Hewlett, M.D., F.R.C.P., D.P.H. (fifth edition, with 69 illustrations); and "Elementary Practical Chemistry," Part II., by F. Clowes, D Sc. Lond., and J. Bernard Coleman, A.R C.Sc. Dub. (seventh edition).—Messrs. John Bale, Sons, and Danielsson, Limited, announce the forthcoming publication of "The Problem of the Nations: A Study in the Causes, Symptoms, and Effects of Sexual Disease, and the Education of the Individual Therein," by A. Corbett-Smith, M.A. Oxon., editor of the *Journal of State Medicine.*—Messrs. P. Blakiston's Son and Co., Philadelphia, announce the forthcoming publication of a practical work dealing with the ills engendered by the vocations and avocations of all classes of society. The book will be under the joint editorship of Dr. George M. Kober, of Washington, D C., and Dr. W. C. Hanson, of Boston, Mass. Among the contributors are Sir Thomas Oliver, Dr. T. M. Legge (London), Dr. Teleky (Vienna), Dr. Devoto (Milan), Dr. Edsall (Harvard), and Dr. Alice Hamilton (Chicago).

New Inventions.

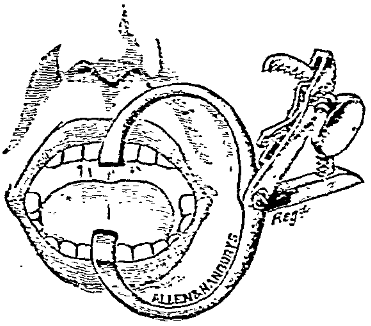
NEW MOUTH GAG.

THE accompanying illustrations show a mouth gag which is specially adapted for ear and throat surgeons and for the dental profession, but can be used in all cases where a gag is required. The improvements over existing ones are: (1) the limbs of the cheek portion are long, the joint being set well back—an essential in easy enucleation of the tonsils by Sluder's method; (2) the ratchet method of opening gives great force, with a gradual yet rapid opening of the mouth, a desideratum when operating without an anæsthetic: there is also less danger of breaking or extracting the teeth; (3) there are no projections, as the thumb piece which operates the ratchet is provided with a tumble joint, permitting it to lie flat against the cheek; and (4) the alveolar projection is at an acute angle so that it enters the mouth between the incisor teeth at right angles to them, giving the gag a firm hold with less tendency to slip than is usually the case.



The mouth gag.

My thanks are due to Messrs. Allen and Hanburys, Limited, of Wigmore-street, London, W., for the manner in which they have carried out my suggestions in the construction of the instrument.



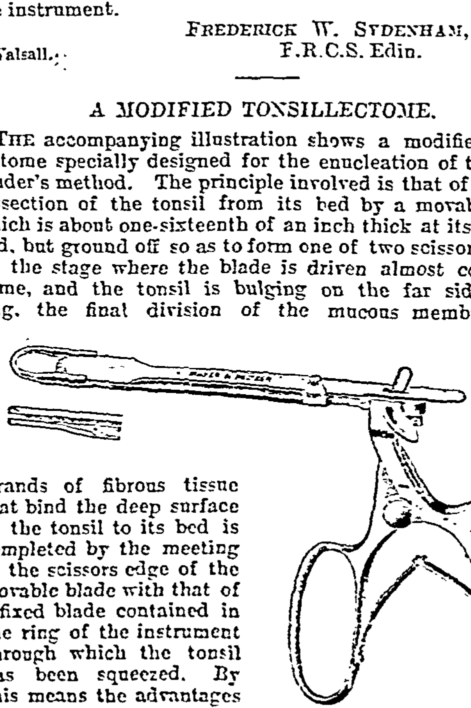
The mouth gag in use.

FREDERICK W. SYDENHAM, M.D.,
F.R.C.S. Edin.

Walsall.

A MODIFIED TONSILLECTOME.

THE accompanying illustration shows a modified tonsillectome specially designed for the enucleation of tonsils by Sluder's method. The principle involved is that of the *blunt* dissection of the tonsil from its bed by a movable blade which is about one-sixteenth of an inch thick at its tonsillar end, but ground off so as to form one of two scissors blades. At the stage where the blade is driven almost completely home, and the tonsil is bulging on the far side of the ring, the final division of the mucous membrane and strands of fibrous tissue that bind the deep surface of the tonsil to its bed is completed by the meeting of the scissors edge of the movable blade with that of a fixed blade contained in the ring of the instrument through which the tonsil has been squeezed. By this means the advantages of blunt dissection are preserved, yet cutting blades are provided at the very



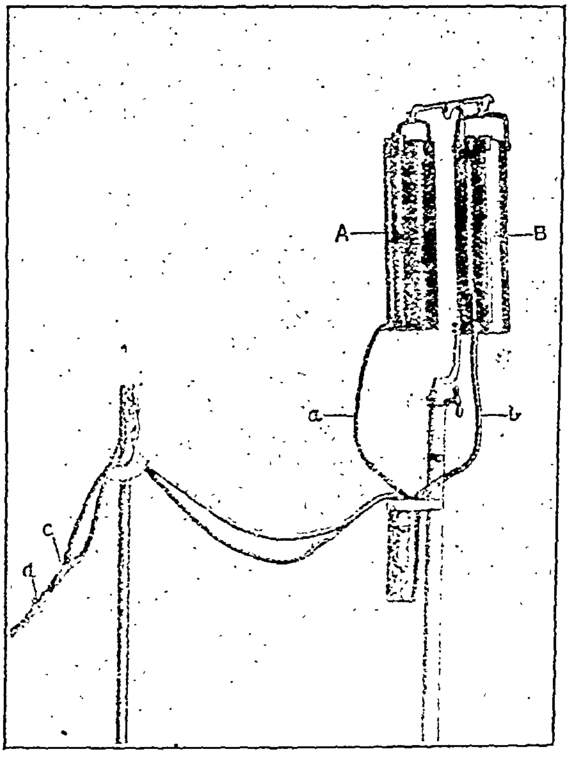
moment they are required, and the tonsil comes away at once in the instrument without any twisting and pulling whatever. The hæmorrhage is only slight, and this is probably explained by the fact that the vessels, being first stretched and then cut across by scissors blades, have their lumens occluded much in the same way that the bore of a rubber drainage tube is closed by cutting it with a pair of scissors. The blade portion comes apart readily into three pieces—the blade itself, the bed in which it travels, and the spring (which controls the blade, holds the tonsil after removal, and locks the parts together). It is thus easily cleaned and sterilised. This instrument, which I have used in a large number of cases with perfectly satisfactory results, can be fitted with a handle giving either the Heath or the Mackenzie position.

It has been made for me by Messrs. Mayer and Meltzer, of Great Portland-street, London, W.

Edinburgh. K. G. HEARNE, M.B. Edin.

A SIMPLE APPARATUS FOR SALINE INFUSION DURING HEDONAL ANÆSTHESIA.

THE following is a description of a modification of Page's well-known apparatus for administering hedonal to enable normal saline to be substituted for the hedonal solution during the operation with a minimum of trouble to anæsthetist and patient. To the hedonal stand is added a second cylinder of the Page type, labelled "Saline." This is fitted with tubing and glass dropper. It is attached to the hedonal system by a Y-shaped glass tube (*c*). From the common limb of the Y a single tube connects with the cannula, so serving to convey fluid from either cylinder into the vein. On this common tube is a two-way tap (*d*), with a side opening leading to the exterior. By adjusting the tap the stream from the cylinders may be temporarily diverted through this lateral opening. The object of this manœuvre will shortly be apparent. During the induction and early stages of anæsthesia the saline system is shut off by keeping the cylinder tap closed. When it is desired to substitute normal saline for the anæsthetic fluid the two-way tap (*d*) is adjusted so that the stream passes through the lateral opening, the hedonal cylinder tap is closed, and the saline cylinder tap is opened. By this means all the air previously present in the saline system is expelled through the lateral opening of the two-way tap. When this has been accomplished, this tap has only to be readjusted and the saline is now flowing through the cannula into the vein. Should the patient require more of the anæsthetic at any period of the operation the process is simply reversed.



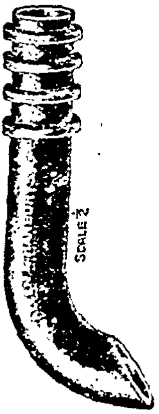
A, Hedonal cylinder. B, Saline cylinder. *a*, *b*, Tubing and glass dropper attachments. *c*, Y connexion. *d*, "Two-way" tap.

The accompanying figure illustrates the apparatus in use. It has been found very satisfactory in practice at Great Ormond-street, and has been made for me by the Holborn Surgical Instrument Company, Thavies Inn, Holborn-circus, London, E.C.

T. TWISTINGTON HIGGINS, M.B., B.Ch. Vict., F.R.C.S. Eng.

Hospital for Sick Children, Great Ormond-street.

A NEW COLOSTOMY TUBE.



A NOT uncommon result of the operation of colostomy performed either with or without the aid of a Paul's tube for cases of acute intestinal obstruction is that the colostomy fails to act for a period varying from a few hours to several days, and in a few cases may even fail to act at all. The various remedies—e.g., eserin, pituitary extract, &c.—commonly employed usually have little or no effect, and even the removal of the Paul's tube often yields the same negative result. Dilatation of the colostomy by means of a finger inserted into the bowel usually gives temporary relief, but in a certain number of cases the abdomen becomes more and more distended, the patient suffers increasing pain, and finally dies. This failure of the colostomy to act may to a small extent be due to paralysis of the distended intestine, but I think it is mainly due to an obstruction produced by a kinking of the bowel just as it leaves the abdominal cavity. To overcome this difficulty I have recently been using a curved colostomy tube which is introduced into the interior of the bowel, and when in position extends beyond the site of the kink and prevents any obstruction at that point. It is used in the following way. After the wound has been sutured and the projecting loop of intestine isolated by gauze, a purse-string suture is inserted into a portion of the intestinal wall and an opening made in the centre of bowel wall thus enclosed. The curved end of the tube is then inserted into the opening and pushed into the lumen of the proximal limb of the loop of intestine until the whole of the curved portion has passed through the abdominal wall. Care should be taken to rotate the tube so that the internal or proximal orifice faces the direction of the flow of intestinal contents. The purse-string suture is next tied tightly over one or more of the four flanges provided for the purpose, and a curved glass junction with rubber tubing is fixed to the outer or distal orifice of the tube. The rubber tubing can subsequently be led into a receptacle at the side of the bed. Gas and liquid fæces usually escape at once, but should this not occur, the introduction of two or three ounces of glycerine through the tube into the bowel will produce an evacuation of intestinal contents within a few minutes. The colostomy tube is removed about the fourth or fifth day when the purse-string suture sloughs out. The tube is made of rubber to minimise the possibility of pressure ulceration of the bowel within the abdominal cavity. The internal diameter measures half an inch, and is sufficiently large for the passage of the liquid contents of the intestine in cases of acute obstruction.

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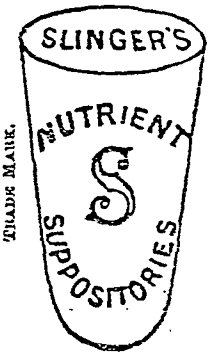

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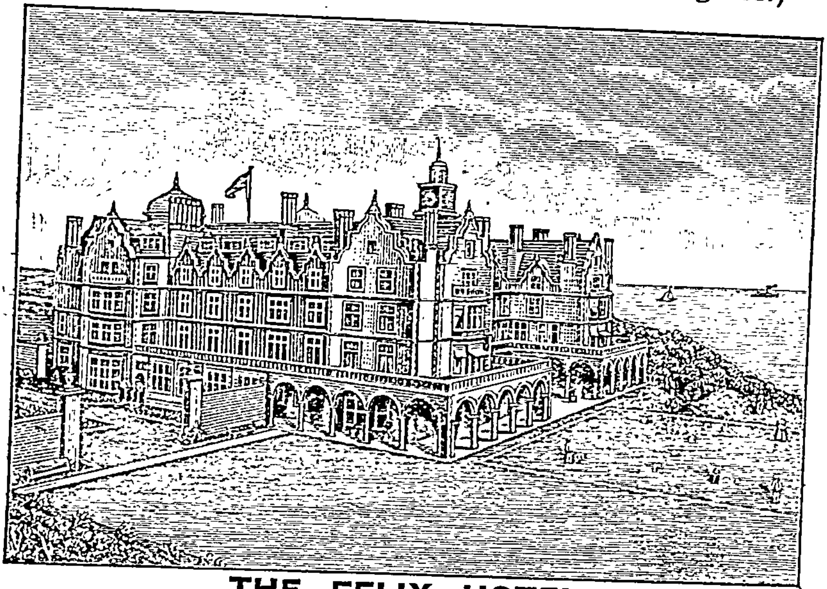

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THE LANCET.

LONDON: SATURDAY, MAY 16, 1914.

The Prevention and Treatment of Tuberculosis in London.

WE have received the report of an inquiry by the Charity Organisation Society in regard to the prevention and treatment of tuberculosis in London. After reference to the confusion which had resulted owing to action taken by several bodies directly interested in the matter, especially the Local Government Board, the London County Council, the London Insurance Committee, and the Metropolitan Asylums Board, a review is taken of the various factors which created the situation that had arisen when the inquiry was commenced. The foremost of these factors was the provision of treatment under the Insurance Act in cases of tuberculosis. The second factor, of scarcely less importance, was the Order of the Local Government Board of November, 1911; by this Order sanitary authorities were empowered to treat pulmonary tuberculosis in the houses of the patients, and were invited in a circular letter to form schemes with this object. The third factor was the publication of the Interim Report of the Departmental Committee on Tuberculosis in April, 1912, and of the Final Report in March, 1913. These were the three chief points in the position when the Charity Organisation Society decided upon its inquiry. After careful consideration it was arranged to take the report of the Departmental Committee as a basis, and to apply the test of their recommendations to the existing condition of affairs in London, in order to discover how far their proposals had been carried out, how far the present machinery rendered this possible, and what prospects there were that any defects discovered would be remedied.

The dispensary being the central feature of the recommendations of the Departmental Committee, visits were paid to dispensaries of different types now at work in London. An interesting account is given of the work carried out by these institutions, and then the position in London with regard to the provision of sanatoriums, hospitals, and other institutions in which tuberculosis can be treated is considered. An account is next given of the negotiations by public authorities which took place in 1912–13; the whole course of events illustrates in a remarkable way the dangers and difficulties involved by divided authority. Finally, the conclusions arrived at by the Charity Organisation Society as the result of the inquiries are recorded. This body has warmly supported from the first the adoption in London of what is now known as the dispensary system for the prevention and treatment of tuberculosis. The society has had long experience in dealing with tuberculosis among working people, and is convinced that no measure of attack upon the disease has any chance of success unless it begins and ends with the home. Unless the patient is followed there and both he and his surroundings are adequately dealt with, the provision of treatment in institutions or by other means is futile. We have repeatedly expressed the opinion that the eradication of tuberculosis is inextricably bound up with betterment of the housing of the working-classes. We must keep this in view, but unless suitable and practical instruction is afforded and supervision is supplied to see that that instruction is carried out, the value of sanatorium and hospital treatment will be very seriously diminished. It is the opinion of the Charity Organisation Society that in order to secure elasticity of working the dispensary should be a voluntary institution. Voluntary institutions certainly have great advantages over municipal ones, and we agree that the strongest argument against the latter, as at present conducted, arises from the circular of the Local Government Board of Dec. 6th, 1912. This circular states: "It is not, in the Board's view, desirable that the dispensary officer should undertake ordinary domiciliary treatment," and, further, "in the case of insured persons the cost of domiciliary treatment will be paid out of the funds of the Insurance Committee, in other cases by the patient or someone acting on his behalf." If uninsured persons are not satisfactorily treated in their own homes in the same manner as the assured, naturally the fight against the disease is materially weakened. The financial difficulty, however, at once arises. Whence are the funds for voluntary dispensaries to be derived? Subscriptions, and especially donations to the special hospitals, show a considerable falling off since the introduction of "sanatorium benefit." The taxpayer naturally objects to contribute both ways. But, on the other hand, there are difficulties in the opposite direction, which to some extent support the society's view. The local boroughs are already finding great difficulty in obtaining financial assistance from the Insurance Committee in order to pay the salaries of the medical officers attached to the municipal dispensaries, and their resources are considerably hampered thereby. The reason given for the refusal is, we are informed, that the duty of seeing the patients in their own homes falls upon the doctors on the panel. The committee seems to have lost sight of the fact that special experience is required, especially in regard to diagnosis and the examination of contacts, and we entirely agree with the point emphasised in the report that it is essential that the medical officer in charge of the dispensary should visit the homes of the patients, and naturally the Insurance Committee should contribute towards the salary of that officer.

With regard to dispensaries as departments of

Annotations.

"Ne quid nimis."

RECENT RESEARCHES ON YELLOW FEVER IN WEST AFRICA.

THE subject of yellow fever has of late attracted considerable attention, particularly in view of the possible danger of the extension of the infection after the opening of the Panama Ship Canal. The endemicity of the disease in certain defined areas is well known, and among those which specially concern this country is that part of the West African Coast situated between the French territory of Senegal on the north and the German Cameroons on the south. In this region are situated the four British colonies of the Gambia, Sierra Leone, the Gold Coast, and Southern Nigeria, from which the Colonial Office has been collecting information in a systematic way in recent years in order to throw light if possible upon the problems connected with this grave malady. Hitherto investigations concerning it have been hindered by the absence in many cases of any positive clinical symptoms, or definite post-mortem appearances in fatal cases whereby the presence of the disease could be demonstrated beyond a doubt. So long as no specific organism could be recognised, the diagnosis in disputed cases could not be settled satisfactorily. In view of the importance of the subject the Secretary of State appointed a small Commission of experts, of which Sir William Leishman and Sir Ronald Ross are members, to examine and study the evidence collected from our colonies and to advise as to the directions in which further investigations might usefully be made. Taking advantage, in 1913, of an outbreak of what seems to have been undoubtedly true yellow fever in Lagos and other places in Southern Nigeria, Dr. J. W. Scott Macfie and Dr. J. E. L. Johnston, of the West African Medical Staff, conducted a series of experiments and observations at the Institute for Medical Research at Yaba, near Lagos, and their results have now been published in the current number of the *Yellow Fever Bureau Bulletin*, Vol. III., No. 2.[1] These investigators carefully examined the blood of the persons attacked, and in practically every instance they found in the red corpuscles certain bodies indistinguishable from those described in 1909 by Dr. Harald Seidelin and discovered by him in the blood of yellow fever cases in Yucatan, to which he has given the name of paraplasma flavigenum. Experimental animals, such as guinea-pigs, dogs, and rats, were successfully inoculated in the Yaba Institute from human cases; and of 11 stray native dogs sent from Lagos for examination two were found to have the paraplasma "bodies" in their blood—instances, it is believed, of the infection naturally acquired. Guinea-pigs could be inoculated with success as late as the eighth day of the disease. In some human cases these yellow fever "bodies" were found in the circulation some days after the fever had subsided and when the patient to all appearances was convalescent. Dr. Macfie and Dr. Johnston believe that the paraplasma is the specific parasite of yellow fever and capable of infecting the stegomyia fasciata, the insect transmitter of the disease to man. Dr. Seidelin, we learn, has had an opportunity of examining some of the blood films from Lagos and has confirmed the presence in them of the paraplasma flavigenum. Before these results are accepted by the scientific world they will have to be repeated and confirmed by other competent experts, and should the experiments be repeated with success it is obvious that a very great advance will have taken place in our knowledge of the disease. It will then be possible to apply a bacteriological test in all doubtful cases; it will also be possible to study the life-history of the yellow fever parasite in its vertebrate and invertebrate hosts; moreover, the therapeutic value of remedies for the disease can then be properly studied. It was, we believe, Sir Patrick Manson who first suggested that the endemicity of the malady might be associated with the occurrence of the infection in one or another of the lower animals. Suspicion has been attached in Lagos to dogs and perhaps to rats in this capacity. In THE LANCET of April 25th Dr. Andrew Balfour suggested the possibility of a certain species of monkey in Trinidad acting there as a reservoir of the virus. It is possible that different animals in different localities may upon occasion foster the endemicity of yellow fever. In the same way in plague, for instance, the rat is responsible in India for keeping a locality infected, the tarabagan in Mongolia, the spermophile in the region between the rivers Volga and Ural, and the ground squirrel in California. No doubt the expert Commission appointed by the Colonial Office will without delay examine the evidence and make a pronouncement on the subject, and this will be anxiously awaited by all who are interested in yellow fever. We are aware that the validity of the claims of Dr. Seidelin to have discovered the parasite of this disease is emphatically rejected by some, in particular by Dr. A. Agramonte, of Cuba, who was a member of the famous commission appointed by the United States Government in 1900, and which did so much to throw light upon the disease and its prevention. Dr. G. C. Low, of the London School of Tropical Medicine, seems also to throw doubt upon the existence of the paraplasma flavigenum as a definite organism.[2]

HEALTHY MENINGITIS CARRIERS.

EPIDEMICS of cerebro-spinal meningitis occurred from 1875 to 1877 in Norway, and 704 cases of the disease with 247 deaths were reported. The town of Christiania escaped these visitations almost entirely; indeed, only 10 instances of cerebro-spinal meningitis occurred there between the years 1866 and 1910. In 1911 there were 8 cases; in 1912 an epidemic of 200 cases occurred, with 13 deaths. The cause of this visitation remained obscure; it was most severely felt in the most densely populated part of the town, and only in a few instances was there more than a single case of meningitis in a family. Twenty-four of the patients were less than 1 year old, and 83 were between 2 and 5 years of age. It was thought that the spread of the epidemic must be due to healthy carriers of the meningococcus. Accordingly steps were taken from the very beginning of the epidemic to obtain swabs of the pharyngeal mucus from members of the families in which cases of meningitis occurred, in the hope of discovering meningococcus carriers. Ustvedt and

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[1] See also Dr. Johnston's letter to THE LANCET of Dec. 6th, 1913, p. 1600.

[2] THE LANCET, May 9th, 1914, p. 1357.

Diesen[1] describe the way in which this work was carried out at the laboratory of the Board of Health in Christiania; in all, 797 examinations were made, but the meningococcus was found no more than four times. This result is in direct opposition to the observations made in Silesia and Western Germany during epidemics of cerebro-spinal meningitis, although, as the authors point out, many other observers have reported instances in which no carriers of the coccus have been found in families in which cases of meningitis were occurring.

CHOLECYSTITIS WITHOUT STONES OR JAUNDICE IN ITS RELATION TO CHRONIC PANCREATITIS.

IN the *American Journal of the Medical Sciences* for April Dr. William J. Mayo has published an important paper on cholecystitis without stones or jaundice in its relation to pancreatitis. As he points out, cholecystitis without stones is comparatively common, and of late has come into prominence. The types vary from the mild chronic catarrhal to those characterised by necrosis and perforation. Some uncertainty exists as to when chronic cholecystitis should be considered surgical. It is not infrequently associated with *chronic* appendicular infections, especially when accompanied by *stercoliths*. Whether the appendicular infection is the cause of the cholecystitis has not been determined, but it seems possible as bacterial or toxic products are carried in the portal veins to the liver and there destroyed or excreted in a modified form in the bile. The diagnosis of cholecystitis, even when stones are present, is *not easy*. With the palm an area may be covered which could be involved in pyloric or duodenal ulcer, disease of the gall-bladder, appendicitis, or affections of the right kidney and ureter. Chronic cholecystitis produces two types of gall-bladder: 1. The large, blue, distended gall-bladder which is not emptied by compression. The bile is thin and often fœtid from colon infection. 2. The thick-walled whitish gall-bladder, which is often adherent and usually contains thick and tarry bile with much mucus. In many cases the gall-bladder appears to be normal. As a rule enlarged glands along the common duct can readily be detected. In some cases enlargement of the lymphatics is the only sign that the gall-bladder is probably diseased. It may not be possible to determine the existence of cholecystitis until the gall-bladder is opened. Even then the diagnosis may remain doubtful until the gall-bladder or a portion of its mucous membrane is submitted to a pathologist. Fortunately the "strawberry gall-bladder," which shows *yellow* specks (the bases of villi denuded of epithelium and stained with bile), is one of the *most* frequent types. Here radical operations give as high a percentage of cures as in cases of gall-stones, or a higher percentage. But the milder degrees of cholecystitis do not give a high percentage of cures and should be considered medical rather than surgical cases. While cholecystotomy is an efficient procedure in gall-stone disease when the gall-bladder is normal and the ducts free, it is not satisfactory in cholecystitis. Cholecystectomy, Dr. Mayo holds, is largely indicated in gall-stone disease and in practically all cases of cholecystitis. If so much uncertainty exist with regard to infections of the gall-bladder, how much more must exist in infections of the pancreas. The sense of sight cannot aid, as in the examination of the mucosa of the gall-bladder. The diagnosis must be established by the sense of touch and a certain amount of "intuition." For many years Dr. Mayo has made it a practice to examine the entire contents of the abdomen with the gloved hand whenever it is opened for any purpose and the condition of the patient permits. He has been surprised to find how frequently the pancreas shows enlargement, induration, and nodulation, which would have justified a diagnosis of chronic pancreatitis if some disease of the biliary system had been the original lesion, but in which there were no symptoms whatever of pancreatic inflammation. In the routine of the Mayo Clinic several hundreds of stools have been examined in cases of chronic pancreatitis for signs of pancreatic insufficiency. These were rarely found either in cholecystitis or in cases of gall-stones. Hence statistics of the relative frequency of pancreatitis must be accepted with reserve. Yet that chronic pancreatitis does exist, and that it occurs most frequently in connexion with infections of the biliary tract is established. There is a group of cases of chronic cholecystitis without gall-stones or jaundice accompanied by chronic interlobar pancreatitis. There is neither dilation of the common duct nor distension of the gall-bladder. These cases are treated by drainage of the biliary tract, although there is no evidence of back pressure. The fact is disregarded that it is infection of the gall-bladder which has caused the disease of the pancreas, and that this infection probably will not be cured by drainage. In such cases Dr. Mayo holds that the gall-bladder should be removed if it shows evidence of chronic cholecystitis, especially of the "strawberry type." When he did cholecystotomy he found that the patients were relieved during drainage, but the symptoms returned when the fistula closed. Subsequent cholecystectomy cured the patients.

PURPURA VESICÆ AND SIMPLE ULCER OF THE BLADDER.

THE *Wiener Medizinische Wochenschrift* of March 28th is devoted almost entirely to urological subjects, and contains a number of papers by former pupils and assistants of Professor Anton Ritter v. Frisch in honour of the twenty-fifth anniversary of his appointment as chief of the urological section of the Vienna Polyclinic. Among these papers are some of considerable interest, giving the experience of the Viennese urologists in regard to vaccines and other methods of treatment. Dr. v. Blum contributes an interesting paper on simple ulcer of the bladder, in which an ingenious theory of its pathogenesis is propounded. He maintains that acute hæmorrhagic cystitis and simple ulcer of the bladder have not received the attention they merit, and he proposes to substitute the name of purpura vesicæ for the former of these as more truly indicating its nature. He states that for some years he has been familiar with a form of acute cystitis with the following features occurring both in men and women. Sometimes the onset is quite sudden, not infrequently as a sequel of some acute catarrh of a mucous membrane, such as coryza, influenza, or tonsillitis. There is usually a short febrile period, with dysuria, strangury, and severe frequency. The end of the act of micturition is painful and is associated with the passage of a few drops of blood-stained urine. The main part of the urine may be clear and apparently free from blood, but as a rule it contains a relatively high amount of albumin. In the sediment there are a few red blood corpuscles and large quantities of bladder epithelium. On bacteriological examination the urine may be sterile or it may contain bacillus coli communis, or streptococci and staphylococci. If the bladder be examined cystoscopically at this stage multiple hæmorrhages are found distributed over the whole of its inner surface. If no treatment has been carried out, the appearances alter in a few days and the hæmorrhagic areas develop into definite ulcers, at first covered with membrane and subsequently granulating. The hæmorrhagic cystitis has developed into a membranous and ulcerative cystitis. At this stage the urine becomes turbid, brownish-red in colour, and contains in the sediment erythrocytes, pus cells, bladder epithelium, and crystals. Dr. v. Blum maintains that if a solitary ulcer originating in this manner were seen it would be regarded as a simple ulcer of the bladder. If such an ulcer becomes chronic its edges become hard, prominent, and callous, and they may become encrusted with a phosphatic deposit. Purpura vesicæ appears to be more common at certain seasons—namely, the spring and autumn. The relationship between simple ulcer and hæmorrhagic lesions of the bladder was affirmed as long ago as 1901 by Le Fur, who also suggested an analogy between these vesical ulcers and ordinary gastric ulcer. Dr. v. Blum carries this analogy a stage further, since he suggests that the vesical ulcers are produced as a result of the digestive action of the urine upon the damaged areas of mucous membrane. It has long been known that the urine may contain definite amounts of ferments, particularly of pepsin, and Grober demonstrated that the latter was combined with hydrochloric acid. Dr. v. Blum claims in support of his theory the beneficial effects of keeping the urine alkaline in the treatment of chronic simple ulcer of the bladder. He asserts that this form of treatment, combined with local measures and with attempts to disinfect the urine, leads to rapid healing even in chronic ulceration, and also acts as a preventive in cases seen in the hæmorrhagic stages. The beneficial effect of the alkalies he explains as being due to their power of inactivating pepsin, and thus preventing its digestive action on the damaged areas.

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[1] Centralblatt für Bakteriologie und Parasitenkunde, Jena, 1914, Orig., lxxii.

FRACTURE OF THE CARPAL CUNEIFORM BONE.

Dr. W. P. Coues has described in the *Boston Medical and Surgical Journal* of April 9th a very rare form of fracture—isolated fracture of the carpal cuneiform bone. This injury contrasts with fracture of the scaphoid bone and dislocation of the semilunar bone, which have been described ever since the advent of the X rays. A woman, aged 23 years, while doing gymnastics—standing on the hands—turned too far, lost her balance, fell to the ground, and rolled over on her left hand, which was flat and extended on the ground. She immediately felt pain in the wrist and was unable to use the hand. She said that she also felt crepitus at the time. On the next day the hand was very lame and there was ecchymosis over the dorsum. She consulted a practitioner, who thought there was no fracture. Disability, felt most on rotation of the wrist and extension of the hand, persisted. At first the pain was constant, then it was felt only when attempting to do gymnastic work. She was seen by Dr. Coues about three months after the accident. Of late she had felt numbness in the hand and arm. On examination there was no obvious swelling or ecchymosis in the region of the cuneiform bone, but flexion and extension of the wrist were slightly painful there and active abduction was more painful. Forced passive abduction caused great pain. Rotation of the forearm caused pain in the region of the cuneiform bone and a little lower. Slight synovitis of the middle extensor tendon was present. When the patient picked up a weight or turned a door-handle pain was felt in the cuneiform region. Pressure over the cuneiform bone was very painful, but no crepitus was elicited. Lateral pressure across the wrist so as to make the pisiform bone press upon the cuneiform caused much pain. A skiagram showed an incomplete fracture of the cuneiform bone running from the ulnar side about half way across the bone obliquely. The hand was placed on a palmar splint and a pad and strapping were applied over the cuneiform bone. After a few days there was considerable relief, and then the improvement continued, but was slow. A radiogram taken after immobilisation for a month showed no bony union, though the pain and disability were less. Another radiogram taken ten days later showed considerable union. The splint was removed and the hand bandaged. Complete recovery ensued. The long period of immobilisation before union took place was evidently due to the length of time during which the patient had attempted to work with the fracture ununited.

THE CAUSE OF LANDRY'S PARALYSIS.

THE causal agent of Landry's paralysis has been the subject of numerous observations, and though much debated is still a matter of dispute. A fatal case of the disease is recorded in the *Berliner klinische Wochenschrift* of April 27th by Dr. Erich Leschke, together with some interesting experiments carried out to discover the organism causing the condition. The patient was a girl, aged 16 years, who was taken ill on Dec. 17th, 1913, with an acute ascending paralysis. About 14 days previously she had complained of a trivial cold. The paralysis commenced with slight weakness in the hands, and on the second day there was complete flaccid paralysis of both lower extremities. The patient was then seen by Dr. Alfred Saenger, of Hamburg, and transferred to a hospital in that city under his care. On Dec. 20th the paralysis had involved the buttocks and both arms, while the breathing was becoming increasingly difficult. Death occurred on Dec. 21st with paralysis of the vagal and vaso-motor centres. A necropsy was made 16 hours after death, and macroscopically no changes were found in any of the organs. On microscopical examination of the nervous system recent and severe changes were found in the ganglion cells, and more or less complete plasmolysis and chromatolysis of the cells of the anterior horns of the spinal cord. No inflammatory changes of any kind were found. In fresh teased preparations of the spinal cord and also in stained sections Dr. Leschke was able to demonstrate very fine bodies 0·1 to 0·2μ in size. They were for the most part intracellular, but were sometimes to be seen outside the cells. They could be stained in teased preparations with methylene-azure, Giemsa, or carbol-fuchsin. To demonstrate them in the sections Dr. Leschke employed the following method. The section was stained with concentrated carbol-fuchsin for about a minute and then carefully decolourised in a pale yellow solution of picric acid in absolute alcohol, until practically only the cell nuclei and red corpuscles remained coloured. On careful examination the "Landry bodies" could be seen as sharply defined red objects. Attempts to transmit the disease to rabbits and guinea-pigs were unsuccessful. Similar attempts with monkeys (Macacus rhesus) gave positive results. Portions of the fresh spinal cord removed at the necropsy were rubbed up with normal saline solution and injected intraspinally and intraperitoneally. The injection was made into one monkey on Dec. 22nd, 1913. It remained well until Dec. 31st, but died suddenly next night. In all Dr. Leschke succeeded five times in transmitting the disease to monkeys either from the spinal cord of the patient or from that of an infected monkey. The incubation period varied from 7 to 23 days. In two of the monkeys he was able to observe the course of the disease. They were attacked by an acute paralysis and lay quite flaccid, dying within a few hours of the onset. At the necropsy of these monkeys no gross changes could be found, but in all cases teased preparations showed the characteristic bodies in the ganglion cells or in their vicinity. Further observations showed that the Landry virus was a filter passer, that it was capable of cultivation, and that such cultures were capable of conveying the disease to monkeys. The cultures were obtained by Noguchi's method. Pieces of the spinal cord from the patient and from infected monkeys were inoculated into ascitic fluid and ascitic bouillon to which rabbit's or guinea-pig's kidney was added, under aerobic and anaerobic conditions. In the latter case some slight growth was apparent, but Dr. Leschke has not yet succeeded in obtaining a good progressive culture. His observations are of great interest, and should, if confirmed, go far to clear up the doubtful points in the etiolology and pathology of this obscure malady.

THE SERO-DIAGNOSIS OF CANCER.

THE work of Emil Abderhalden showed the presence of what he called "protective ferments" in the blood of animals, produced as a result of experimental stimuli and physiological and pathological conditions. A process taking place in the body which is, perhaps, harmful to the welfare of the individual, itself initiates or stimulates the production of antibodies whose effects are specifically directed to the removal of the deleterious agent. These antibodies occur in the blood serum; in relation to general infections they are familiar. But the far-seeing views of this distinguished scientist detected, as a result of his work on protein metabolism, an analogous mechanism in relation to metabolic changes the result of such effects as the growth of cancer and the onset of pregnancy. In other words, such processes initiate in the blood changes of essentially protective nature whose action is in many ways similar to that evoked by bacterial infection. But in one particular do the processes appear to differ. The protective substances are essentially digestive ferments and work on similar lines. The result of these observations has been to produce a test which has considerable value in the detection of cancer. In brief, it consists in testing the capacity of the blood serum of the suspected person to digest a given quantity of cancer protein. Strong powers of such digestion favour the diagnosis of malignancy: weak action negatives the probability. A series of cases has been tested in this manner by C. B. Ball, who records his results in a paper in the *Journal of the American Medical Association* (1914, Vol. LXII., p. 599). The cases are 51 in number. His results are certainly striking. The cases are classified into three groups. These, with the tests applied, showed the following figures. Positive tests, cancer; negative, no cancer:—

Cases.	Positive.	Negative.
Clinically malignant	7	0
Suspiciously ,, ...	20	8
Clinically non-malignant ...	4	12

The value of observations of this nature depends essentially upon the accuracy of the diagnosis and later confirmatory evidence. In this series care has been exercised. We are told that all the 20 positive suspicious cases were verified later as cancer either by Roentgen rays in 3, post-operative microscopy in 10, and definite subsequent history in 7. In the 8 negative suspicious cases there were two errors: one was a uterine tumour, but microscopic examination failed to show cancer tissue; the other proved to be a case of general miliary tuberculosis. In none of the other negative cases have suspicious signs developed. The four clinically non-malignant cases which gave positive reactions were all in pregnant women. In each of these cases the cancer tissue digested in the test was from a uterine growth. It has been found that pregnant serum may digest uterine tissue, and this helps to explain the divergence in the test from the rest, for in all the rest the cancer tissue was from other situations. Such a series of tests have considerable significance. There is the further possibility, suggested by allied observations to these serum reactions, that they may aid in roughly localising certain classes of tumour. It has been found that tumours of the genital tract may create a ferment capable of digesting ovarian, uterine, or placental tissues. Tumours from elsewhere in the body fail to do this. A positive reaction in such a case gives a probability of the site of the lesion. Extension of such responses may be anticipated, and it is thus suggested that there are grouped reactions, and that various sections of independent ferment-production seem to be governed by the difference of functional activity.

"THE FAMILY ENCYCLOPÆDIA OF MEDICINE."

WE are asked to give publicity to the following statement, which has been sent to us at the instance of the medical practitioners concerned:—"It will be recalled that the names of several professional men appeared in connexion with this work, and were advertised in such a way as to make it appear that these gentlemen were joint authors. The assistance was in fact gratuitous, and consisted in making corrections in the author's manuscript, and the use which was made of their names was without the knowledge or authority of the professional men concerned. The author has expressed his regret for this error, which caused the recognised rules of professional conduct to have been broken unwittingly, to the great regret of the gentlemen concerned. The author has undertaken that none of the names shall in future appear in connexion with this work, whether in book or part form. The publishers have likewise given their assent to this undertaking. It may be added, in explanation of the fact that the names reappeared in Parts 2 and 3, that these parts were already in print and Part 2 already distributed, and that the publishers did not see their way to reprint them. After fullest consideration of the question it was decided to seek the removal of the names by negotiation rather than by resorting to legal process."

A MEMORIAL TO DR. LUCAS-CHAMPIONNIÈRE.

A COMMITTEE has been formed to erect a monument to the memory of Dr. Just Lucas-Championnière. Knowing the admiration and sympathy of the English medical profession for their late illustrious colleague, the committee are convinced that his numerous friends in England would like to participate in this testimonial. A preliminary circular has been issued which states that the spontaneous demonstration of regret and admiration aroused by the death of Just Lucas-Championnière has manifested itself in a wish to erect a monument worthy of his memory. The committee, which includes a large number of his colleagues, pupils, and friends, has decided to open a fund, in which "those who knew the departed master, and who therefore must have loved him," are invited to participate. The composition of the committee is as follows:—President, Profesor Guyon; Vice-President, Professor Laveran; Secretary-General, Dr. Michon; Secretaries, Dr. Dagron and Dr. Le Marc-Hadour; Secretary-Treasurer, M. Georges Steinheil, who will receive subscriptions at his publishing house, 2, rue Casimir-Delavigne, Paris. We cordially endorse the committee's invitation to their colleagues in this country.

THE LOCATION OF THE TYPHOID BACILLI IN THE BODY OF THE CARRIER.

THE discovery of the typhoid carrier has raised new problems, not only in preventive medicine but also in the pathology of infection and immunity. Two interesting contributions that have just appeared in continental journals seem to carry us a little further into the heart of these unexplored territories. The first of these is a short note by Dr. E. Ebeling, published in the *Berliner Klinische Wochenschrift* for April 20th. In this is described the case of a woman who was infected with typhoid fever in 1900. From 1904 to the present time there have been cases of typhoid fever in her village or in neighbouring villages which have been traceable to milk or other foodstuffs supplied by her. These cases were 14 in number, and led to the infection of 18 others. Examinations of the stools and urine of the supposed carrier were, however, negative, until the lady's indiscrete boasting revealed the fact that the material which she had been sending for examination did not emanate from her at all. Her blood was accordingly taken and the Widal test applied, agglutination being secured with serum diluted 200 times. The chief point of interest in the case lies, however, in the fact that the typhoid bacillus was found in cultures made from the patient's blood, though she was apparently in perfect health at the time of the examination. The stools and urine also yielded cultures of the organism at this time. Five weeks later, however, the blood had become sterile, and the Widal reaction was less definitely positive. Another addition to our knowledge of these matters was contributed by Dr. Bela Purjesz in the *Wiener Klinische Wochenschrift* (No. 1, 1914). He studied a group of 20 cases, 15 of whom gave a positive and 5 a negative Widal reaction. In all these patients, or in most of them, cultures were made from the circulating blood, the stools, and the duodenal contents as recovered with an Einhorn tube. These examinations were made from one to four weeks after the temperature had become normal. The duodenal contents represent the immediate secretions of the gall-bladder, and were examined to see whether the bacilli might not be discoverable by this method in some of those cases in which examination of the stools was negative. The bacilli were found in the duodenal contents in 8 of 15 positive cases, but in only one of these was examination of the stools negative. As Dr. Purjesz points out, however, it is hardly fair to base conclusions on single examinations of a few cases, and he thinks that a wider application of the method might yield results that would show its possible value as a means of detecting the elusive carrier. But it is to be doubted whether the suspected person will regard the employment of the duodenal tube as an additional inducement to take a scientific interest in his own case.

THE CHINA MEDICAL MISSIONARY ASSOCIATION.

THE biennial meeting of the China Medical Missionary Association, which is the only body of qualified practitioners engaged in general medical work among the Chinese, will be held in Shanghai on Monday, Feb. 1st, 1915, and four following days. The undoubted success of the last meeting of the association held in Peking, when the President of the Chinese Republic officially welcomed the association, suggests that the forthcoming one will be equally well attended and profitable; it is estimated that at least a fourth of the 400 to 500 members will attend, and papers of a high order of merit are expected. Papers to be read will be printed as abstracts, thus allowing time for more discussion; they should be in the hands of the programme committee by Dec. 1st, 1914. All business communications as to exhibits and all inquiries should be addressed in the first instance to Dr. Arthur F. Cole, Ningpo, China.

WE learn from our New York *correspondent* that Dr. Theodore Janeway, of New York, has been appointed full-time professor of medicine in the Johns Hopkins University, Baltimore. We believe that this is the first appointment of a full-time professorship of medicine which has been made in any English-speaking country, and in view of the report of the Royal Commission on University Education in London the matter is of more than ordinary interest to the medical profession of this country.

THE next session of the General Medical Council will begin on Tuesday, May 26th, when the President, Sir Donald MacAlister, K.C.B., will take the chair at 2 P.M.

Lord Lamington has consented to become President of the Research Defence Society, in succession to the late Sir David Gill.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the thirty-third meeting of the Royal Commission on Venereal Diseases evidence was given by Sir Herbert Smalley, M.D., one of H.M. Commissioners of Prisons.

Sir Herbert Smalley stated that it was his firm impression, and also that of many of the senior medical officers of prisons, that venereal diseases were not so prevalent in prisons as was the case 30 years, and even 20 years, ago, and that, apart from the actual number suffering, the cases were now less severe in character than formerly. He was, however, inclined to think that the later stages of syphilis affecting the circulatory and nervous systems and the so-called parasyphilitic affections were more prevalent. Returns which had been obtained for the five months ending last March showed that rather under 2 per cent. of prisoners received into local prisons presented manifest symptoms of either gonorrhœa or syphilis. An analysis of the figures showed that the highest incidence occurred amongst prisoners committed from large towns, manufacturing or mining districts, and it was also observed that cases of venereal disease were disproportionately numerous in prisons receiving prisoners from seaport towns. He described the methods and precautions adopted with regard to cases of venereal diseases in prisons, and stated that the conditions existing seemed to warrant the assertion that the danger of infection from venereal disease in prison was practically *nil;* he had never known a single instance of such a case occurring.

Sir Herbert Smalley stated that the results of his recent inquiry indicated that about half of those received into prisons suffering from venereal disease were still in an infectious condition when discharged. This problem might be attacked either by detention, notification, or by the provision of facilities for treatment subsequent to discharge. The first alternative, he considered, was of doubtful expediency, and he was of opinion that any form of notification other than that which was made applicable to the whole community would be inadvisable. The idea of a prisoner being specially penalised or of his sentence being enhanced on account of venereal disease would, he thought, be strenuously resisted. He was not in favour of venereal disease being made notifiable generally throughout the community. The provision of facilities for treatment seemed to Sir Herbert Smalley to offer a more hopeful solution of the difficulty. It was necessary, he thought, that means should be provided throughout the country for treatment of venereal disease free of cost, readily accessible, and with attendance permissible in the evening so as not to interfere with the daily work of the patient. As far as possible these centres should be at general hospitals and dispensaries rather than at special hospitals or centres solely for the treatment of venereal diseases. If such centres were organised it would enable a prison doctor to give a discharged prisoner a ticket, the presentation of which at a centre would secure the patient a continuance of treatment. The fact of the patient being recently discharged from prison should be a confidential matter and should be made known at the treatment centre to as few persons as possible. With regard to convict prisons Sir Herbert Smalley stated that the results of some investigations he had made showed that out of 1755 male convicts in certain prisons 299, or 17 per cent., showed signs of having had syphilis. Of 941 inmates examined at Borstal Institution 153, or 16 per cent., gave evidence of congenital syphilis.

London School of Clinical Medicine: Instruction in Venereal Diseases.—A four weeks' course of instruction in the diagnosis and treatment of venereal diseases will be given at the London School of Clinical Medicine, Dreadnought Hospital, Greenwich, beginning on Monday, May 25th. The course is primarily intended to meet the requirements of medical officers in the Colonial Service, but is also open to other medical graduates. There are in the hospital 23 beds maintained for patients suffering from venereal disease.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 8938 births and 4896 deaths were registered during the week ended Saturday, May 9th. The annual rate of mortality in these towns, which had been 14·9, 15·1, and 14·2 per 1000 in the three preceding weeks, further declined to 14·1 per 1000 in the week under notice. During the first five weeks of the current quarter the mean annual death-rate in these towns averaged 14·7, against 13·8 per 1000 in London during the same period. Among the several towns the death-rate last week ranged from 4·9 in Aberdare, 6·2 in Walthamstow, 6·3 in Ilford, 6·4 in Hornsey, and 7·0 in Tottenham, to 19·8 in Ipswich, 20·2 in West Hartlepool, 20·6 in Middlesbrough and in South Shields, 21·8 in Southport, and 22·9 in Bury.

The 4896 deaths from all causes were 42 fewer than the number in the previous week, and included 436 which were referred to the principal epidemic diseases, against numbers rising from 433 to 453 in the four preceding weeks. Of these 436 deaths, 146 resulted from measles, 146 from whooping-cough, 59 from infantile diarrhœal diseases, 44 from diphtheria, 27 from scarlet fever, 13 from enteric fever, and 1 from small-pox. The mean annual death-rate from these diseases last week was equal to 1·3 per 1000, and coincided with that recorded in each of the three preceding weeks. The deaths attributed to measles, which had been 153, 140, and 155 in the three preceding weeks, fell to 146 last week, and caused the highest annual death-rates of 1·3 in Manchester and in Preston, 1·4 in Sheffield, 1·6 in Middlesbrough, 2·1 in Nottingham, and 4·4 in Stockton-on-Tees. The deaths referred to whooping-cough, which had been 117, 166, and 139 in the three preceding weeks, rose to 146 last week; the highest death-rates from this cause were 1·3 in Gateshead and in Swansea, 1·4 in Sunderland, 1·6 in Middlesbrough, 1·7 in Rochdale, and 2·0 in Carlisle. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 61, 66, and 59 in the three preceding weeks, were again 59 last week; of this number 12 were recorded in London, 4 in Liverpool, and 3 each in Birkenhead, Sheffield, and Middlesbrough. The deaths attributed to diphtheria, which had been 50, 40, and 50 in the three preceding weeks, declined to 44 last week, and included 13 in London, 4 in Birmingham, 3 in Bolton, and 2 each in Wolverhampton, Manchester, and Sheffield. The deaths referred to scarlet fever, which had been 40, 23, and 35 in the three preceding weeks, fell to 27 last week, of which 6 occurred in London, 5 in Birmingham, 3 in Manchester, and 2 each in Liverpool, Oldham, Sheffield, and Middlesbrough. The fatal cases of enteric fever, which had been 17, 10, and 15 in the three preceding weeks, fell to 13 last week, and included 3 in Manchester, 2 in London, and 2 in Wakefield. The death from small-pox belonged to Dewsbury.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had declined from 3182 to 2876 in the five preceding weeks, had increased to 2901 on Saturday last; 398 new cases were admitted during the week, against 289, 305, and 377 in the three preceding weeks. These hospitals also contained on Saturday last 1126 cases of diphtheria, 344 of whooping-cough, 105 of measles, and 48 of enteric fever, but not one of small-pox. The 1197 deaths from all causes in London were 81 in excess of the number in the previous week, and corresponded to an annual rate of 13·8 per 1000. The deaths referred to diseases of the respiratory system, which had been 263, 258, and 185 in the three preceding weeks, rose to 221 last week, but were 35 below the number registered in the corresponding week of last year.

Of the 4896 deaths from all causes in the 97 towns, 165 resulted from different forms of violence, and 375 were the subject of coroners' inquests, while 1388 occurred in public institutions. The causes of 48, or 1·0 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Sheffield, Leeds, Bristol, Bradford, Hull, Newcastle-on-Tyne, and in 67 other smaller towns. Of the 48 uncertified causes of death, 10 were registered in Liverpool, 9 in Birmingham, 3 in Southend-on-Sea, and 2 each in Reading, Stoke-on-Trent, St. Helens, Bury, Gateshead, and Swansea.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1250 births and 713 deaths were registered during the week ended Saturday, May 9th. The annual rate of mortality in these towns, which had been 16·0, 16·9, and 15·2 per 1000 in the three preceding weeks, rose to 16·2 per 1000 in the week under review. During the first five weeks of the current quarter the mean annual death-rate in these towns averaged 16·2, against a corresponding rate of 14·7 per 1000 in the 97 large English towns. Among the several towns the death-rate last week ranged from 7·9 in Ayr, 11·7 in Clydebank, and 12·3 in Perth, to 19·4 in Greenock, 20·0 in Paisley, and 21·8 in Coatbridge.

The 713 deaths from all causes were 44 in excess of the number in the previous week, and included 64 which were referred to the principal epidemic diseases, against 71 and 61 in the two preceding weeks. Of these 64 deaths, 31 resulted from measles, 17 from whooping-cough, 7 from diphtheria, 4 from infantile diarrhœal diseases, 4 from scarlet fever, and 1 enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·5, against 1·3 per 1000 in the 97 large English towns. The deaths attributed to measles, which had been 20, 29, and 19 in the three preceding weeks, rose to 31 last week, of which 19 occurred in Glasgow, 4 in Edinburgh, 3 in Hamilton, and 2 in Dundee. The deaths referred to whooping-cough, which had been 11, 9, and 13 in the three preceding weeks, further rose to 17 last week, and included 10 in Glasgow and 3 in Coatbridge. The 7 fatal cases of diphtheria were equal to the average in the four preceding weeks, and comprised 3 in Glasgow, 2 in Aberdeen, and 2 in Kirkcaldy. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 13, 18, and 17 in the three preceding weeks, declined to 4 last week, of which 3 were recorded in Glasgow and 1 in Dundee. The 4 deaths referred to scarlet fever were slightly below the average for the four preceding weeks, and included 2 in Aberdeen. The fatal case of enteric fever was registered in Glasgow.

The deaths referred to diseases of the respiratory system, which had been 120, 130, and 90 in the three preceding weeks, rose to 116 in the week under notice; and 16 deaths resulted from various forms of violence, against 31 and 28 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 661 births and 431 deaths were registered during the week ended Saturday, May 9th. The annual rate of mortality in these towns, which had been 22·5, 25·3, and 20·6 per 1000 in the three preceding weeks, further declined to 18·6 per 1000 in the week under review. During the first five weeks of the current quarter the mean annual death-rate in these towns averaged 21·5 per 1000; in the 97 large English towns the corresponding rate did not exceed 14·7, while in the 16 Scotch towns it was equal to 16·2 per 1000. The annual death-rate last week was equal to 21·7 in Dublin (against 13·8 in London and 15·7 in Glasgow), 15·2 in Belfast, 19·7 in Cork, 12·7 in Londonderry, 19·0 in Limerick, and 26·6 in Waterford, while in the 21 smaller towns the mean rate rose to 19·0 per 1000.

The 431 deaths from all causes were 46 fewer than the number in the previous week, and included 47 which were referred to the principal epidemic diseases, against numbers declining from 75 to 63 in the three preceding weeks. Of these 47 deaths, 30 resulted from measles, 9 from whooping-cough, 3 from diphtheria, 3 from infantile diarrhœal diseases, and 2 from scarlet fever, but not one from enteric fever or small-pox. The mean annual death-rate from these diseases last week was equal to 2·0, against corresponding rates of 1·3 and 1·5 in the English and Scotch towns respectively. The deaths attributed to measles, which had been 42, 37, and 45 in the three preceding weeks, fell to 30 last week, and comprised 29 in Dublin and 1 in Belfast. The deaths referred to whooping-cough, which had been 14, 12, and 9 in the three preceding weeks, were again 9 last week, and included 3 in Cork, 3 in Belfast, and 2 in Dublin. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 10, 7, and 8 in the three preceding weeks, fell to 3 last week, of which 2 were recorded in Waterford and 1 in Dublin. The 3 deaths attributed to diphtheria, comprising 2 in Dublin and 1 in Belfast, were slightly in excess of the average in the four preceding weeks. The 2 fatal cases of scarlet fever occurred in Dublin.

The deaths referred to diseases of the respiratory system, which had been 115, 112, and 87 in the three preceding weeks, further declined to 74 in the week under notice. Of the 431 deaths from all causes, 121, or 28 per cent., occurred in public institutions and 4 resulted from various forms of violence. The causes of 17, or 3·9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes did not exceed 1·0 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Staff-Surgeons: L. L. Greig to Royal Marine Depôt, Deal; W. Bastian to the *Columbine*, additional, for service at Cromarty; W. R. Harrison to the *Amethyst*; A. H. S. Richardson to the *Topaze*, on completing; H. A. Browning to the *Research*, and G. C. Cross to the *Endeavour*. Surgeons: A. R. Sharrod to the *Hibernia*; H. E. Y. White to the *Commonwealth*; G. B. Scott to the *Cumberland*, on recommissioning; J. S. Elliott, A. J. Tonkinson, and J. R. Haldane to the *Victory*; G. S. Harvey and H. C. A. T. Cannon to the *Vivid*; W. H. Murray, G. H. Hayes, and H. J. Hopps to the *Pembroke*, additional, for disposal; T. J. KilBride to the *Leander*; P. B. Wallis to the *Vernon*, additional, for the *Niger*; J. P. Blockley to the *Triton*; and R. A. Rankine to the *Ganges*, additional, for Shotley Sick Quarters.

In accordance with the provisions of Order in Council of April 1st, 1881, Fleet-Surgeon Frank Bradshaw has been placed on the Retired List at his own request (dated April 9th, 1914).

ARMY MEDICAL SERVICE.

Major Harold P. W. Barrow, Royal Army Medical Corps, to be a Deputy Assistant Director-General at the War Office, vice Lieutenant-Colonel B. H. Scott (dated May 1st, 1914).

ROYAL ARMY MEDICAL CORPS.

Colonel F. Butt has been selected for appointment as Deputy Assistant Director of Medical Services to the Second London Division. Colonel R. Kirkpatrick, C.M.G., has been appointed Assistant Director of Medical Services to the Presidency Brigade at Calcutta. Colonel H. J. Barratt has taken up duty at Bareilly Cantonment.

Lieutenant-Colonel J. H. Daly has taken up duty in the Belfast District as Senior Medical Officer of the North Irish Coast Defences. Lieutenant-Colonel R. H. Hall has arrived home for duty from Bermuda. Lieutenant-Colonel J. C. Connor has been appointed to the Irish Command. Lieutenant-Colonel W. Turner has been appointed Deputy Assistant Director of Medical Services to the Welsh Division. Lieutenant-Colonel S. Guise-Moores has been transferred to the Colchester District from Aldershot. Lieutenant-Colonel H. C. Thurston, C.M.G., has been appointed to the Aldershot Command. Lieutenant-Colonel C. W. H. Whitestone has been appointed to hold charge of the Military Hospital at Hilsea. Lieutenant-Colonel H. I. Pocock has been transferred from Murree to Campbellpore Cantonment. Lieutenant-Colonel H. E. Winter has embarked for India. Lieutenant-Colonel C. Dalton has taken up duty at Aldershot.

Major A. E. Hamerton, D.S.O., has been appointed to the Eastern Command. Major F. E. Gunter has been appointed Assistant Surgeon to the Royal Military College at Camberley. Major J. G. Gill has arrived home for duty from India. Major W. J. Crawford has been appointed to the Southern Command. Major J. M. Cuthbert has been appointed to hold medical charge of the Headquarters Staff and Departments in the Scottish Command. Major E. W. Bliss has been transferred from the Eastern Command to the Scottish Command. Major J. C. B. Statham has been appointed to the London District. Major E. F. L'Estrange has been appointed to the Belfast District. Major J. B. Clarke has been placed under orders for service in North China. Major E. T. Inkson, V.C., has been appointed to the Military Hospital at Exeter. Major D. Lawson has been appointed Senior Medical Officer at Mauritius. Major S. O. Hall has been appointed Specialist in Midwifery and Diseases of Women and Children to the Burma Division. Major G. M. Goldsmith has been appointed to the Dublin District. Major G. J. Houghton has arrived home for duty from the Sierra Leone Protectorate. Major A. G. Thompson has been appointed to the Southern Command. Major M. H. G. Fell has been appointed Deputy Assistant Director of Medical Services to the Aldershot Command.

Captain A. S. Arthur has been appointed to the Military Hospital at Pembroke Dock. Captain H. J. Crossley has taken up duty at the Military Hospital, Meerut Cantonment, as Specialist in Advanced Operative Surgery. Captain E. D. Caddell has been transferred from the Irish to the Eastern Command. Captain S. Field has been appointed to the Irish Command. Captain H. O. M. Beadnell has taken up duty at the Military Hospital, Tidworth. Captain J. B. Hanafin has been appointed Specialist in Electrical Science and Radiography to the Third (Lahore) Division. Captain C. H. Denyer has been appointed to the Southern Command. Captain D. de C. O'Grady has been appointed to the Eastern Command. Captain E. C. Phelan has been appointed to the Belfast District. Captain T. S. Blackwell has joined the Colchester District. Captain F. M. Hewson has been appointed to hold charge of the Followers and Cantonment Hospitals at Karachi

Captain P. A. Lloyd Jones has been appointed Specialist in Ophthalmology to the Military Hospital at Aldershot. Captain J. W. Houston has been appointed Deputy Assistant Director of Medical Services for Sanitation to the First (Peshawar) Division. Captain E. C. Lambkin has taken up duty at Hong-Kong. Captain M. Leckie has joined the Southern Command. Captain R. R. Lewis has been appointed to hold charge of the Military Hospital at Port Lokkoh, West Africa. Captain R. E. Humfrey has been transferred from Ireland to India. Captain W. Mitchell has arrived home from India. Captain E. L. Fyffe has been appointed to hold charge of the Cantonment General Hospital and Followers Hospital at Poona. Captain F. W. W. Dawson has been appointed Specialist in the Prevention of Disease to the Jullundur Brigade and placed in charge of the Bacteriological Research Laboratory at Headquarters. Captain J. G. Bell has taken up duty at the Military Hospital, Singapore. Captain H. H. A. Emerson has been appointed Adjutant to the Royal Army Medical Corps School of Instruction at Leicester. Captain J. R. Foster has been appointed to hold medical charge at Kilbride Camp. Captain C. H. Harold has been appointed to hold charge of the Northern Army Bacteriological Laboratory at Ambala Cantonment. Captain A. C. Elliott has taken up duty in the Eastern Command. Captain B. A. Odlum has been appointed to the Military Hospital at Bloemfontein. Captain W. K. Beaman has joined the Northern Command. Captain D. B. McGrigor has been transferred from the Military Hospital at Ranikhet to Agra Cantonment. Captain F. Casement has arrived home from India. Captain T. H. Scott has been appointed to Bradford.

Lieutenant W. L. Webster has been transferred from the Military Hospital at Limerick to Egypt. Lieutenant J. Hare has taken up duty at Enniskillen, on transfer from the Military Hospital at Belfast. Lieutenant E. A. Strachan has been appointed to the Military Hospital at Lucknow Cantonment. Lieutenant H. F. Panton has embarked for India. Lieutenant P. M. J. Power has been transferred from the Military Hospital at Cosham to Winchester. Lieutenant A. G. Brown has been appointed to the Military Hospital at the Curragh Camp.

INDIAN MEDICAL SERVICE.

Surgeon-General W. B. Bannerman, C.S.I., chief medical officer to the Government of Madras Presidency, has been appointed Honorary Physician to His Majesty the King.

Colonel H. E. Banatvala has been appointed to officiate as Inspector-General of Civil Hospitals in the Central Provinces.

Lieutenant-Colonel J. Jones has joined at Bombay. Lieutenant-Colonel S. Browning-Smith, officiating Sanitary Commissioner to the Government of the Punjab, has been granted 18 months' combined leave of absence home from India. Lieutenant-Colonel C. H. James, C.I.E., has been appointed to officiate as Civil Surgeon at Simla East during the absence on leave of Lieutenant-Colonel H. A. Smith. Lieutenant-Colonel A. C. Younan has taken over medical charge of the 25th Punjabis. Lieutenant-Colonel E. Hasell-Wright has been appointed District Medical and Sanitary Officer and Superintendent of the Medical School at Tanjore.

Major J. W. F. Rait has taken over charge of the jail at Hooghly from Captain A. H. Proctor. Major E. E. Waters has been appointed to officiate as Superintendent of the jail at Howrah, vice Lieutenant-Colonel A. H. Nott. Major T. A. Grainger has been selected for advancement to the rank of Brevet Lieutenant-Colonel. Major H. M. MacKenzie has been appointed to officiate as Professor of Pathology at the Government Medical College, Lahore, vice Major W. H. C. Forster. Major H. Innes has arrived home on leave of absence. Major E. C. MacLeod has been appointed to officiate as Inspector-General of Civil Hospitals and Prisons to the Government of Assam. Major W. Selby, D.S.O., has been appointed Professor of Surgery to the King George Medical College at Lucknow. Major W. D. Hayward has been appointed to officiate as Medical Storekeeper at Madras. Major R. H. Price has taken up duty at Kohat.

Captain C. L. Dunn, Deputy Sanitary Commissioner in the United Provinces of Agra and Oudh, has been granted eight months' leave of absence home from India on medical certificate. Captain H. P. Cook has been appointed for special duty in connexion with plague prevention at Fyzabad. Captain C. H. Cross has been appointed for a course of training in the Chemical Examiner's Laboratory in Madras. Captain G. McGregor-Millar has been appointed to hold substantive medical charge of the 55th Sikhs. Captain F. Salisbury has joined at Dacca. Captain J. F. Boyd has been appointed Plague Medical Officer at Ballia on transfer from Bareilly. Captain J. F. James has been appointed to officiate as Civil Surgeon at Sibsagar, Assam. Captain H. H. Thorburn has been appointed to officiate as Civil Surgeon at Meshed and Assistant to the Consul-General at Kerman. Captain A. M. Dukes has been appointed Deputy Sanitary Commissioner to the Burdwan and Presidency Circles in Bengal. Captain T. C. Boyd has taken up duty as Agency Surgeon at Deoli.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Lieutenant Henry Robins Borcherds resigns his commission (dated May 13th, 1914). Lieutenant George E. Pepper is confirmed in his rank.

TERRITORIAL FORCE.

Royal Army Medical Corps.

1st Northumbrian Field Ambulance, Royal Army Medical Corps: Captain Arthur G. Dunn resigns his commission (dated May 13th, 1914).

2nd Scottish General Hospital, Royal Army Medical Corps: Major Francis M. Caird to be Lieutenant-Colonel (dated April 9th, 1914). Major John D. Comrie, from the permanent *personnel*, to be Major, whose services will be available on mobilisation (dated April 9th, 1914). Captain David James Graham, from the 3rd Lowland Field Ambulance, Royal Army Medical Corps, to be Captain (Registrar) (dated April 9th, 1914).

For Attachment to Units other than Medical Units.—Robert Ellis (late Cadet, Cambridge University Volunteer Rifle Corps) to be Lieutenant (dated May 9th, 1914).

Attached to Units other than Medical Units.—Matthew B. Ray (late Captain, 5th Battalion, The Prince of Wales's Own (West Yorkshire Regiment)) to be Captain (to be supernumerary) (dated May 9th, 1914). Lieutenant Stanley F. Linton to be Captain (dated August 9th, 1913).

Officers Training Corps.—University of London Contingent, Senior Division, Officers Training Corps: Major Wilmot P. Herringham, 1st London (City of London) General Hospital, Royal Army Medical Corps, serving with the University of London Contingent, Senior Division, Officers Training Corps, is appointed to command the medical unit of that contingent, and is granted the local rank of Lieutenant-Colonel (with the pay and allowances of that rank) whilst so employed (dated April 3rd, 1914).

INDIAN MEDICAL SERVICE DINNER.

The annual dinner of the Indian Medical Service, as already announced in THE LANCET, will be held at the Hotel Cecil on Monday, June 8th. Surgeon-General J. H. Benson will preside. Officers desirous of being present who have not already intimated their intention should do so without delay to the joint honorary secretary, Lieutenant-Colonel J. J. Pratt, 63, Addison-road, Kensington, W.

ROYAL ARMY MEDICAL COLLEGE JUNIOR EXAMINATION.

At the recent examination for the junior course of instruction at the Royal Army Medical College Lieutenant A. Watson was awarded the Herbert, De Chaumont, Tulloch Memorial, and second Montefiore prizes, and Lieutenant N. V. Lothian the Parkes Memorial and Marshall Webb prizes.

DONATIONS AND BEQUESTS.—The late Mr. Samuel Massey, of Manchester, whose property amounts to about £6948, has left the residue, after payment of a few small gifts, to the Manchester Royal Infirmary, the Manchester Eye Hospital, the Manchester Hospital for Diseases of the Throat and Chest, and a certain sum is left for other charitable purposes.—By will the late Dr. Charles Bruce, LL.D., of Edinburgh, left £1000 each to the Royal Infirmary, Edinburgh, and the Royal Edinburgh Hospital for Incurables, £750 each to the Edinburgh Institution for the Deaf and Dumb, and the Royal Society for Home Relief for Incurables, Edinburgh. Subject to certain life interests he left the following further bequests: £2500 to the Edinburgh Royal Infirmary and £2500 to the Royal Edinburgh Hospital for Incurables.—By will the late Mr. Thomas Edwin Crocker left £500 each to the Tavistock (Devon) Cottage Hospital, King's College Hospital, the Wimbledon Cottage Hospital, and the Nelson Hospital, Merton.—The late Miss Eleanor Theakston Sprunt, of Emsworth, Hants, has left estate of which £24,853 is net personalty. After bequests amounting to about £1500, the testatrix left the residue of her estate in equal shares to the Royal Albert Asylum, Bagshot; Dr. Barnardo's Homes; the Orphan Working School, Haverstock Hill, N.W.; the British Home for Incurables, Clapham-rise, S.W.; the West Sussex, East Hants, and Chichester Infirmary; the Royal National Lifeboat Institution; the Emsworth Cottage Hospital; the Cancer Hospital, Brompton; and the National Hospital for the Paralysed and Epileptic.—The governors of the Durham County Hospital have received a gift of £1000 from the Ven. Archdeacon Watkins, of Durham, towards the operating theatre.—The late Mr. Roch Raymond Mege left by will £200 to the French Hospital, Shaftesbury-avenue.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(Continued from p. 1211.)

XLV.—SOUTHEND-ON-SEA.

IN the course of my peregrinations over England I had by the end of March worked across the metropolis to the border of Essex, and my start for a brief tour in the Eastern counties was made at Southend-on-Sea.

In honour of its rapid growth in population and popularity, Southend-on-Sea has just been promoted to the status of a county borough. Though so near to London and so accessible, it is only during recent times that its advantages as a place of residence or a resort have been appreciated in any marked way. In 1866, or but half a century ago, there were 3400 residents at Southend. Even so recently as 1892 the population was only estimated at 12,500. To-day it has reached the imposing total of 82,000.

The railway companies have contributed to bring about this increase, and have so improved the facilities of communication that many families whose earning partner has business in London nevertheless reside at Southend. This means that there are many and good opportunities for private practice. It is not an industrial town, but a pleasure, health, and holiday resort. The particular local and economic conditions so created do not seem to the medical profession suitable to a large increase of contract practice, and doctors were not a little alarmed to find that a National Insurance Act, which on the whole was planned to suit working-class and industrial centres, would be applied to their very different and special locality. Therefore the Insurance Bill inspired sinister forebodings and general mistrust. During the year 1912 the local practitioners gathered together very frequently, and as the critical Christmas in the history of the legislation approached they met every night.

It was my privilege to be received by quite a large number of local practitioners when I went down to Southend recently, and I found many of them still congratulating themselves on having been very unanimous in the view which they took during the most trying periods. That they gave up the struggle with the unanimity which they had shown in combating the scheme cannot be denied; and now it is probable that not only at Southend but throughout the whole county of Essex 90 per cent. of the available practitioners are on the panel. Yet it would be a great mistake to look upon this as a manifestation in favour of the Act. It simply means that the Essex practitioners thought that if they did not yield worse would happen to them.

Early Dislike of the Act.

It would have been easier, as a matter of fact, to resist the Act in Southend than in many other places because the town is especially free from any competing connexion in the surrounding country. Southend is embraced on three sides by broad waters. The insured population could not have crossed this water conveniently to get medical advice in a neighbouring medical area. Previous to April 1st, 1914, when Southend became a county borough, and thus secured an Insurance Committee of its own, the locality was under the Insurance Committee of the county of Essex. The only county borough that then existed was West Ham, and East Ham was applying to be recognised as a county borough. The population of the county of Essex is put down at 1,300,000, and 290,000 of them are insured. There are many districts where the population is so sparse that it is not practicable to give prescriptions to patients, and the actual number of insured persons for whom the panel doctors have to dispense medicine amounts to 54,000. In Southend itself there should be 19,000 persons insured, but on recently adding up the lists of the panel doctors it was found that the payments effected only covered an insured population of from 14,000 to 15,000. As there are 34 practitioners on the Southend panel this means an average of less than 500 persons per list. It will be seen, therefore, that the Southend practitioners are not so dependent for their living on the classes that come under the Insurance Act as is the case in large industrial centres. But like many averages the figures do not represent what actually occurs. In practice some lists are so small that to lose the patients they represent would not much matter, while others, on the contrary, represent the better part of the practitioner's income. The stout resistance set up against the Act remains justified in the eyes of many doctors by subsequent events.

The resistance, here as elsewhere, broke down through the want of organisation. It was impossible to find out what was happening in other parts of the country. What publicity did take place favoured the partisans of the Act, for it consisted, in the main, of an ever-growing list of places that had given in. Such news, on its recurrent appearance, was very discouraging, and there were no means available of testing the feeling of the profession in other places. Then the Southend practitioners sadly felt the need of a proper fund on which they could rely to back up the victims. "Am I to break my word or am I to be ruined?" was a question raised by some of the practitioners who were most involved. It was very difficult to counsel men to hold out when it was obvious they would lose half their practice and were not likely to receive any compensation. Nevertheless the practitioners had at Southend the advantage of having very few medical aid clubs or societies. So they held out after all the other parts of Essex had accepted the Act, but three or four days before the pledge was withdrawn they did surrender, and they all yielded together. Thus to-day no one can say: "I held out and you did not."

The Expenses of the Committees.

What finally brought the resistance to an end, so I was told, was the news given that Mr. Worthington Evans, M.P., had telephoned that it was no use holding out any longer because the Government had parcelled out Essex among a staff of medical men who were ready to establish a sort of State Medical Service for the county. The chairman of the Essex County Insurance Committee having confirmed the news, the Southend practitioners were called together and given this information. Thereupon it was agreed to accept the Act, and this was done unanimously. Therefore the profession is not divided into two camps; but, as I have already said, it would be a great error to conclude that because all have accepted, therefore all approve of the Act. On the contrary, when I found myself in the midst of some 10 or 12 Southend practitioners it soon became apparent that they had many grievances to ventilate. Naturally, I asked if there was a Medical Committee that might deal with at least some of these grievances, but I soon became aware that the Medical Committee was in itself a grievance. The County Medical Committee had to meet in London and to pay for the hire of its own room and the travelling expenses of its own members. The secretary had an enormous amount of work to do, but received nothing for his trouble. A voluntary levy was attempted, but met with a very poor response.

The present proposal is that the expenses of this County Medical Committee, as also those of the Pharmaceutical Committee, are to be paid by a deduction of one halfpenny out of the floating sixpence for each committee, counting, of course, the halfpenny for each person on the lists of the panel doctors, thereby decreasing the claim of the practitioner from this source. To spend thus their own money in carrying out the Act by establishing a Local Medical Committee they had to obtain special permission from the Commissioners, and some soreness is accordingly felt.

No New Story.

As to the results of the Act, some of the Southend practitioners have recognised that under it they are earning more than before; but if the amount of work they have to do is taken into consideration, then they said that they were earning less in proportion. In the old club practice the patients felt reluctant to take the money of others unless there was really something serious the matter. Now no one has such scruples, and the result is that the panel doctors of Southend are so worried by the importunities of those who have nothing much the matter with them, that they can with difficulty find time to examine properly those to whom, if the exact conditions were realised, they should devote much more time. Not only is this injurious to the patients, but it destroys the value of the cards, for the information which they should supply for statistical purposes is not reliable. Yet no one at Southend, I was assured, has more than 900 persons on his list. What, then, would have happened if the Government had put into this town, as it was proposed, only four practitioners to do the work that is divided to-day among 34 practitioners?

One practitioner, in explaining how the Act had somewhat reduced his income, said that most of his patients belonged to a lowly paid class of clerks. They used to pay small fees and were now nearly all insured persons. And they are not the profitable clientèle that they should be in a place as healthy as Southend with a death-rate of about 9 per 1000. Capitation fees should be very profitable, for there is so little sickness. But this extension of contract practice has affected many doctors. The real grievance here, as in so many other places, is the insuring of the employed sons and daughters of wealthy persons. One case related to the son of a large contractor. On his father's wage sheet he appears as earning 35s. a week, but he also receives a bonus of £20 a month. The family doctor refused to treat on insurance terms the son of this contractor, and as a consequence he lost the whole family. If he had accepted he could not have treated the son differently from the rest of the family, yet for the small sum insured persons pay he ought not to expect so much personal attention.

At Southend, I am sorry to report, it was evident to me that contract work in many instances meant inferior work. The panel doctor must not accept anything above the grant as by law established for fear that to do so might bring about a system of preferential treatment, and yet when he knows the substantial position of some of his patients or their children he naturally feels sore. Formerly it was contemplated charging some insured patients ordinary fees, but deducting from their bills the sums accumulated by the annual payments of 7s. Any arrangement of that sort has, however, been declared irregular. "The Act," one Southend practitioner exclaimed, and others approved his observation, "is glorified club practice. No one would come if he had to pay a panel doctor for such treatment." If partly this was a self-condemnatory remark, partly it was a proof that a very big proportion of the population are resorting to panel doctors—a far higher proportion than had been anticipated. Consequently the old club bottle of medicine method was revived. Any amount of medicine was needlessly given, because the patient would complain if he did not get at least one bottle of medicine.

Insured Women at Southend.

Servants are perhaps difficult to keep at Southend, and mistresses fortunate enough to have them are unduly solicitous about their welfare. Anyhow, the mistresses of domestic servants are, I was told by several doctors, constantly telephoning when there was the least thing the matter with their servants. They used to be more careful when they had to pay for medical advice, as to their credit they very usually did. But the practitioner must not resent being thus troubled or else he may lose the servant's mistress, who is a private patient and pays good fees. I should not have thought servants are difficult to get; indeed, there are so many women domestics and charwomen at Southend that several panel doctors were of the opinion that some 40 per cent. of the insured with whom they had to deal were women. The female patients under the Act always take up much more time than the men, and this has proved the case at Southend, where, also in accordance with general experience, their principal complaints are anæmia, gastric trouble, constipation, and rheumatism. These patients go far to prove that it was a great mistake on the part of the promoters of legislation to have calculated the probable amount of sickness on the experience of the Friendly Societies, particularly when these societies had but few women members. As a matter of fact, panel doctors are now treating "arrears of sickness" among their female patients—namely, women who were ill before the Act was passed, but who had never before been either insured or treated. Such neglected people naturally give more trouble than the former members of Friendly Societies, and they are as frequent at Southend as the smiling lass who turns up after a mile walk and begins negotiations by the statement that she is in "an agony of pain." To add to the extra trouble it has been discovered that insured servants are sometimes sent out to describe their mistress's symptoms and get medicine or ointment, not for themselves, but for the family they serve. Others give their medicine to non-insured dependents.

The Temporary Population.

Then there is at Southend the special trouble that applies to holiday resorts—namely, the treatment of strangers who are insured visitors. Last season the green vouchers were in force, but the majority of visitors were so worried by formalities that they gave the matter up as hopeless and found it less trouble to pay the usual fees. During the forthcoming season it is feared the surgeries will be filled with insured strangers just when a little profitable private practice might be obtained. The attending to these strangers must necessitate a separate system of bookkeeping and cause more clerical work than the probable financial result warrants. On the other hand, it is thought that the conversion of Southend into a borough with its own Insurance Committee will improve the situation. A certain hostility was felt by the Essex Insurance Committee against the doctors because they had given trouble and had so stoutly resisted the Act. Now a smaller and purely local Southend committee, drawn from people who are personally acquainted with the doctors, is more likely to be free from any such prejudice. The Commissioners, however, did not view the matter in the same light. They feared there might not be money enough forthcoming to pay for the working expenses of the Local Insurance Committee. It appears they have calculated that unless there are about 50,000 insured persons the receipts will not cover the expenses of an Insurance Committee; and it has been seen that unless strangers are included there is not half that number of insured persons at Southend. However, the die has been cast, and the best must now be made of the situation.

(To be continued.)

MOTORING NOTES.

(FROM A SPECIAL CORRESPONDENT.)

Insignificant Trifles.

DURING my 14 odd years of motoring I have come in contact occasionally, either personally or in correspondence, with a few unlucky individuals. As far as their automobile experiences went, they seemed to have had the sorrows of Werther, while other owners of similar cars have expressed themselves completely satisfied. Analysis of the cause of many of these troubles leads to the conclusion that the motorist was more often to blame than the car. Looking at the car of a satisfied owner revealed frequently, by inference, the reason of the worries of the dissatisfied motorist. In one the engine was kept clean, the bearings were always adjusted, nuts subject to vibration were kept tightened, lubricators were charged with grease or oil, water joints were not allowed to leak, springs were kept greased, shackle bolts were lubricated and tightened, the sparking plug points were clean and correctly adjusted, and the ends of the valve lifters were separated only by the thickness of a thin visiting card from the stems they had to lift, while the petrol needle valve was true, and there was an absence of the clatter noticeable in the slovenly kept engine. Most of these details are in themselves insignificant, and the attention they need would probably not occupy more than five or ten minutes a day; but the few minutes saved by ignoring their claim to this slight attention are usually followed by a day of reckoning, in which hours may be spent on the roadside and pounds in the repair shop. I trust, however, that these suggestions will not be an excuse for the other type of owner: I mean the over-careful, fussy one, who also exists, and who likes to look at the piston rings once a week, to grind in the valves almost as frequently, and even to attend to the "big ends" at equally short intervals. There is, of course, a happy medium.

The Cost of Repairs.

Disputes regarding accounts for car repairs are best obviated by first obtaining an estimate. Generally speaking, the repairer is not in a position to give an estimate without first dismantling the engine; but most motor engineers will give a price for dismantling and re-erecting, and then, when the engine is taken down, the actual requirements can be ascertained and demonstrated to the owner, and the price and need for each specified. It may be enough if valves are ground in, new valve springs fitted, and big ends taken up, or bearings may require renewing and timing or other gears replacing. These are points for consideration, and can be discussed when the parts are asunder. In some cases relining the bearings with white metal will suffice, whilst in other cases it may be advisable to replace them with new ones. This depends on the amount of wear and the quality of the material originally used. On well-constructed and carefully fitted cars the life of a bearing is longer than on the cheaper and less carefully built ones. In coming to a decision it is well to remember that though loose parts may run, still they cause loss of power, and when once loose they wear rapidly. A little extra trouble spent in the overhaul may postpone the need of a second one for some considerable time, and moreover may obviate an undesirable road stop.

The Object of Lubrication.

In order to obtain efficiency from an engine and from all moving parts any undue friction must be overcome. Lubrication does this by interposing a film of oil, which keeps the surfaces of all moving parts from coming into contact with each other. As these parts move they throw and squeeze out the lubricant. However well the moving parts are made, when examined under the microscope they are seen to be rough, and when two rough parts work on one another they grind each other and thus cause wear. The film of oil interposed prevents this wear. As already remarked, the tendency is to squeeze this film out, therefore to obviate wear the lubricant must be supplied frequently and in small doses. Car owners who bear this in mind will obtain the maximum life from their engine and working parts, with a minimum expense in the matter of upkeep. A point also to bear in mind is the quality of the lubricant. Though cheap oils may not always be considered the most satisfactory, if made by a good firm they frequently answer as well as the more expensive ones. It is better to buy the oil in bulk, by which method the price is greatly reduced. If when ordering the make of engine is mentioned, the manufacturer will see that a suitable oil is supplied.

A Novelty in Change Speed Apparatus.

When an internal combustion engine is used for the propulsion of a vehicle change speed gears are a necessary evil, and a part of the evil has been the quadrant or gate on the driver's right, which usually interferes with easy access to the seats of the car from that side. A recent American innovation is the electric gear change apparatus, in which the external actuating levers are replaced by an electric device worked from the steering column. In the place of the gate or quadrant there are merely some four or five push buttons. A solenoid—that is, a hollow magnet surrounded with insulated wire—is fitted, and when the button is pushed and the electric circuit is completed by depressing the clutch pedal an electric current circulates through the solenoid, which then becomes a powerful magnet drawing in a rod, and thereby bringing the gear into mesh. All the driver has to do when desiring to change speed is to press the appropriate button. Nothing then happens, however, until the circuit is completed by taking the clutch out. Then the magnet so formed draws the gear into mesh. I understand that the consumption of electric current is small and that this method has been found to answer exceedingly well in America, where it is now largely used. Of course, there is a danger of short circuits, but if this method is well designed and constructed they are not likely to occur.

The Causes of Over-heating.

Over-heating may be due to one of the following causes:—(1) Insufficient lift to the exhaust valve; (2) backward pressure from a choked or partly choked silencer; (3) too rich a mixture; (4) too late an ignition; and (5) some block in the water circulation. A diagnosis is easily arrived at by a process of exclusion. Examine the valve-lifters at work and note if there is too much clearance between the lifter and the valve stem. The thickness of a thin visiting card should be an ample gap. If there is too much clearance the valves will lift late and the exhaust gases will not be thoroughly cleared out by the time the piston descends for the induction stroke. With the engine accelerated note if there is an emission of hot gases from the silencer. If the engine is over lubricated this will be visible; if not, the silencer should be taken down and cleaned. If there is an adjustment on the carburetter so that more air can be admitted, the experiment may be tried of running the engine with an increase in the quantity of air to ascertain if this effects an improvement. The platinum points of the magneto should be examined to see if they are worn, and also if they separate at the right time. A gauge is given with most magnetos showing the correct distance between the platinum points. It is also important that the points should be perfectly true with one another, and if they are worn they should be filed and adjusted. Finally, the water circulating pump should be examined to see if it is working and that the pipes are free. It is a good plan at all times to fill the radiator with distilled water. Ordinary water contains lime-salts, which are apt to deposit, especially in the water-jacket, whence the deposit is difficult to remove.

Carbon Deposit and its Removal.

Carbonisation in motor engines is caused by the products of combustion and the burning of lubrication oil that has worked its way past the piston rings. It occurs in all engines, although with the careful adjustment of the carburetter and the use in correct quantities of first-class lubrication oil, an engine with ordinary work should not deposit carbon under, say, 5000 miles. Carbonisation means impaired efficiency, loss of power and speed, and (what may cause trouble) pre-ignition, which latter is the result of the deposit becoming incandescent from the heat of the explosions, and thus firing the mixture before it is compressed. Until recently the only method was to remove the cylinder covers and "curette" them. This was a satisfactory, although with modern four cylinders cast *en bloc*, rather a troublesome procedure, taking a fairly efficient driver-owner some three to four hours. It is to these that the "Cylclean" process will appeal. Mention of it has previously been made in these notes, but as several inquiries have been received as to the efficiency of this process, I visited the chief depôt of the Internal Combustion Engine Cleaning Company, Limited, and personally saw some half a dozen different engines cleaned. The method is simplicity itself. The sparking plugs, valve caps, &c., are removed. With the exhaust valves on their seats, a pilot gas jet is applied to the carbon. Then a stream of oxygen is directed on to it, which thus completely consumes the carbon and expels it. As soon as sparks cease to fly out the engine will be found to be clean. The flame is applied all round the combustion head, piston top, and valve pockets. The process does not in any way affect the metal in the cylinders, it is speedy and inexpensive, and is undoubtedly efficient. I understand that the company has 500 licensees in the United Kingdom, which means practically that there is one to be found in nearly every district. One correspondent asks whether he could oxygen-clean his cylinders himself, and there is no doubt that with a tube of oxygen and a bit of flexible copper piping it could be done, but personally I think I should prefer to have it done with the company's apparatus and by one of their licensees.

Rattling Glass Screens.

The glass in a screen is usually put in its frame with a strip of rubber under and around so as to prevent any movement. In spite of painting and varnishing the rubber is apt to wear and perish, thus causing an unpleasant rattle. To remove the glass and reinsert a fresh strip of rubber is rather a difficult proceeding. An efficient substitute is to make some papier-mâché out of brown paper and hot water and then to push this pulpy mixture between the glass and the frame all the way round, in much the same way as caulking was done on the old timber ships. After it has become thoroughly dry a coat or two of varnish should be applied.

The Legal Status of a Chauffeur.

According to a case that came recently before the county bench at Canterbury a chauffeur is a mechanic and not a domestic or menial servant. This means that he can be dismissed with a week's notice instead of a month's, as is required for the latter. It is difficult to understand how this decision was arrived at, as a chauffeur is engaged about his master's garage and in driving his employer. It is held that a gardener or huntsman, or practically any employee who has to be frequently about his master's person or grounds, is a menial servant. The conclusion would therefore seem to be that a chauffeur ought also to be considered a domestic servant, though such was not the case in the opinion of the bench at Canterbury.

The Swift Two-Cylinder Cycle Car.

I was recently able to have an interesting trial trip on this 1914 7 h.p. car. It has done well in various test runs, especially in the recent general efficiency trial. The seating arrangements are distinctly good, as one seat is placed behind the other, so as to give more elbow room, and thus to overcome one of the objections to a vehicle of narrow track. The engine is a two-cylinder one, with 75 mm. bore and 110 mm. stroke. The valves are on the near side, cooling is by thermo-syphon, and ignition by a high tension magneto with a variable timing lever close to the driver's seat. Lubrication is by gravity from a tank on the dashboard, to which an auxiliary hand pump is added. Three forward speeds and a reverse, actuated by a gate change, are provided. The transmission is by a cardan shaft universally jointed at each end. The foot brake acts on the cardan shaft, and a hand brake, which is of an expanding type, acts on the rear road wheels. Suspension is by semi-elliptical springs fitted to the front and rear of the frame. The control is by a foot accelerator, with a hand throttle also close to the ignition lever. The car was given a good test, both in traffic and over some 50 miles of Kentish roads and hills. The engine is fairly quiet and the power ample. Petrol consumption is certainly economical—about 35 to 40 miles per gallon. Of course, it is not a four-cylinder, and in traffic it is advisable, when coming to a stop, to drop down to the second speed. Changing of gears on two cylinders is often rather tricky, especially changing down, but I found that after a little practice the lower gear could be slipped home silently with simply a slight double-clutch action so as to spin the lay shaft. With a two-seated body, hood, screen, lamps, and horn—in fact, everything needed except side curtains—the price is £140, and at this it is worth considering by a doctor who is just starting motoring and needs a light and inexpensive car.

The 9 h.p. Morgan Adler Carette.

I recently had the opportunity of a short test run on one of these cars, which are put on the market by Messrs. Morgan and Co., Limited, of 10, Old Bond-street, and 127, Long Acre, London. The engine is a four-cylinder one, with "staggered" exhaust valves, and this arrangement permits of both large inlet and exhaust valves being fitted on the same side and operated by one cam shaft. The carburetter is a Zenith. Though an opening in the undershield is provided for the rare instance of a blocked jet, it would be easier, I think, to remove the whole carburetter, which can easily be done by undoing two nuts and the petrol union. Cooling is by a honeycomb radiator, the water circulating by means of a centrifugal pump. The fly-wheel has vanes on it, and so acts as a fan. Ignition is by a self-timing high tension magneto, which is held in position by a band, and so can be rapidly dismounted should occasion necessitate it. The clutch is of the metal-to-metal cone type. The power is conveyed to the gear-box by means of a shaft with a dog coupling at each end, so that the clutch can easily be removed without taking down the gear-box. Three forward speeds and a reverse are provided, all operated by a gate change lever. The final transmission is by cardan shaft and bevel drive. The foot brake acts on the main shaft, and the hand lever brakes on drums fitted on the rear wheels. Lubrication is by rotary pump, an indicator on the dashboard showing that the pump is operating. The control is by a hand throttle on the steering wheel. During the short test the engine ran very sweetly, and appeared to have an ample reserve of power. The gears were quiet in action and easy to change, and the engine picked up easily in traffic, frequently on the top speed. The clutch, though the car was a new one, was by no means fierce, and took up the drive quite gently. With two up the car easily mounted a well-known town steep gradient. A stop was made half way up the hill, and the car started again quite easily. Of course, the first speed was needed. The brakes were tested on this hill, and both sets were found separately to hold the car in both directions. The springing is satisfactory, and the body, either a tandem or sociable two-seater, is comfortable. The car, complete with hood, wind-screen, and lamps, including head lights, is sold for 200 guineas. My short run on the car enabled me to appreciate fully its swift, quiet, and smooth running which, in my opinion, should commend it to medical men. The only suggestion I would make is that it would be an advantage to have a foot accelerator. Probably, too, it would be an advantage if the shaft between the clutch and the gear box were universally jointed at each end.

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

LIVERPOOL.

Retirement of Mr. R. W. Murray.

IT is with much regret I announce the retirement of Mr. R. W. Murray, the senior surgeon at the David Lewis Northern Hospital. Universally regarded as one of the most able and successful surgeons in the city, he will be greatly missed, especially by his colleagues at the Northern Hospital. Mr. Murray has decided to spend some years in travel abroad and in literary pursuits. For many years he has delighted audiences at the Medical Institution by his addresses on surgical subjects, and we look forward to hearing him again when he comes to give us some account of his travels.

Royal Infirmary.

The Lord Mayor will attend in state the morning service in the Royal Infirmary Chapel on Sunday next, May 17th, and afterwards he will visit the wards. The infirmary will be thrown open for inspection, and any medical men who are able to pay it a visit will be very welcome. The Royal Infirmary has been particularly unfortunate this year in the health of its staff. At one time six of the honorary staff were away ill, and in five cases the illnesses were serious, necessitating long periods of enforced idleness. His colleagues are now delighted to welcome back Mr. W. Thelwall Thomas in excellent health, as full of energy as ever, and to see him hard at work again at the Royal Infirmary and the University. They are glad to have Mr. W. Fingland also back with them, though in his case he has felt that a long day of administering anæsthetics was too arduous, and so has had his duties lightened by being appointed consulting anæsthetist to the infirmary. The other invalids are reported to be progressing satisfactorily.

May 12th.

BRISTOL AND WESTERN COUNTIES.

Bristol Insurance Committee.

AT the May meeting of the Bristol Insurance Committee the medical referee's report showed that since last March he had seen 1000 cases, with results as follow: Fit for work, 40·2 per cent.; unfit, 33·3 per cent.; did not attend, 20·9 per cent.; returned to work, 4·3 per cent.; workmen's compensation, 1·3 per cent. In a letter to the committee the Insurance Commissioners said: "The practitioners on the panel are entitled to the whole sum available for the medical treatment and attendance of persons who do not receive their medical benefit through institutions or under special arrangements sanctioned by the committee." The Medical Benefit Subcommittee promise recommendations in regard to these unallotted funds at the next meeting. The total number of insured persons in the Bristol area now exceeds 132,000. There are 640 tuberculous persons under treatment. An arrangement for the after-care of the tuberculous has been made with the Civic League.

Anti-Tuberculosis Campaign in Bristol.

The new dispensary to which allusion was made recently in these columns is an adapted dwelling-house. It provides ample waiting and consulting rooms, a dark room for examination of throats, and a small observation ward. There is also a laboratory. One of the picture houses is at present showing a film which represents the various phases of the campaign against tuberculosis. Bristol now possesses the complete machinery for the campaign against tuberculosis, with the exception of a farm colony, which has yet to be provided.

Dental Needs of the Working Classes in Bristol.

The dental surgeons of Bristol are making a courageous attempt to meet the tremendous demand that becomes apparent in every working-class community for dental surgery at low fees. Premises have been opened in East Bristol at which a staff of 20 legally qualified dental surgeons will attend in rotation. In this way continuous attendance will be provided for between 9 A.M. and 7 P.M. (2 P.M. on Saturdays). Every kind of conservative and mechanical treatment will be carried out. A low scale of fees has been drawn up, and patients will be able to ascertain in advance the cost of any services they require. No person having an income of over £160 per annum will be eligible for treatment. In certain cases payment by instalments will be accepted. Books of coupons can be obtained by those who would like to give them to eligible persons, from whom they will be accepted in lieu of fees. Anæsthetics will be given by medical men. A trained nurse will always be on the premises.

Health of Torquay.

The medical officer of health for Torquay, Dr. T. Dunlop, in his annual report for 1913, states that the death-rate was 13·2 per 1000 and the birth-rate 13·6 per 1000. Twenty-one cases of enteric fever were notified, with 2 deaths. Dr. Dunlop remarks that apparently little attention had been paid to notices warning the public of the danger of eating shell-fish from the neighbouring tidal estuaries, as hardly a season passed without a batch of enteric cases which could only be attributed to eating "cockles." 107 cases of diphtheria were reported, and of these 89 were removed to the isolation hospital. 145 notifications of tuberculosis were received, and 43 deaths, including those of 9 visitors, occurred. Fifty-two deaths were due to cancer, an increase of 7 compared with 1912. Dr. Dunlop draws attention to the decrease in vaccination.

Royal Mineral Water Hospital, Bath.

At the annual meeting of the subscribers to the Royal Mineral Water Hospital, Bath, held recently, the medical report showed that during the year the number of patients admitted amounted to 1346, an increase compared with 1912. The financial statement showed that the income was £5397, and there was a deficit of £271.

May 12th.

SCOTLAND.

University of Edinburgh.

THE annual statistical report has just been issued for the academic year 1912–13. It shows that the total number of students was 3352. Out of that total, 3242 matriculated during the winter session, including 556 women, and 110 in the summer session, including 9 women; 1319 students matriculated in the Faculty of Medicine, 6 being women. The number of members of the general council was 11,941. There were 241 degrees granted to men and 13 to women in the Faculty of Medicine.

George Alexander Gibson Memorial Lecture in Edinburgh.

The first lecture was delivered on May 8th in the Hall of the Royal College of Physicians. Dr. James Mackenzie took as his subject "Dr. George Alexander Gibson: an Appreciation of the Man and His Work." There was a large attendance of Fellows of the College and other members of the profession.

The National Insurance Act and the Edinburgh Royal Maternity Hospital.

The sixty-ninth annual meeting of the board of managers of this charity was held recently. The report showed that there was a considerable reduction in the number of patients, both internal and external. The total number was 1484. It was stated that in 1913 the ordinary income had fallen short of the ordinary expenditure by £300. There was thus a drop of 22 per cent. in the number of cases treated, which necessarily caused difficulty in the training of both doctors and nurses. Up to the present no remedy has been suggested to meet this need, which is felt to the same degree by all similar institutions.

Commemoration Day at Glasgow University.

Commemoration Day will be observed at the University of Glasgow on Tuesday, June 23rd. The proceedings will begin in the morning at 10.30, when divine service will be held in the Bute Hall. Afterwards an oration on Lord Lister will be delivered by Sir Hector C. Cameron. This will be followed by the conferring of the honorary degrees of D.D. and LL.D. In the evening at 7 o'clock a dinner will take place in the University buildings. The honorary graduates will be entertained as guests, and the company will also include graduates and friends of the University, including ladies.

Memorial to the late Miss Janet Galloway.

In the Bute Hall of the University of Glasgow last week a window in memory of the late Miss Janet Galloway, LL.D., a pioneer in the movement for the higher education of women, was unveiled. At the ceremony, which was largely attended, Mr. David Murray, LL.D, gave an appreciation of Miss Galloway's life and work. He described how in 1867 the first University lectures to women were delivered in Edinburgh, and next year a similar course was given in Glasgow. In 1876 there was formed the Glasgow Association for the Higher Education of Women. The University did everything in its power to further the objects of the association, and annual courses of lectures to women on university subjects were given by university professors in university class-rooms. In 1883 the association was incorporated and named Queen Margaret College, and an endowment of upwards of £25,000 was obtained. Next year the college commenced operations in its new home at North Park House, with Miss Galloway as its resident head, and in 1893 what had been dimly foreshadowed in 1868 was accomplished when control of the undertaking was transferred to the university authorities. The task of organising and carrying on the work lay with Miss Galloway, and when the college was incorporated with the university she continued as honorary secretary. In a sense it may be said that Queen Margaret College as a separate institution was Miss Galloway's creation. Later she proved herself a broadminded and judicious administrator, always in harmony with the University Court and Senate, and scrupulous in carrying out their wishes. Principal Sir Donald Macalister, in accepting the window on behalf of the University Court, paid a high tribute to Miss Galloway's work and influence.

Appointment of Assistant Tuberculosis Medical Officer in Dundee.

Dr. John Henderson Hunter, of Dundee, has been appointed assistant tuberculosis medical officer in that city at a salary of £300 per annum. Dr. Hunter, who is a D.P.H. of St. Andrews, was house surgeon and physician in Dundee Royal Infirmary, and afterwards engaged in general practice. In October, 1911, he was appointed assistant to the professor of pathology and bacteriology in the University of St. Andrews.

Montrose Royal Asylum.

At the monthly meeting of the managers of the Montrose Royal Asylum held on May 6th Dr. J. G. Havelock, physician superintendent to that institution, intimated that he would not seek re-election at the annual meeting in June. He had served the board for 25 years, and was severing his connexion with them with reluctance and regret. Dr. V. Stone, who presided, said that Dr. Havelock's term of office at the asylum had been a most successful and effective one, and assured him that the board's regret at parting with him was equal to Dr. Havelock's regret at parting with them.

Lack of Midwives in the Scottish Islands.

At the annual meeting of the Rural Midwives Association, held recently, the Marchioness of Tullibardine, who presided, gave her experiences while acting as a member of the committee formed to investigate the needs of the Highlands and Islands of Scotland in this respect. In South Uist she was told by the medical officer that there was not one qualified nurse on the island. In a neighbouring island there was only one woman, over 80 years of age. She came across another district where no doctor had seen a confinement case for years. In one case all the people were Roman Catholics, and the priest frequently found himself called upon to assist at these cases, with the occasional assistance of the schoolmaster. They had a midwifery text-book in their possession.

The late Dr. James Hunter.

I regret to record the death on April 21st of Dr. James Hunter, late of Dreghorn, Ayrshire. Dr. Hunter had been in failing health for some time, and having retired from practice he went to reside in Edinburgh. He was born in 1843 in the parish of Girvan, Ayrshire, received his early education in Girvan, and afterwards at Ayr Academy. He entered the University of Glasgow and took the degree of M.B., C.M.; he had also the degree of L.R.C.S. Edin. In 1864 he obtained the degree of M.D., with commendation. He went as assistant to the late Dr. Hamilton, of Dalry, where he remained for four years. In 1868 Dr. Hunter was appointed medical officer of health of the parish of Dreghorn, and in addition to the colliery works in the district he had a large private practice. He was an unselfish and indefatigable worker in the interests of his patients, and was much beloved by all. He was in practice for 40 years, and on retirement received a public testimonial. His wife and he spent last winter in the south of England, which improved his health considerably. After returning home he had an attack of broncho-pneumonia, which terminated fatally. The funeral was attended by a large number of personal friends. Dr. Hunter lived an honourable and useful life, and will long be remembered by all who knew him.

May 12th.

IRELAND.

Medical Inspection of School Children.

A PUBLIC meeting, convened by the Irish Women's Reform League, was held last week in the Mansion House, Dublin, to demand that medical inspection of school children should be carried out in Ireland as in England, and that dental clinics should be established in Ireland. It has always been a puzzle why legislation such as that establishing medical inspection of school children should not have been applied to Ireland. Public opinion is now, however, demanding such extension.

The Coming Elections at the Royal College of Surgeons.

The election of President, Vice-President, and Council of the Royal College of Surgeons will take place early next month. The present Vice-President, Mr. F. Conway Dwyer, will without opposition succeed as President to Mr. R. D. Purefoy, whose term of office, to the regret of everyone, now comes to an end. Chief interest, as usual, centres about the election of Vice-President. There are two candidates, Mr. Edward H. Taylor and Mr. William Taylor. The former is surgeon to Sir Patrick Dun's Hospital and professor of surgery in Trinity College, and the latter is surgeon to the Meath Hospital. Both have strong claims, and either would make an excellent vice-president and president. Many friends of the College regret that one or other has not postponed his candidature until the next period of election.

Sudden Death of a Medical Man.

The death of Mr. R. P. Condon, of Newcastle West, occurred very suddenly last Monday. He was travelling to Dublin to seek medical advice, and when in the train became very ill. He died in the railway carriage while in Limerick Station. Mr. Condon had been for many years medical officer of the Newcastle West workhouse and dispensary district.

The Water-supply of Londonderry.

Some time ago the corporation of Londonderry sought from the Local Government Board a Provisional Order to promote a temporary stand-by water scheme, which was refused. The corporation then urged the necessity of such a scheme to safeguard the city until a large scheme could be carried out. The Local Government Board replied that this temporary scheme would result only in a limited supply of water of inferior quality, and that to approve it would induce a false feeling of security, and might delay adequate treatment of the larger issues. The board quote the opinions of experts given to the corporation since 1881, and point out that the only response to this series of warnings had been the neglect of the main question of a large and comprehensive scheme of supply from a new source and the promotion of a succession of stopgap schemes. The Local Government Board, unwilling to share responsibility for the attempts to patch up the existing system, and having regard to all the circumstances of the case, the insufficiency of the scheme, and the objections raised at their recent inquiry, again refuse a Provisional Order, and urge the corporation of Londonderry to press forward a final scheme for obtaining an ample and continuous supply of wholesome water. They further say that if waste were checked with scrupulous care and trade supplies—which account for nearly one-fourth of the consumption—were limited rigorously as soon as it appeared desirable to do so, the risk of disaster feared by the corporation would be minimised.

Belfast Tuberculosis Scheme.

There are in Belfast some 6000 tuberculous people, of whom 1000 require institutional and 5000 dispensary and domiciliary treatment. The Belfast corporation, with the approval of the Local Government Board, has appointed a chief medical tuberculosis officer and two assistants, as well as five nurses for dispensary duty and domiciliary visiting. Two dispensaries are ready, but there is delay because negotiations between the corporation and the guardians in reference to the Abbey Sanatorium are still going on and the arrangements with the Belfast Insurance Committee as regards the treatment of the insured consumptives are still unsettled.

Advanced Tuberculosis.

The treatment of advanced pulmonary tuberculosis is rendered difficult by the innate human desire to end one's days at home. It is impossible, on financial grounds, for institutions to be created all over Ireland, but the county and district councils might act on the suggestion of the Local Government Board and utilise some of the present disused fever hospitals, renamed district isolation hospitals. The Derry county council on May 9th passed a resolution to this end.

May 12th.

PARIS.

A Special Medico-legal Course at the Faculty of Medicine.

A FREE course on the relations between medicine and jurisprudence has been authorised at the Faculty of Medicine of Paris, to be given by a barrister, M. Peytel. It consists of the study of those parts of the law that it is to the interest of the medical man to know for his own advantage as well as that of his patients. It deals with those administrative regulations which the practitioner who is called on to make a report in the interests of justice cannot ignore. Recent laws relating to compulsory attendance on the aged, to workmen's compensation, and especially to industrial accidents, have greatly increased the amount of legal knowledge required by the medical man if he is to avoid being entangled in breaches of the law for which he would be held responsible if his patient suffers injury thereby. Medical responsibility is unfortunately being continuously increased nowadays by the courts. This course from the start has met with great support from both students and practitioners.

Accidents following Transfusion.

M. Wallich and M. Levaditi report an interesting observation on the possible dangers attending the transfusion of blood.[1] Hitherto attention has been directed mainly to examining the donor's blood as to freedom from syphilitic and tuberculous infection. M. Wallich is director of an accouchement service, in which the donor in tranfusion is quite commonly the husband. He examined the blood of husband and wife in 17 cases, and in 75 per cent. found that the two bloods when brought into contact gave a very clear agglutination reaction. If transfusion had been performed in these cases it is obvious that there would have been great danger of agglutination occurring in the vessels of the recipient, and thus probably giving rise to embolism or hæmolysis. From this he concludes that it would be wise before performing transfusion to investigate the presence of such agglutination between the blood of the prospective donor and that of the recipient.

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[1] See THE LANCET Feb. 14th, 1914, p. 477.

Talipes and Paternity.

Recently a young girl brought an affiliation suit against a former lover, which was energetically defended. The girl asserted as evidence of paternity that her child had a club-foot, while the alleged father suffered from the same infirmity. In default of proof that the period of conception coincided exactly with the time of relations between herself and the accused the court disallowed the claim, asserting further that club-foot was not necessarily a hereditary condition, indeed, the testimony of experts went to prove that the malformation was a fortuitous one, the appearance of which in members of the same family was without significance.

Wind Contusions.

Dr. Laurent, who has recently made known some observations on the effects of modern projectiles, has made a communication to the Académie des Sciences on the phenomena known in military surgery as wind contusions. During the wars of the First Empire numerous cases were cited in which soldiers had suffered severe injury, and had even been killed, by the near-by passage of a projectile or by its distant explosion. These cases were for the most part dealt with in treatises on military surgery as legendary. Dr. Laurent, however, observed during the Balkan war, in the campaign in Thrace, many soldiers without any wound who nevertheless showed signs of cerebro-spinal shock of a more or less serious character. These nerve shocks were evidenced by simple concussion, by tingling and twitching, and even by partial paralysis. Graver disturbances induced a cataleptic condition and were even sometimes fatal, yet at necropsy in such cases Dr. Laurent was unable to find any nerve lesion. He thinks that they are due to the vibration of the air produced by the passage of a cannon ball and to the sudden variations of atmospheric pressure impinging on the middle-ear and giving rise to inhibitory phenomena. Dr. Matignon had previously noted similar cases in Manchuria, and it seems that with the increased rapidity of modern projectiles these phenomena become more and more frequent. At any rate, henceforth these injuries can no longer be looked on as legendary, but must be accorded a place in military surgery.

Rat-bite Fever.

Sokodu, or sokishio, is an infection of undetermined character, which is always consequent on the bite of a rat.[3] It has been frequently observed in China and Japan, and of late isolated cases have been noted in Europe—among others by Dr. Horder, Dr. G. S. Middleton, and Dr. J. F. O'Carroll in the United Kingdom, and by M. Frugoni in Italy. A new case has been seen at Auxerre by M. Lagriffe and M. Loup. Although rat-bites are very frequent in France this affection is extremely rare, and it is difficult to explain the conditions of its propagation. Though the rat that gave the bite could easily have been brought to a European port in a ship, the explanation is still difficult in the case of Auxerre, which is 300 kilometres inland. It is, however, in communication with Havre by the river Seine, on which boat traffic is active. The disease is characterised by fever, headache, and lassitude, beginning some weeks, or even some months, after the bite, when the wound has entirely healed. It is accompanied by a characteristic eruption, consisting of hard, raised, red spots, having the appearance of true nodosities of variable size. The disease proceeds by exacerbations at greater or less intervals, and in the Far East is frequently fatal. Hitherto the cases in Europe have presented only a single attack and have generally resulted in cure. But there is ground for fear that, as in the case of other exotic infections imported into western climes by the development of means of communication, acclimatisation may become rapid, so that western pathology will become enriched by still another disease.

Rapid Treatment of Fracture of the Clavicle.

Dr. Couteaud, Médecin en Chef of the Navy, has devised an ingenious method of treating fractures of the clavicle, which allows a cure to be obtained in about eight or ten days without bandages or apparatus, and without leaving any callus. This method, which is already some years old, has been modified by Dr. Couteaud, and has been communicated by him to the Académie de Médecine. It has been so simplified that anyone can apply it. It consists in making the patient lie on a low bed, letting the arm corresponding to the fractured clavicle hang vertically down outside the bed, the forearm being bent and resting horizontally on a cushion on the floor. This is, in fact, only the application of the principle of continuous extension, of which the position of the shoulder allows a remarkable attainment. In this posture the two fragments of the clavicle appose themselves face to face without any necessity for manipulative reduction, and union takes place in a very short time without the formation of inflammatory callus. In comminuted fractures with much displacement of the fragments, formation of detached splinters, and perforation of the skin, suture of the bone may be useful in exceptional cases, but Dr. Couteaud asserts that even then it is not indispensable. For working men he has observed cases in which it sufficed to maintain this posture by night, the arm being retained in position by day with the usual bandages.

May 11th.

BERLIN.

The Modern Treatment of Syphilis: Professor Lesser's Experience.

THE above subject has been discussed during several meetings of the Berlin Medical Society, the introductory address being read by Professor Lesser, head of the department for venereal diseases in the Charité Hospital. He said that there were four discoveries which had had the effect of bringing about a great advance in the treatment of syphilis. These discoveries were (1) the micro-organism of syphilis—namely, the spirochæta, (2) the conveyance of syphilis to animals, (3) the Wassermann reaction, and (4) salvarsan. The discovery of the spirochæta had enabled us to cut short the case by the excision of the chancre before general symptoms had developed and to proceed at once with a combined treatment by means of mercury and salvarsan. When after this proceeding the Wassermann reaction remained negative for two years it might be assumed that the case had been successfully checked. Cases which came under treatment only after the development of general symptoms must be treated by a combination of mercury and salvarsan. Cases with a negative Wassermann reaction might be treated from the beginning with salvarsan; in other cases the use of mercury must be kept up for 10 or 12 days previously to the employment of salvarsan. An energetic course of treatment consisted in the administration of mercury during six weeks and three injections of salvarsan. By this means the Wassermann reaction became negative in 62 per cent. of the cases, whilst in cases treated for four or five weeks only 32 per cent., and of those treated for less than four weeks only 14 per cent., showed a negative reaction. In tertiary syphilis a combined treatment with mercury and salvarsan was indicated, but special attention was necessary in affections of the central nervous system, the liver, and the kidney. In patients suffering from syphilis of a very severe type the effect of treatment with salvarsan was striking and greatly superior to that obtained by any other method. In general paralysis no reliable improvement had been brought about, but in tabes dorsalis some subjective symptoms had been relieved. Professor Lesser said that he gave three or four intravenous injections of salvarsan at intervals of 10 or 14 days, the dose being from 0·3 to 0·4 gramme for men and from 0·2 to 0·3 gramme for women. Undesirable reactions had become more and more rare since a combination of mercury and of salvarsan has been the standard treatment and since the water has been sterilised previously to each injection. The recurrences of symptoms referable to the nervous system which were alleged to be due to the administration of salvarsan were undoubtedly of syphilitic origin, and passed off under antisyphilitic treatment, although their frequency under salvarsan made it very likely that there was some connexion between them and the use of that remedy. Fatal results were undoubtedly sometimes produced by the administration of salvarsan. Neosalvarsan had no advantage as compared with salvarsan except that it might be injected subcutaneously.

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[3] THE LANCET, March 2nd, 1912, p. [illegible], and Dec. 28th, 1912, p. 1788.

Views of Other Observers.

In the discussion Professor Wechselmann expressed opinions at variance with those of Professor Lesser. He said that he administered salvarsan without mercury in every case of syphilis. The undesirable symptoms which occurred were considered by him to be due to the combination of mercury and arsenic—a combination which interfered with the functions of the kidneys, and in this way hindered the excretion of salvarsan. Death occurring during treatment with salvarsan was caused by syphilitic endophlebitis. Professor Wechselmann claimed that in recent cases of syphilis he was able to secure the recovery of nearly every patient and to produce a negative Wassermann reaction by the administration of salvarsan. He has given as many as 40 injections to a patient without producing any ill effect. In 45,000 injections no case of death had occurred. In the patients treated since 1910, the first year of the salvarsan method, no tertiary symptoms have developed, although these symptoms, according to statistics compiled by Professor Fournier, used to become manifest in the majority of cases within the first four years after infection. Professor Blaschko said that abortive cures with salvarsan were possible when no general symptoms had as yet developed. In tabes dorsalis no permanent recovery but only certain improvements had been observed, such as reappearance of reflexes, disappearance of pain, and a change for the better in the patient's general state. In some cases where salvarsan had proved unavailing a successful result had been obtained by mercury, and this had led to the combined administration of salvarsan and mercury. The treatment must not be based on the result of Wassermann's reaction alone. A definitive judgment as to the utility of salvarsan could not be given until ten years had elapsed. Professor Oppenheimer reported 135 cases of metasyphilitic diseases which had been treated during the past two years with salvarsan. He said that tabes dorsalis and general paralysis must be regarded as occupying a special position notwithstanding the presence of spirochætæ. Of the above cases 20 were syphilitic affections of the brain, of which 8 were successfully treated; in 3 the symptoms became worse, in 9 the effect was negative, and in 4 cases there were recurrences of nervous symptoms which recovered under continued treatment. Of 15 cases of syphilitic affection of the spine 6 recovered, 2 became worse, and in 7 the effect was negative. Of 50 cases of tabes dorsalis there were 10 in which some symptoms were improved, 11 became worse, and in 29 the effect was negative. Of 24 cases of general paralysis there were 15 in which no result was obtained, 6 showed a rapid progress, and in 3 cases a remission was observed. No fatal result occurred among his cases. The majority of the other speakers, who were very numerous, expressed themselves in favour of a combination of salvarsan with mercury.

May 11th.

BUDAPEST.

Prevention of Ophthalmia Neonatorum.

As the measures hitherto employed for the prevention of ophthalmia neonatorum have not been found satisfactory, the Minister of Public Health has issued a circular according to which every midwife is required to apply one drop of a solution of acetate of silver to each eye of every newly-born infant. The circular lays down the following rules:—

1. Midwives shall carry in their bags 20 grammes of a solution of acetate of silver of 1 per cent. strength and a dropper in a special box. 2. At the birth, after the delivery of the head, the midwife shall well wash the child's eyes with clean tepid water and shall dry them each with a separate piece of gauze or linen. If for any reason the washing of the eyes cannot be done immediately after the birth of the head it must be done afterwards before the infant is bathed. 3. Before being used the eye-dropper must be cleansed both inside and out with tepid water. 4. The midwife shall be exempted from this obligation only in the event of the instillation of the solution having been performed by a medical practitioner. ...... 7. Midwives neglecting these rules make themselves liable to fines not exceeding 200 kronen, and to 15 days' imprisonment for a repetition of the offence.

Sale of Ether in Grocers' Shops.

The Chief Board of Health has refused to grant a request made by a deputation of grocers who applied for permission to sell ether. The Board considered, firstly, that grocers' shops are not suitable places for the storage of ether consistently with public safety; and secondly, that the sale of it by grocers would encourage the reprehensible practice of ether-drinking which has been introduced into Hungary by persons who have returned to their native country after emigration to America, where they have acquired the habit. This is so much the case that in a certain Hungarian county where there are hundreds of returned emigrants the practice of ether-drinking is quite common.

Lunacy in Hungary.

According to the published statistics the number of lunatics under detention in the public asylums has been increasing steadily since the year 1890. Last year it was 10,253, and the expenditure of the Government in connexion with these institutions amounted to more than 5,000,000 kronen. About 600 lunatics have been placed under the care of families, and in private sanatoriums for this class of patient there are from 500 to 600 inmates, so that the total number of certified lunatics amounts to about 11,500.

Post-graduate Medical Study in Hungary.

The central committee of the Hungarian Post-graduate Institute has established courses of instruction in 15 towns, particular attention being naturally paid to those which are held in Budapest, the capital of the country. In this city courses of four weeks' duration are held on single subjects, an arrangement by which a special subject may be thoroughly studied. Not only are there no class fees, but country practitioners, particularly those in the service of the State, receive 8*s.* 6*d.* per day towards their expenses and travel free of charge in order to encourage them to take advantage of the instruction. The special subjects of study include occupational diseases, accidents and injuries to workpeople, treatment of incipient tuberculosis, and treatment of incipient insanity.

May 8th.

TRAINING OF THE BLIND.—A Departmental Committee has been appointed by the President of the Local Government Board to consider the present condition of the blind in the United Kingdom and the means available for their industrial or professional training and for their assistance, and to make recommendations in connexion therewith. The chairman is the Right Hon. W. Hayes Fisher, M.P., and the medical members of the committee are Sir Arthur H. Downes, senior medical inspector for Poor-law purposes under the Local Government Board; Mr. H. B. Grimsdale, ophthalmic surgeon to St. George's Hospital; and Sir Thomas J. Stafford, medical commissioner to the Local Government Board of Ireland. Mr. R. B. Cross, of the Local Goverment Board, is secretary to the committee.

CONFERENCE ON INFANT MORTALITY.—The Right Hon. Herbert Samuel, President of the Local Government Board, will give the inaugural address at the National Conference on Infant Mortality, which is to be held at Liverpool on July 2nd and 3rd, under the auspices of the National Association for the Prevention of Infant Mortality and for the Welfare of Infancy. Among the subjects for discussion are milk sterilisation, ante-natal hygiene, the teaching of infant hygiene to the elder girls in elementary schools, the scope and functions of schools for mothers, and the special responsibilities of sanitary authorities in regard to infant welfare. A large number of local authorities and voluntary associations for infant welfare have already appointed delegates.

Obituary.

JOHN ABERCROMBIE, M.D. CANTAB., F.R.C.P. LOND.,

CONSULTING PHYSICIAN TO CHARING CROSS HOSPITAL.

THE death took place on April 30th at Augill Castle, Brough, Westmorland, of Dr. John Abercrombie, consulting physician to Charing Cross Hospital and to the Foundling Hospital, and formerly assistant physician to the Hospital for Sick Children, Great Ormond-street.

John Abercrombie was born in 1851 at Cheltenham, where his father, Dr. John Abercrombie, was a prominent physician. He came of Scottish stock: his paternal grandfather, John Abercrombie, was one of Wellington's surgeons; his great-grandfather, John Abercrombie, was Provost of Aberdeen. He was educated at Eton and at Cheltenham College, and proceeded to Caius College, Cambridge, afterwards studying medicine at St. Bartholomew's Hospital. He obtained the M.B. degree of his University and the Membership of the Royal College of Physicians of London in 1877, and was appointed house physician to his uncle, the late Dr. Partick Black, then physician to St. Bartholomew's Hospital. In 1880 he proceeded to the M.D. degree, and in the following year was appointed assistant physician to Charing Cross Hospital. In 1890 he was promoted full physician, and resigned from the active staff in 1905, when he was elected consulting physician. In the medical school of Charing Cross Hospital he served as lecturer on forensic medicine from 1882 to 1901, and in the four following years he was lecturer on medicine. In 1886 he was elected to the Fellowship of the Royal College of Physicians of London.

Dr. Abercrombie's period of office on the medical staff of the Hospital for Sick Children extended from 1884 to 1893. From 1890 up to the time of his retirement from practice he was honorary consulting physician to the Foundling Hospital, of which institution he was elected a governor in 1897.

In this extensive field of work Abercrombie steadily gained for himself a high name as a physician, a teacher and a man of culture. In the out-patient rooms and in the wards, more particularly in the children's wards, his practice was followed very regularly by the students, who came to appreciate both the direct instruction that he gave them, and even more the lessons that he taught them by his sound methods of observation, of sifting and weighing evidence, and of reaching a practical conclusion. His manner of teaching was quiet and deliberate, free from all attempt at display of personal distinction, but carrying with it a sense of thoroughness and conviction. On his colleagues at the "consultations" which were in fashion in those days the same impression was made of the peculiar soundness and value of his opinion in difficult cases. In the medical school his lectures on forensic medicine were of a high order, for the subject was one which was congenial to the character of his mind, and on which he wrote a successful text-book, "The Student's Guide to Medical Jurisprudence." And here it may be noted that in later years he became a Justice of the Peace for Westmorland, and but for failing health would have filled the office of High Sheriff of the county.

Looking back at Abercrombie's connexion with the different medical societies, one finds him always more active as an officer than as a simple member. In his quiet way he was more ready to assist in the management than to contribute to the papers and discussions, and his devotion to the duties of treasurer of the Ophthalmological Society and treasurer of the Association of Medical Officers of Schools was highly appreciated. At the Royal College of Physicians he was an examiner in medicine, and his election on the Council was a proof of the respect felt by the Fellows for his judgment and character.

Those of Abercrombie's friends who were most intimate with him in the early part of his career tell us that his excursions into serial medical literature—the work of abstracting, translating, annotating, reviewing, and generally subediting for weekly and monthly journals—were not made exactly *con amore.* He laboured at medical journalism, as so many young physicians have to labour, in order to keep himself abreast with knowledge and make his position in the profession secure. For a short time he was on the staff of the old *Medical Times and Gazette* when Dr. Philpot was editor, that is, after the days of Druitt, Webb, and William Cholmeley. We believe it was under his leadership that the "Dictionary of Practical Medicine" was begun—to be completed by others. The truth is that what time Abercrombie could spare from professional work, which was now coming to him as a consultant, he began to give more and more to the indulgence of his taste for art. He was a musician of no small accomplishments, but first and chiefly a student of sacred art. Guided by a naturally true and carefully cultivated judgment in this direction, and one of a small coterie of amateur enthusiasts, he formed a collection of Italian and Spanish pictures of the fifteenth and sixteenth centuries, both extensive and of rare beauty and value, which included a Murillo and, as he believed, a Leonardo. Apart from his earnest, quiet work in the wards—his other delight—Abercrombie was best seen and understood in his consulting-room, which was to him less a consulting-room than the home of his treasures of art. He would spend hours on end in minute technical study of artists' methods and materials, and more than once he succeeded in discovering original beauties hidden under tasteless "restorations." It was always a pleasure to him to show and discuss with his friends these and other articles of virtu—jewels, miniatures and precious family relics. He was a Freemason, one of the founders and Past Masters of the Chère Reine (Charing Cross Hospital) Lodge.

In 1903 he married Miss Evelyn Graham, "Sister Victoria" of Charing Cross Hospital, daughter of James Aspinall Tobin, of Eastham House, Cheshire, and sister of Mr. A. Aspinall Tobin, K.C., M.P. With her and their two children his life gradually became less public, more given to the delights of his home and its happy attractions. A little later and his friends were not surprised to learn that he had relinquished practice and his valuable professional appointments in London, and taken up a new life in one of the dales of Westmorland, on the Augill stream, near Brough. There, in a quaint castellated old house with oak-panelled rooms and groined ceilings, where his pictures found a fitting resting-place, in his gardens and in his fields as a country squire and a county magistrate, he was entirely happy. And his happiness was of the truly unselfish kind. He and his wife took in hand the social good of Brough, and a large share of their time and interest was given to it. Abercrombie's character was always easy to read by those who were among his colleagues and intimate friends. He loved, cultivated and practised all that is true and fair and beneficent. In his practice in hospital or as a consultant, and in the simple everyday duties which he took upon himself in his retirement, he was the same thoughtful, wise, but modest unpretentious man, deliberate and sound in judgment, and always honest and generous.

The last year or more of his life was a period of failing health and almost constant suffering bravely borne. His funeral well became his life, for his body was carried to the grave on the farm float, drawn by his own horse, and accompanied by a reverent gathering of the many neighbours, rich and poor, to whom he had proved himself a true friend.

THOMAS FREDERICK PEARSE, M.D. BRUX., F.R.C.S. ENG., M.R.C.P. LOND., D.P.H. CAMB.,

LATE HEALTH OFFICER OF CALCUTTA.

A FEW weeks ago we announced with regret the death of Dr. T. F. Pearse, who had been connected with the Calcutta corporation for a considerable period of time and was its health officer for six years.

Thomas Frederick Pearse came of an old Devon family, and was the only son of the late Francis Bryant Pearse, F.R.C.S. Eng. He was born at Haverstock Hill in 1856. Having already made a name as a promising student, he went in 1874 from University College, London, to the Middlesex Hospital with an entrance scholarship. He obtained many prizes in the medical school, including the Broderip scholarship in 1877. After qualifying M.R.C.S. Eng. and L.S.A. in 1878 he obtained the M.D. Brux. degree and was appointed to the resident staff of the Middlesex Hospital as house physician to Dr. William Cayley. In 1875 he became demonstrator of anatomy in the medical school of the hospital, in which office he made a reputation as a hard worker and successful coach. He obtained the M.R.C.P. Lond. in 1887 and the F.R.C.S. Eng. in 1883. Between 1879 and 1896 Dr. Pearse practised successfully in various parts of England. To a sound knowledge of his profession he brought an attractive and sympathetic personality. He was the inventor of several surgical instruments and appliances, and contributed a number of books, papers, and reports to the medical literature of his time, while for some years he was an esteemed Indian correspondent of THE LANCET.

An intimate friend sends the following appreciation: "Much of Pearse's life was spent in India on the Plague Commission and as health officer to Calcutta. Here he brought to bear gifts of a high order, for in six years he reduced the death-rate of the second city of the Empire 6 points per 1000; he further brought about reforms in vital statistics, food purification, and infant hygiene, while he systematised records and returns. In 1906 the corporation of Calcutta presented him with a testimonial in recognition of his valuable services on behalf of the health of that city, and in 1911 he was made honorary surgeon to the St. John Ambulance Brigade in Calcutta, while after the King's visit to India he received the Durbar medal. Pearse was prolific with his pen, while his interest ranged over a large number of subjects. Though extremely versatile he was always modest and unassuming. He was a fluent speaker and gifted lecturer, facile in dialogue and debate. Failing health compelled him to resign his appointment as medical officer of Calcutta, and he left for England in April, 1913. For many months he had suffered from heart trouble, which the Indian climate and an arduous life of public and professional endeavour accentuated. He reached England broken down in health, and a long and painful illness followed, throughout which he was nursed by his wife, an Irish lady, with loving and loyal devotion and care. He passed away on April 14th and was cremated at Golder's Green on April 18th. He gave his life to science and his heart to the relief of suffering, and by his death medicine loses an ornament."

Correspondence.

"Audi alteram partem."

THE BOY SCOUTS MOVEMENT.

To the Editor of THE LANCET.

SIR,—As a member of council of the Boy Scouts I have been requested by the Chief Scout, Sir Robert Baden-Powell, to write to you regarding the appeal he is now making for £250,000 for a permanent endowment fund, the income from which will be spent for the Boy Scouts movement. Companies of Boy Scouts are now being formed all over the world, and everywhere in this country they are to be seen on Saturday afternoons. No one can fail to be struck by their alert, cheery looks as they pass along the roads, by their civility when addressed, or by their willingness to help to the utmost of their power whenever they are asked.

But it is probable that many of those who are familiar with their appearance have never thought that the Boy Scouts is probably the greatest educational movement of modern times. It is not one-sided, it does not cram the boys with book learning, but it draws out the best that is in them. It trains them in body, in mind, and in morals. It trains their bodies by well-directed exercise in the open air. It trains their minds to observe exactly, to think clearly, to decide quickly, and to act promptly, whether in returning a lost child to its parents or stopping a runaway horse. Last, but not least, it trains their morals by establishing a "scout conscience." Everyone knows how much more sensitive a "schoolboy conscience" is to a breach of the traditions of his school than to a breach of the masters' rules, and in the lives of many, perhaps of most people, the opinion of Mrs. Grundy is more potent than the Ten Commandments in deterring them from doing evil and inducing them to do well. The "scout conscience" is as powerful as the schoolboys', and its great virtue is its unselfishness. The scout must not do anything unworthy of a scout however pleasant it might be, he must be ready to obey proper authority, he must think of others as well as of himself, he must be ready to help when needed, and he must do at least one good deed without hope of reward every day of his life. It is easy to see what an influence such a training as this will have on the lives of the coming generation. To-day the bane of the world is selfishness. In the family it leads to discord and causes the children to neglect the wishes and be indifferent to the comfort or necessities of their parents. It causes the parents to neglect their children and leave them to chance or to the State. It leads the employers of labour to be careless of the needs of their employees. It leads the workmen to shut their eyes to everything but their own desires, to disregard the engagements entered into by their own representatives, and to arrange strikes which will bring much suffering to the wives and families of their fellow workmen as well as a maximum of discomfort or even danger to the whole community. It is most disheartening when one asks help for a philanthropic object to be met by the question, "What am I to get out of it?" and to find that when the questioner sees no prospect of personal advantage he promptly refuses his aid.

To this condition of selfishness there are numerous and noble exceptions. Not the least of these is afforded by the medical profession, whose members, brought as they are by their work into daily contact with sickness, sorrow, and death, give freely of their time, skill, strength, and health, and even sacrifice their lives to an extent which only they themselves know. Often they refuse to take the money which their services have well deserved, and out of their hard-earned savings they give for philanthropic objects more than they can well afford. How very different the spirit is, which actuates many who seek their aid, they have, alas! too many opportunities of learning. The same unselfish spirit that animates the medical profession is what the "scout conscience" is trying to instil into the boys of the present time, who will be the men of the future. For this reason the Boy Scouts movement deserves well of the medical profession, but not for this reason only. Although every advance in hygiene tends to lessen sickness and thus diminishes the fees which attendance on the sick would bring to them, medical men have consistently disregarded their own interests and have welcomed and assisted every movement that promised to lessen disease and increase the health and strength of the people. The Boy Scouts movement is doing much for the physique of the rising generation, but there is much more to be done. As the Chief Scout says, in the slums of our great industrial centres thousands of the poor-class boys are never given a chance to start fair in the race for life, though they might become good citizens and valuable assets to the nation were a little trouble taken to help them. This is one of the things the Boy Scouts movement proposes to do as soon as a sufficient income can be assured to provide the necessary organising staff for this purpose as well as for the training of scoutmasters throughout the country. The Chief Scout is making an urgent appeal for £250,000, as I have already mentioned. Boys there are in plenty who are willing to give their time and energies to the work of scouts, but they need training, and there are not enough scoutmasters, and, willing as they are to do their very best, some of them are insufficiently trained themselves.

This appeal of the Chief Scout is certain to find a welcome amongst medical men. As a rule they are not rich themselves, but I feel sure they will give according to their means, and amongst their patients and friends they may find many who are both able and willing to give provided they are assured that the object is good. In his appeal the Chief Scout says that one friend of the movement writes: "I will give £500 if 100 others will do the same." Another writes: "I will give £100 if 1000 others will do likewise." For my own part I will make one of this 1000, and I trust that every medical man throughout the country will not only contribute as much as he can himself but will induce others to do likewise for the sake of the coming generation and the country.

I am, Sir, yours faithfully,
Stratford-place, May 9th, 1914. LAUDER BRUNTON.

"ENCYCLOPÆDIA MEDICA."

To the Editor of THE LANCET.

SIR,—My attention has been drawn to a circular which has been sent round by Messrs. Green, of Edinburgh, calling attention to a work which is in process of publication termed the "Encyclopædia Medica." To this work a number of writers are said to contribute, and I find amongst them my own name, with the description after it, "Master of Rotunda Hospital, and Professor of Midwifery, Dublin." As I in my present position of Master of the Rotunda, or in my former position of Professor of Midwifery, have never had anything to say to the work in question, I think some correction is necessary.

About the year 1898 I was asked to contribute some two or three articles to the "Encyclopædia Medica," and I contributed them. Since that time I have never had an opportunity of correcting what I wrote, nor have I been asked to do so for the edition which is in process of preparation. Consequently I consider that I should be doing wrong in not pointing out that any articles which are attributed to me in the forthcoming edition may or may not represent my opinions at the present time, and that I take no responsibility for them whatsoever.

I am, Sir, yours faithfully,
HENRY JELLETT.
Rotunda Hospital, Dublin, May 5th, 1914.

THE ELECTRICAL TREATMENT OF MILK.

To the Editor of THE LANCET.

SIR,—In the annotation on the above subject in THE LANCET of May 9th you call attention to the fact that no information has been given about cost in my report. The explanation of this is very simple. The report was on the results obtained by a small experimental, and a large scale (also experimental) plant, the whole cost of which was borne by the health committee of the city of Liverpool, to whom the report was issued. There was, therefore, no need to report on the cost to a body which had all the detailed accounts. I would also point out that the actual laboratory workers on the process had a definite object in view—i.e., to produce a plant which would be suitable for dealing with milk supplied from the corporation milk depôts of this city for the use of babies, and which would be more satisfactory than the present steam sterilisation method. For larger supplies a larger plant at an increased cost would be necessary, and there are other factors which would make it very difficult to give an estimate of cost without actual details in each individual case being first obtained.

The report was circulated in order to invite criticism and that workers on this field might know what progress had been made. Our whole conception of the process is that it is a scientific experiment which, if the success already obtained is continued in future work, will prove of practical and economic value in dealing with contaminated milk-supplies; but we deprecate most strongly the introduction of the commercial aspect into the question. We are anxious to give all information and all facilities to anyone working on the scientific side, and would welcome the erection of a similar plant in any other scientific institution; but to municipal authorities or others who wish to use the plant for dealing with their milk-supplies we would say, wait until the process has had at least a year's trial, when its efficiency and its economic possibility will be proved or disproved.

In regard to your remarks about purity at the source of our supplies I most cordially agree, but the condition for which we are all striving, a pure milk-supply, seems still in the far distance, and it would be a fatal policy to reject temporary and even imperfect measures while we are trying to reach the ideal. Liverpool's health committee stands, I think, alone in maintaining at considerable cost its corporation sterilised milk-supply depôts, but this fact has not caused it to relax in any way its efforts to secure a pure milk-supply.

I am, Sir, yours faithfully,
J. M. BEATTIE,
Bacteriologist to the City of Liverpool.
University of Liverpool, May 12th, 1914.

THE CAUSATION OF POST-OPERATIVE MASSIVE COLLAPSE OF THE LUNG.

To the Editor of THE LANCET.

SIR,—The clinical features of post-operative massive, or lobar, collapse of the lung are gradually becoming recognised, and observers appear to be in agreement concerning them, but opinion is still divided as to the cause.

Although my efforts have been chiefly devoted to establishing the clinical characters of the condition, certain features of post-operative collapse and the association of an exactly similar state of the lung with definite paralysis of the essential muscles of respiration have, from the first, led me to believe that the phenomenon is determined by some reflex nervous agency. But I have always been conscious of the difficulty of accounting for it by simple inhibition of action of the diaphragm on the affected side.

The interesting and suggestive article of Dr. T. R. Elliott and Dr. L. A. Dingley in THE LANCET of May 9th makes some important additions to our exact knowledge of massive collapse, for they have found under X rays that the affected lobe is completely collapsed, that the heart is considerably displaced, and the diaphragm immobile on the affected side, thus confirming conclusions which were based on unaided physical examination. Their examination of the various means by which collapse of the lung may be brought about emphasises the difficulties attending the "reflex diaphragm inhibition" hypothesis, which I have tentatively advanced.

After giving reasons for believing that the bronchiole muscles can contract to the point of cutting off the air entry to the alveoli, they reject this explanation on the ground, as I read them, that it is most unlikely that the bronchiole muscles in man would be excited to such a reflex action locally and cause lobar collapse, and, further, that collapse from such a cause would not occur without a preceding phase of asthma. Now this, to my mind, is the most suggestive part of their paper. For although we have still much to learn about the function of the bronchial muscles, there seem to be fewer *a priori* objections to sudden complete reflex spasm of the bronchiole muscles of one lobe as a cause of lobar collapse than there are to the sudden simultaneous occlusion of all the bronchioles of one lobe by viscid secretion, which is the view favoured by Dr. Elliott and Dr. Dingley. The objection on the ground of the absence of an asthmatic phase is not a serious one. As the bronchiole spasm would differ in kind or degree in the two conditions, differences in the type of dyspnœa need occasion no surprise. Against the difficulty of accounting for the limitation of such a reflex to a single lobe the simultaneous interference with the function of the distending muscle of that lobe may conceivably contain the answer. For it must be remembered that experience based on the study of cases of paralysis of the muscles of respiration shows that there is a close correspondence between the area of lung affected and the range of action of the paralysed muscle.

The explanation of acute lobar collapse by simultaneous blocking of all the bronchioles of one lobe (and one lobe only) by viscid secretion appears to me to be open to the following objections. (*a*) The inherent improbability of the limitation of an acute infective process to the whole of the bronchioles of a single lobe, simultaneously. (*b*) The complete absence in several of the recorded cases of any premonitory symptoms suggesting bronchial trouble. (*c*) The appearance—within two or three hours of onset, or even sooner—of greenish, airless, mucopurulent sputum: an order of events quite at variance with the appearances usually presented by the expectoration in the initial stages of acute bronchial inflammations. (*d*) The rapid and complete disappearance of cough and expectoration in uncomplicated cases (*i.e.*, without secondary broncho-pneumonia) after an interval of from 24 to 48 hours. (*e*) The occurrence of well-marked cases of post-operative massive collapse without any cough or expectoration at all. (*f*) Why should a strictly limited lobar bronchitis, such as that postulated, arise only in connexion with a certain kind of operation; and why should this type of bronchitis be especially associated with operations on the appendix and the pelvic viscera? (*g*) The initial pyrexia is not an argument of much weight in favour of acute bronchial infection, as it may be met with in other conditions in which a large tract of lung is suddenly placed out of action—e.g., pulmonary infarction.

If I have laid too much stress on muscular paralysis or inhibition as a factor in causation I think Dr. Elliott and Dr. Dingley have erred in like manner in regard to the viscid secretion. For all that their communication is of very real value, and will, I believe, prove to have taken us forward a step in the elucidation of the cause of post-operative massive collapse. As regards the viscid expectoration I adhere to the belief that its characters and amount depend on the condition of the affected lobe at the moment of collapse; in other words, that it consists of the contents of the lobe, which are expressed from it as it collapses.

I cannot admit, as Dr. Elliott and Dr. Dingley suggest, I fancy out of courtesy to myself, that there can be two mechanisms of post-operative lobar collapse. We are, I believe, both of us wrong at present, but I have an impression that the stone they have rejected and I am disposed to pick up will find a place in the construction of the true theory of massive collapse.

I am, Sir, yours faithfully,

Chandos-street, W., May 11th, 1914. W. PASTEUR.

THE MEDICAL INSURANCE AGENCY.

To the Editor of THE LANCET.

SIR,—I would like to draw the attention of members of the medical profession to the advantages of effecting insurances through the medium of the Medical Insurance Agency.

The agency was started originally with the idea of assisting medical men to arrange their insurances under the Workmen's Compensation Act when that Act came into force in July, 1907. Its scope and usefulness, however, have developed to a large extent, and a great deal of business, notably life and motor-car insurance, is being transacted, and the steadily increasing numbers who insure through the agency show that its efforts are appreciated. The object of the agency is to assist medical men in the choice of an office in which to place their insurances. The business transacted by the agency is not confined to any particular office, but endeavours are made to place insurances to the best possible advantage of the members.

Those taking advantage of the agency not only help themselves but at the same time contribute towards helping deserving medical charities, as, after allowing rebates to insurers and the payment of working expenses, any surplus so remaining is distributed in the above manner. Since its inauguration the agency has refunded to insurers something like £3000, while in addition no less a sum than £800 has been distributed to medical charities.

Full information as to all classes of insurance may be had on application to the Medical Insurance Agency, 429, Strand, London.

I am, Sir, yours faithfully,
G. E. HASLIP,
Chairman of the Committee, Medical Insurance Agency.
London, W.C., May 8th, 1914.

DOMICILIARY TREATMENT OF TUBERCULOSIS.

To the Editor of THE LANCET.

SIR,—I am instructed by the Huntingdonshire Medical Committee to send you a copy of the following resolution which was carried unanimously at its meeting on May 5th.

That in view of the necessity of treating many cases of tuberculosis at their own homes it is absolutely necessary that in a rural area such as this the local medical men should take a share in the treatment.

I am, Sir, yours faithfully,

Huntingdon, May 7th, 1914. J. R. GARROOD.

DIATHERMY IN VESICAL HÆMORRHAGE.

To the Editor of THE LANCET.

SIR,—We have read with much interest Mr. R. H. Jocelyn Swan's excellent paper on Tumours of the Urinary Bladder, published by you last week, particularly with regard to the treatment of hæmaturia in cases of carcinoma where radical operation cannot be carried out, and notice that he makes no reference to "diathermy" treatment. Whatever effect this treatment may have on the growth itself there can be no doubt whatever as to its effect on the hæmorrhage in certain cases, and in our series of four—which we hope to report in due course—we have succeeded in arresting severe hæmorrhage for months. As the treatment can be carried out with no more discomfort to the patient than the introduction of an ordinary catheter passed most gently and with strict aseptic precautions, we think this method of treating vesical hæmorrhage should prove a distinct advance on the methods described by Mr. Swan as being standard ones.

We are, Sir, yours faithfully,
C. E. IREDELL.
RALPH THOMPSON.
Guy's Hospital, May 12th, 1914.

MEDICAL PRACTICE UNDER THE INSURANCE ACT: THE ALLEGATION OF BRIBERY.

To the Editor of THE LANCET.

SIR,—My attention has been called to the remarks which your Special Commissioner recently made on the subject of the bribing of insurance agents, and I shall be glad if any of your readers who can give any further information with regard to this matter would communicate with me so that any possible action may be taken to stop a very unfair and odious practice.—I am, Sir, yours faithfully,

R. M. LEONARD,
Secretary of the Secret Commissions and Bribery Prevention League, Incorporated.
9, Queen-street Place, London, E.C., May 8th, 1914.

THE LATE COLONEL J. O. WILL, R.A.M.C.

To the Editor of THE LANCET.

SIR,—I have to thank you for your great kindness in inserting an appeal from Drs. Blomfield, Dick, and Sichel on my behalf. A very great many have most kindly responded, and I should be much obliged if you would allow me to convey to them through your paper my most grateful thanks. I am trying to write to them personally but have not all their addresses. If you will allow me I should like also to publish in your columns later on a statement of the total amount received. Again thanking you, I am, yours truly,

K. E. WILL.
Brunswick Lodge, Dunton Green, May 12th, 1914.

WILLIAM HAWES AND ALEXANDER JOHNSON.

To the Editor of THE LANCET.

SIR,—It is flattering to an occasional writer to find that a medical historian so erudite as Dr. Raymond Crawfurd should not only read him, but point out his supposed delinquencies. The gist of Dr. Crawfurd's criticism in your issue of May 2nd is that Hawes was a plagiarist and somewhat of an impostor. But is this quite a fair view of the case? William Hawes is allowed the title of M.D. by his biographer in the "Dictionary of National Biography," and is also referred to in the same article as "physician to the London Dispensary." This title of M.D. apparently dates from 1780–81, according to his German biographer (Biogr. Lex., 1884).

That he was a plagiarist is open to grave doubt. According to his biographer in the "Dictionary of National Biography" he derived his ideas from his friend Dr. Cogan's translation from the Dutch of "Memoirs of the Society instituted at Amsterdam in favour of Drowned Persons," 1767–71. This translation was made in 1773 on Thomas Cogan's return from Holland. Hawes probably used Cogan's translation again when writing on the subject of premature burial in the Annual Register (1777).

Alexander Johnson's chief pamphlet, published in 1773, republished under a different title in the same year, is mainly made up of cases "selected from the (Dutch) Society's account of the success of its undertaking." These cases fill nearly the whole pamphlet from p. 11 to p. 138. It is, in fact, little more than a compilation or transcript from the Dutch. The few introductory pages scarcely count, except that with some appearance of spleen they omit the names of Hawes and Cogan from a list of those interested in the recovery of the drowned. Dr. Fothergill's name does appear in the list, and again he figures with Hawes and Cogan in the foundation of the Royal Humane Society. He was apparently in sympathy with both sides and was, moreover, an M.D. (though Cogan was one, too, for the matter of that in 1774).

Spilsbury may have hated Hawes for some private reason, and Johnson may have looked down on Hawes as upon a mere apothecary in 1773. Cogan's translation was probably at the root of the quarrel. Time with its love of shocking revelations may perhaps show that Johnson lifted Cogan's work! Cogan was certainly a good Dutch scholar, and so fond of Holland that he lived there in the great house of the Zulesteins for some years. He certainly worked very hard with Hawes to found the Royal Humane Society. Both surely deserve halos if only for their powers as organisers.—I am, Sir, yours faithfully,

May 7th, 1914. THE WRITER OF THE ANNOTATION.

THE NATIONAL INSURANCE ACT.

SANATORIUM BENEFIT IN MIDDLESEX.

IN Middlesex the county council has signified its willingness to provide treatment for all persons suffering from tuberculosis, whether insured or uninsured. The Insurance Committee, therefore, has entered into an agreement to hand over to the county council all moneys in the sanatorium fund after payment for domiciliary treatment, drugs, medical extras, and administrative expenses. It is estimated, however, that the available balance will by no means suffice to meet the cost to which the county council will be put in respect of tuberculous insured persons, but will, in fact, only maintain 100 out of 250 beds in institutions required for insured persons. As a member of the Insurance Committee put it at a recent meeting, of 250 persons who have paid by their insurance contributions for institutional treatment 150 will be in the position of having to receive treatment at the cost of the rates, the insurance fund being inadequate. Not unnaturally, longing eyes were cast upon the domiciliary 6d. in the hope of making up the deficit, and a proposal was actually made by a member of the committee to reduce the amount set aside for domiciliary treatment and to increase to that extent the contribution towards the expenses of the county council. However, the suggestion was not persisted in and the agreement with the council was ratified. The length of the agreement was fixed at 60 years in order to make it coterminous with the period for which the council has arranged to raise a loan for capital expenditure. Nevertheless the hope was expressed that long before 60 years had elapsed tuberculosis would be as unimportant as some of the zymotic diseases are now. The county council agrees to place 60 beds in sanatoriums and 40 in hospitals at the disposal of the Insurance Committee. On April 29th 155 insured persons were under treatment in institutions and there was a waiting list of 148, which would have been larger but for the fact that, owing to the hopelessness of getting institutional treatment in a reasonable time, patients who should be dealt with in that way were receiving other forms of treatment as a temporary expedient.

BIRMINGHAM INSURANCE COMMITTEE.

The Birmingham Insurance Committee, in adopting the report of their Sanatorium Subcommittee, had laid before them a letter which had been sent to the medical men upon their panel urging the necessity for early application for sanatorium treatment on the part of insured persons suffering from tuberculosis. The letter had been sent in the hope that the medical men would use their influence to induce patients to seek sanatorium treatment at the earliest possible moment. The same committee, in adopting the report of their Medical Service Subcommittee, had before them the case of a medical practitioner who had been previously censured for acting negligently in not properly examining a patient. He was now reported to have informed a patient that if not satisfied he could go and be examined at the tuberculosis institute, and in giving him a prescription to have instructed him to take it to a druggist whom he named. The committee expressed strong disapproval of the practice of sending a patient to a particular druggist, and in recommending censure of the medical man intimated that a more serious view would have been taken if the case had not arisen before their previous censure had been passed upon the practitioner involved. In another case the medical man complained of was reported as having acted negligently in persistently refusing to attend a patient on several occasions, in not providing proper treatment, and in issuing a certificate when he had not seen the patient for seven days. It was recommended that representations should be made to the Commissioners with a view to the removal of this practitioner's name from the panel.

VOLUNTARY HOSPITALS AND THE INSURANCE ACT.

At the dinner of supporters of the Miller General Hospital for South-East London, held under the chairmanship of Sir Edward Coates, M.P., a deficit of £2665 for the past financial year was referred to, and the needs of the hospital for building and other purposes were laid before those present. The chairman described hospitals in general as going through a very serious crisis, due in part, at any rate, to the Insurance Act, which had created an excuse for some people to withdraw their subscriptions. He expressed anxiety lest the voluntary system might be receiving a check, and deprecated the possible superseding of voluntary hospitals by State-aided institutions, describing the words "supported by voluntary contributions" as a national sky-sign of which the people in this country were justly proud.

A LEADING FRIENDLY SOCIETY AND THE INSURANCE ACT.

The Manchester Unity of Oddfellows, which bases its financial returns upon a membership of 771,055, of whom 152,193 are women, does not appear to have serious reason to fear insolvency through any alleged failure of the medical profession to detect malingering or properly to treat disease. For the first nine months under the Act the Manchester Unity paid in sickness benefit to men £196,628, its probable liability having been actuarially estimated at £213,196. With women members it has fared somewhat differently, the estimates for sickness benefit having been exceeded by £6011, the actual payments being £48,303 and the actuarial estimate £42,292. Maternity benefit is not included in the above figures. The society paid to men in respect of this benefit £46,711, the estimate for the same period being £62,350, and to insured women £905, as against £1237. It will be seen that whatever they may have done in the matter of other sickness women have kept well within the expectation formed of them with regard to maternity so far as the Manchester Unity is concerned.

EAST RIDING INSURANCE COMMITTEE.

At a meeting of the East Riding Insurance Committee at Beverley a discussion took place upon an allegation made that some medical men upon the panel were obliging women patients to pay over to them the whole of their maternity benefit for attendance. Protest was made against this, but it was apparently not established that the practice if it existed was in any way general, a member pointing out that Approved Societies generally had maternity cases looked after by a lady who would see that the woman was receiving proper attention. He had never in his experience heard of a medical man "dunning" patients in the manner described. Various opinions were expressed, and it was suggested that publicity having been given to the matter if any medical man were really acting as alleged he would be warned. The matter then dropped. Among other subjects mentioned was the loss of their cheques by three of the medical men on the panel, one being for £47, which the owner knew he had unintentionally thrown into the fire. Fresh cheques were ordered to be drawn.

Medical News.

UNIVERSITY OF CAMBRIDGE.—The Linacre lecture will be delivered on May 25th by Sir T. Clifford Allbutt, Regius professor of physic, on Public Medicine and Hospitals in Ancient Greece and Rome.

The following medical degrees have been conferred:—

M.D.—E. G. Fearnsides, Trinity Hall.
M.B., B.C.—R. Sherman, Caius, and M. T. Petty, Downing.
M.B.—R. S. Morshed, Trinity.

BRITISH MEDICAL TEMPERANCE ASSOCIATION.—The annual meeting of this association will be held on Monday, May 25th, at 5.30 P.M. (tea and coffee at 5.15 P.M.), at 124, Harley-street, W. The President, Professor G. Sims Woodhead, M.D., will take the chair.

MEDICAL INSPECTORSHIPS UNDER THE BOARD OF CONTROL.—The Secretary of State has approved of Robert Welsh Branthwaite, M.D., Albert Edward Evans, M.B., and Samuel Ernest Gill, M.D., for appointments as inspectors under the Board of Control, the second named to fill the post of Welsh-speaking inspector.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE.—At a meeting of this society at 11, Chandos-street, Cavendish-square, London, W., to-day (Friday, May 15th), at 8.30 P.M., a paper on Some Surgical Aspects of Tropical Diseases will be read by Mr. James Cantlie; Dr. G. C. Low will show a specimen of Dr. A. Castellani's new parasite the "Entoplasma"; and Dr. C. M. Wenyon will show specimens of Oriental Sore in Dogs from Dr. A. R. Neligan, of Teheran.

THE annual banquet of the Coroners Society of England and Wales will be held at the Holborn Restaurant, London, on Thursday, June 18th, at 6.45 for 7 o'clock.

THE annual meeting of the East End Mothers' Lying-in Home will be held at 8, Little College-street, Westminster, S.W., on Wednesday, May 20th, at 4 o'clock.

MUNICIPAL HONOUR FOR A MEDICAL MAN.—At the last meeting of the Cheltenham town council Dr. Richard Davies, a former councillor, was unanimously elected an alderman.

PHARMACEUTICAL SOCIETY.—Dr. Andrew Balfour, director of the Wellcome Bureau of Scientific Research, and Mr. J. R. C. Stephens, medical missionary, Nigeria, have been elected corresponding members of the Pharmaceutical Society.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST: CENTENARY FESTIVAL DINNER.—A dinner to celebrate the hundredth anniversary of the foundation of the Royal Hospital for Diseases of the Chest, City-road, was held at the Savoy Hotel, London, W.C., on Friday, May 8th, Dr. W. H. White in the chair. Those present included Sir Richard Douglas Powell, Sir A. Pearce Gould, Sir StClair Thomson, Professor Sims Woodhead, Dr. Samuel West, Dr. Mitchell Bruce, Dr. Hector G. Mackenzie, Dr. S. H. Habershon, Dr. J. E. Squire, Dr. F. T. Smith, Dr. Glover Lyon, Dr. F. J. Wethered, Dr. R. A. Young, Mr. W. T. Lister, Dr. Arthur Davies, Dr. T. D. Lister, Dr. James Calvert, Dr. J. H. Drysdale, Dr. P. Horton-Smith Hartley, Dr. R. Murray Leslie, and the Dean, Dr. Barty King. After the chairman had proposed the toast of "The King," Sir Richard Douglas Powell, in proposing the toast of "Prosperity to the Hospital," heartily congratulated it on having attained its hundredth birthday, and on having preserved all through that time its vigour and beneficence. He referred to the vast amount of research and useful work which had been carried out in the hospital, and believed that it was destined to a greater usefulness and to spread its fruits over a greater area. He contrasted the treatment of consumptive patients in the Victorian era with that of to-day. He then described a recent visit paid by him to the hospital, and spoke of the great improvements which had been carried out in the out-patient department, referring to the new equipment and installations. He was specially struck with the new department for the prevention of consumption, which would be of the greatest possible value in obtaining accurate and valuable statistical records of the etiology of tuberculosis, and with the electro-cardiograph and other instruments for scientific investigation of heart diseases. Dr. Arthur Davies, in reply, gave a short account of the history of the hospital. It was founded in 1814 by the Duke of Kent, the father of Queen Victoria. It was first situated in Union-street, Bishopsgate, and in 1847 it was removed to Dean-street, Finsbury-square, and in 1849 to its present site. In 1863 it was rebuilt. In 1829 one of the physicians, Dr. Babington, invented the glottiscope, which was the forerunner of the laryngoscope. In 1862 Dr. Thomas Davies, grandfather of the present senior physician, introduced the Laennec stethoscope into England; he also originated the practice of exploratory puncture in the diagnosis of pleural effusions. In 1848 Queen Victoria accepted the office of patron to the hospital, which was henceforth called the Royal Infirmary for Asthma and Consumption. In 1867 the title was changed to that of the Royal Hospital for Diseases of the Chest. Professor Sims Woodhead, in proposing the toast of "The Medical School," referred to the fact that clinical lectures were delivered in the hospital as far back as 1823. The history of the hospital showed that it was staffed in its early years, not only by men of high ideals, but also by strong, practical, and energetic men who were capable of putting those ideals into practice. Dr. Matthew Baillie, nephew of John and William Hunter, who died of consumption in 1823, was one of the first to show the importance "of a careful observation of the dead, in order to discover what had been happening among the living." Nowadays special personal training in the treatment of tuberculous cases was necessary. Professor Woodhead maintained that the medical officer of health could never take the place of the clinician and investigator, and expressed the hope that if laboratories were to be founded and developed these laboratories must be in close connexion with the clinical material, otherwise there was a danger of public laboratories becoming mere centres for the routine collection of statistics. Dr. Barty King, in response, mentioned that two years ago it was decided by the hospital staff to establish a medical school, along with a school for the training of tuberculosis nurses. At its foundation the medical school had to face exceptional difficulties, more especially in connexion with the passing of the National Health Insurance Act; but in spite of these difficulties it had met with an immediate and encouraging success. He referred to the necessity for the training of tuberculosis officers for the tuberculosis departments and sanatoriums, for which there was at present no adequate provision. The general and special hospitals should actively combine in safeguarding their interests in connexion with the new movements, and especially in relation to tuberculosis. The Dean then paid special tribute to the work as carried on at the Brompton Hospital, and also alluded to the high value placed by German physicians on the chest hospitals in London as essential factors in any campaign against tuberculosis. In connexion with the hospital, he mentioned that during the last two years the whole of the out-patient department had been rebuilt, and that tuberculosis and cardiological departments and pathological laboratories had been established and equipped. The council was about to appoint a director of the pathological laboratories in order that, in addition to the ordinary routine work of the hospital, thorough research work might also be carried out. The council had decided to make a special appeal for £60,000 for the endowment of research and the rebuilding of the hospital. Sir Alfred Pearce Gould proposed the health of "The Guests," and Sir StClair Thomson and Dr. Mitchell Bruce replied to the toast; and Dr. Samuel West proposed the toast of "The Chairman," which was replied to by Dr. W. H. White.

ROYAL MEDICAL BENEVOLENT FUND.—At the last meeting of the committee 28 cases were considered and grants amounting to £270 voted to 23 of the applicants. The following is a summary of the cases relieved:—

Widow, aged 53, of L.F.P.S. Glasg., who practised at Winchcombe and Bilbao. Since husband's death has tried to earn a living by taking in boarders, but owing to heavy expenses in connexion with the illness of son, recently deceased, and dearth of boarders is in arrears with rent. Granted £10.—Widow, aged 54, of L.R.C.P. Edin., who practised at Blackburn. Since husband's death has been able to earn a few shillings weekly by nursing. One daughter learning a trade. Recently suffering from ill-health and unable to obtain suitable work. Granted £12 in 12 instalments.—Widow, aged 65, of L.F.P.S. Glasg., who practised at Rothesay and other places. Has a small pension from the Elder Fund, and earns a few pounds annually by letting rooms. Suffering recently from chronic rheumatism and sciatica and unable to attend to lodgers. Granted £12 in 12 instalments.—Widow, aged 58, of L.F.P.S. Glasg., who practised at Glasgow. Owing to ill-health and illness of daughter unable to work. Small allowance from brothers and sister and small pensions from the Elder Fund and the Skinners Company. Granted £10 in one instalment.—Daughter, aged 43, of M.R.C.S. Eng., who practised at Gillingham, Kent. Has recently been working as a general servant, but in consequence of ill-health and overwork requires a rest. A letter for a convalescent home procured for her, and a sum of £5 granted, to be given at the discretion of a local charity.—Widow, aged 57, of M.D. Durh., who practised at Peckham Rye. Only income the proceeds of the sale of late husband's practice, which is being carried over several years. Paralysed and nearly blind and quite unable to move without help. Granted £12 in 12 instalments.—M.D., of St. Andrews, aged 76. Practised at London, Norfolk, and abroad. Obtains very occasionally locum work. Lost small capital in struggle to obtain work and ill health. Granted £18 in 12 instalments.—Widow, aged 62, of M.R.C.S. Eng., who practised at Streatham Hill. Since husband's death income only £24 per annum, and owing to husband's long illness practice entirely lost and of no financial value. Granted £12 in 12 instalments.—Widow, aged 75, of L.R.C.P. Edin., who practised in Ireland. Has with the assistance of daughters tried to run a nursing home in South-West London, but owing to lack of patients has got behind with rent. Income £30 per annum from Epsom College. Relieved once, £10. Granted £10, to be paid through the Guild visitor.—Daughter, aged 52, of M.R.C.S. Eng., who practised at Newport, Mon. Receives occasional help from friends. Is almost blind and health very bad. Relieved three times, £35. Granted £12 in 12 instalments.—Daughter, aged 70, of M.R.C.S. Eng., who practised at Limehouse. Earns a little by keeping poultry and other general work, and receives a little help from nephew. Health very uncertain. Relieved once, £10. Granted £12 in 12 instalments, and recommended to apply for the old age pension.—Widow, aged 73, of M.D. Glasg., who practised in Ireland and other places. Lives in own house, and lets off two flats which when occupied enables her to manage. In consequence of one flat having been empty become short of money to pay taxes and rates. The case referred to the Guild. Relieved seven times, £41. Granted £5.—Widow, aged 57, of M.R.C.S. Eng., who practised at Maida Vale. No income, and suffers from chronic rheumatism and weak heart. Relieved 10 times, £104. Granted £12 in 12 instalments.—Daughter, aged 60, of M.R.C.S. Eng., who practised at Nevin. Earns a little by letting rooms, and has to keep her sister, who is in very delicate health. Relieved eight times, £86. Granted £12 in 12 instalments.—Widow, aged 50, of M.B. Aberd., who practised in Warwickshire and New South Wales. Receives a little help from her sister and son, but is suffering from general illness and quite unable to work. Relieved six times, £56. Granted £12 in 12 instalments.—Daughter, aged 67, of M.R.C.S. Eng., who practised at Cranbrook, Kent. Health bad and quite unable to look after herself. Has an annuity of £16 9s. 8d. and a little help from the Kent Benevolent Society. Relieved seven times, £84. Granted £12 in 12 instalments.—Daughter, aged 63, of L.S.A. Lond., who practised at Kilburn and Regent's Park. Health very bad and has to keep a sister. Recently lost a friend who paid the rent and assisted otherwise. Relieved five times, £60. Granted £12 in 12 instalments.—Widow, aged 44, of M.B., C.M. Edin., who practised at Ballindalloch. At husband's death was left with four young children, the eldest of whom is now 15 years old. Has tried to earn a living by taking in boarders, but owing to the recent illness of self and children has been unable to properly attend to this. Receives £15 per year from the Flemming Fund. Relieved three times, £30. Granted £10 in two instalments.—Widow, aged 44, of L.S.A. Lond., who practised in London. Has been trying to make a living by letting rooms, but has not been successful, and owes rent. Three children, the youngest of whom is six years old. Relieved twice, £12. Voted £3 as a special grant.—M.D., of Aberdeen, aged 61, practised at Walsall and other places. Suffering from lateral sclerosis and paralysis since 1831. Income from various sources £70 per annum. Three children, the youngest 3 years and the oldest 15 years. Relieved six times, £53. Granted £12 in 12 instalments.—Orphan, aged 63, of M.R.C.S. Eng., who practised in Harley-street, W. Too old to obtain employment. Receives pension from another society of £25 and some help from the Guild. Relieved twice, £24. Granted £12 in 12 instalments.—Widow, aged 69, of M.R.C.S. Eng., who practised in Stratford, E. Has pension of £30 from Epsom College, but health very bad. Relieved four times, £39. Granted £10 in two instalments.—Widow, aged 71, of L.R.C.P. Edin., who practised at Sparkbrook, Birmingham. Only income £16 per annum and a little help from children. Has tried to augment this by taking in boarders, but owing to age and bad health unable to make this pay, and the rent and taxes are in arrears. Relieved twice, £20. Granted £10.

Contributions may be sent to the honorary treasurer, Dr. Samuel West, 11, Chandos-street, Cavendish-square, London, W.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Asylum Officers (Superannuation) Bill.

Lord **WOLMER** has introduced in the House of Commons a Bill "to limit the hours of employment of officers and servants in asylums and to amend the Asylum Officers Superannuation Act, 1909." It was read a first time.

Naval Medical Compassionate Fund Bill.

Mr. G. **LAMBERT**, the Civil Lord of the Admiralty, on Tuesday, May 12th, introduced a Bill "to make further and better provision with regard to the Naval Medical Compassionate Fund." It was read a first time.

HOUSE OF LORDS.

THURSDAY, MAY 7TH.

Midwives (Scotland) Bill.

THE House went into Committee (for the second time) on the Midwives (Scotland) Bill.

Lord **BALFOUR** of **BURLEIGH**, in moving the adoption of a series of amendments *en bloc*, explained that with one exception they were of a drafting character. As the Bill stood there was a provision that on the formation of a Central Midwives Board in Scotland three members were to be appointed by the President of the Council, and two of these when available should be certified midwives practising in Scotland under the terms of the Bill. Of course, these midwives were not available now, and it was uncertain when they would be. Therefore, after conference with the Scottish Office and the Privy Council, it had been suggested that he should make the Privy Council responsible for the formation of the Board for a period of years. That would get over the difficulty. He also proposed to insert specific provisions that the new Board should elect a chairman from among its own members and that the sittings should take place in Edinburgh.

All the amendments were agreed to and the Bill was reported to the House.

HOUSE OF COMMONS.

WEDNESDAY, MAY 6TH.

Infants Milk Bill.

Mr. **DOUGLAS HALL** moved for leave to bring in a Bill "to ensure the supply of milk to certain persons." He said that the aim of the Bill was to ensure the sale of pure milk to certain mothers of infant children at a price which they could afford to pay. The measure would increase the supply of pure milk from dairy farmers, and it would cost the community but a trifling sum, if anything. It was proposed to make use of the local authorities and the medical officers of health as agents for groups of mothers in districts to enable them to obtain milk at a price which they could afford to pay. In the event of any jobbery or corruption it was proposed that the Local Government Board should fix the price of the milk to be thus sold. It was stipulated that it was to be pure. The best definition was that contained in the Sale of Milk Regulations Act, 1901, and it was proposed that this definition should be altered in future if there was a statutory definition better defining what pure milk was. Having referred to the insufficiency, or even the entire lack, of nourishing milk in the budget of the very poor, the honourable Member proceeded to say that his Bill laid down that the local authority, through their officer of health, should provide milk to certain mothers in their district belonging to the poorer classes. The Bill defined these mothers as mothers who came under the maternity benefit of the National Insurance Act. The time during which they could obtain the milk was to be limited, say, to three months after the birth of the child. Even in the country districts it was difficult for mothers to obtain milk. In many districts farmers sent the whole to the large towns for sale, and it was almost impossible to get milk in those districts. If the Bill passed, the local medical officer could make arrangements with some dairy farmer and make it worth his while to keep back sufficient to be sold to these mothers. If there was a slight loss on the purchase—he did not believe that there would be—it would be borne by the local authority. He recommended the Bill to the House as a short, simple, practical, and inexpensive contribution to the great question of public health and the physical fitness of the nation.

Leave having been granted, the honourable Member brought in the Bill. He has the support of Lord **HENRY CAVENDISH-BENTINCK**, Mr. **CHARLES BATHURST**, Mr. **ASTOR**, Mr. **GRANT**, and Mr. **JOYNSON-HICKS**.

THURSDAY, MAY 7TH.

Domiciliary Treatment in Middlesex.

Mr. **WORTHINGTON EVANS** asked the honourable Member for St. George's-in-the-East as representing the Insurance Commissioners whether he was aware that the Middlesex Insurance Committee was refusing to carry out its tuberculosis officer's recommendation that no insured person should receive domiciliary treatment with extras unless the insured person had chosen a panel doctor; and whether, in a case where an insured person had provided and paid for his own medical man, who was willing to act in consultation with the tuberculosis officer, it was the intention of the Government that the insured person was to forfeit the extras under the sanatorium benefit which the tuberculosis officer recommended.—Mr. **WEDGWOOD BENN** said in reply: The recommendation of an Insurance Committee for sanatorium benefit and the nature of the treatment provided thereunder is, as the honourable Member is aware, a matter for the discretion of the committee. My right honourable friend is informed, however, that no such advice as the honourable Member suggests has been given by the tuberculosis officer referred to.

MONDAY, MAY 11TH.

Payment of Panel Practitioners.

Mr. **FELL** asked the honourable Member for St. George's-in-the-East why some better arrangement was not made for the payment of the panel doctors under the National Insurance Act; and would he say why money due was paid by driblets and was nearly always in arrear for periods of weeks, which treatment of the doctors did not conduce to efficient and satisfactory work by them.—Mr. **WEDGWOOD BENN** replied: As payments to doctors during the year are advances on account of remuneration which could not be determined till the end of the year, a margin must necessarily be reserved for the final settlement. It will, however, be possible for Insurance Committees in many cases to reduce the margin reserved when the accounts for last year are completed and more precise information is accordingly forthcoming as to the actual sums available.

TUESDAY, MAY 12TH.

The Largest Panel List.

Replying to Sir J. D. **REES** and Mr. F. **WHYTE**, Mr. **WEDGWOOD BENN** said: The maximum number of insured persons on the list of any single medical man on the panel in Great Britain is 5455.

Mr. F. **WHYTE**: Does the honourable gentleman mean a single medical man or one having an assistant?—Mr. **WEDGWOOD BENN**: He is the only medical man on the panel in respect of those persons, but as a matter of fact he has two assistants.

Treatment by Herbalist Practitioners.

Mr. **BRASSEY** asked the honourable Member for St. George's-in-the-East whether his attention had been called to the action of the Southport and other Local Insurance Committees in refusing to allow insured persons to make arrangements for medical treatment by herbalist practitioners notwithstanding that the Approved Societies to which the insured persons belonged were paying sickness benefit on the certificates of such practitioners; and what action he proposed to take in the matter.—Mr. WEDGWOOD BENN said in reply: As I have previously stated, the question of granting or refusing permission to insured persons to make their own arrangements under Section 15 (3) of the National Insurance Act, 1911, is a matter for the discretion of Insurance Committees, and my right honourable friend cannot interfere in the exercise of that discretion.

Milk and Dairies Bill.

Mr. H. SAMUEL, in moving for leave to present a Bill "to make better provision with respect to the sale of milk and the regulation of dairies," said that the general law in this country in relation to milk had regard chiefly to the prevention of fraud and to the checking of deliberate adulteration. It had so far had very little regard to the more important matter of the health of the people. Experts and authorities had reported that tuberculosis was undoubtedly spread, particularly amongst children, by the consumption of tuberculous milk. The Royal Commission on Tuberculosis and the Departmental Committee known as the Astor Committee reported in this sense. There were in England and Wales about 53,000 cases of tuberculosis every year, and no fewer than a fourth of them were non-pulmonary tuberculosis amongst children, and a not inconsiderable proportion of these was due to milk. Although infinite care was taken in this country as to the water-supply, yet the safeguarding of the milk-supply, which was of equal importance, was little regarded by the law. About a hundred local authorities had now secured powers to protect their population from contaminated milk, but the result was a multiplication of inspection in rural districts, much to the disgust of the farmers. It had been recognised in all quarters of the House that this was a matter which demanded legislation. The subject of milk, however, which ought to be a peaceful topic—the very name of it summoned up ideas of what was meek and mild—had been a matter of hot and almost burning controversy. There were great interests concerned. The public health authorities, especially of the towns, were eager to safeguard the health of the population under their care, and they were unwilling to surrender the powers which had been conferred upon them by local Acts, unless they could be sure that a really efficient system of protection and control would be established in the rural districts. The milk-selling industry was a numerous and highly organised body which was conducting a trade of inestimable value to the community. They were anxious to see that the purity of the milk-supply was secured, but at the same time they were, not unnaturally, anxious to secure that they should not in the conduct of their business be unnecessarily harassed by regulations and especially they were anxious to secure that the members of the milk-selling trade should not be punished for faults which they had not themselves committed because they were the parties most easy to reach. Thirdly, there was the great agricultural industry which was equally eager to observe any practical measures for safeguarding the health of the population and to maintain the reputation of the milk industry, but the members of that industry did very strongly object to the present system of multiple inspection, and they were timid lest they should be exposed to harassing and impracticable regulations. They were especially timid lest their industry should be put to great expense by the adoption of measures pressed forward by idealists. He had been in communication with the representatives of all those interested. He found that each of them was anxious to see legislation, and to have the whole matter put upon a more satisfactory footing. He had endeavoured to frame a Bill which would meet with the general assent of the various authorities concerned. The Bill was of a detailed character, and it was not possible for him within the short time at his disposal to describe the somewhat numerous and certainly very detailed clauses. It would be enough to say now that it proposed to make Regulations in order to prevent the supply of contaminated and dirty milk, and these Regulations should be made by the Local Government Board with the concurrence of the Board of Agriculture, who would be asked in this matter to act in coöperation with the Local Government Board. These Regulations would be laid before Parliament and they would not become operative if either House passed an address against them. He was thus taking every step to prevent unreasonable Regulations. The Bill proposed to provide means for tracing diseased milk back to its source and for stopping the source of such milk. Where there was adulteration the Bill enabled improved procedure to be adopted to bring the offence home to the guilty persons. It proposed also to get rid of multiple inspection and to apply similar regulations to foreign milk imported into our towns. He should make it clear that the Board of Agriculture proposed to compensate farmers for the cows that had to be slaughtered for tuberculosis on a somewhat more generous scale than hitherto. The Public Health grants which were proposed this year would provide for paying not only half the salaries of medical officers, but those of veterinary surgeons and milk inspectors. Therefore half of these expenses would be paid out of national funds. He should most carefully consider any amendments or suggestions which might be made by persons interested in the measure with a view to meeting all the interests concerned. For five years Bills on this subject had been before Parliament. He hoped that this session Parliament would be ready to deal with a subject which it was admitted on all hands demanded the attention of Parliament.

Leave having been granted, Mr. SAMUEL brought in the Bill, which was read a first time.

BOOKS, ETC., RECEIVED.

CAMBRIDGE UNIVERSITY PRESS, London and Cambridge.
  The Bacteriological Examination of Water. (Cambridge Public Health Series.) By W. G. Savage, B.Sc., M.D. Lond., D.P.H. Price 7*s.* 6*d.* net.
  Isolation Hospitals. (Cambridge Public Health Series.) By H. Franklin Parsons, M.D. Lond., D.P.H. Camb., formerly First Assistant Medical Officer of the Local Government Board. Price 12*s.* 6*d.* net.

COLLINGRIDGE, W. H. AND L., Aldersgate-street, London.
  The City of London Year Book, 1914. Price 5*s.* net.

GEORGE ROBERTSON AND COMPANY, Melbourne, Sydney, Adelaide, Brisbane, and London.
  Australasian Fossils: A Student's Manual of Palæontology. By Frederick Chapman, Paleontologist to the National Museum, Melbourne. With an Introduction by Professor E. W. Skeats, D.Sc., F.G.S.

HEINEMANN, WILLIAM, London.
  Appendicitis: Its History, Anatomy, Clinical Ætiology, Pathology, Symptomatology, Diagnosis, Prognosis, Treatment, Technic of Operation, Complications, and Sequels. By John B. Deaver, M.D., Sc.D., LL.D., Professor of the Practice of Surgery, University of Pennsylvania. Fourth edition, thoroughly revised. Price 17*s.* 6*d.* net.

KING, P. S., AND SON, London.
  Building By-Laws in Rural Districts. By Sir William Chance, Bart., M.A. Price 1*s.* 6*d.* net.

LEWIS, H. K., London.
  Lectures on Dietetics. By Max Einhorn, Professor of Medicine at the New York Post-Graduate Medical School and Hospital. Price 4*s.* net.

SAUNDERS (W. B.) COMPANY, London and Philadelphia.
  A Text-book of the Practice of Medicine. By Jas. M. Anders, M.D., Professor of the Theory and Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College, Philadelphia. Eleventh edition, fully illustrated. Price 24*s.* net.
  Pathologic Histology. By Frank B. Mallory, M.D., Associate Professor of Pathology at Harvard Medical School. With 683 original illustrations, 124 in colours. Price 24*s.* net.
  Diagnostic Symptoms in Nervous Diseases. By Edward L. Hunt, M.D., Instructor in Neurology and Assistant Chief of Clinic, College of Physicians and Surgeons, New York City. Illustrated. Price 6*s.* 6*d.* net.
  Medical Gynecology. By S. Wyllis Bandler, M.D., Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital. Third edition, with 150 original illustrations. Price 21*s.* net.
  Biology, General and Medical. By Joseph B. McFarland, M.D., Professor of Bacteriology and Pathology, Medico-Chirurgical College, Philadelphia. Second edition. Price 7*s.* 6*d.* net.
  The Practice of Pediatrics. By Chas. Gilmore Kerley, M.D., Professor of Diseases of Children, New York Polyclinic Medical School and Hospital. Illustrated. Price 25*s.* net.
  Development and Anatomy of the Nasal Accessory Sinuses in Man. By Warren B. Davis, M.D., Corinna Borden Keen Research Fellow of the Jefferson Medical College, Philadelphia. With 57 original illustrations. Price 15*s.* net.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BAKER, A. DE WINTER, M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Anæsthetist to the Putney Hospital (Chester Bequest).

BRANTHWAITE, R. W., M.D. Brux., L.R.C.P. Lond., M.R.C.S., has been appointed an Inspector under the Board of Control (Mental Deficiency Act).

DOYLE, J. S. M.B., B.Ch. R.U.I., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Enniscorthy District of the county of Wexford.

EVANS, A. E., M.B., B.S. Lond., has been appointed an Inspector under the Board of Control (Mental Deficiency Act).

FELDMAN, W. M., M.B., B.S. Lond., has been appointed Assistant Physician to the Infants Hospital, Vincent-square, Westminster.

GILL, S. E., M.D. Lond., has been appointed an Inspector under the Board of Control (Mental Deficiency Act).

GREEVES, R. AFFLECK, M.B. Lond., B.S., F.R.C.S. Eng., has been appointed Assistant Ophthalmic Surgeon to the Middlesex Hospital.

HALL, C. H., M.D. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Watford District of the county of Hertford

HAWORTH, J. K. J., M.B., B.S. Durh. has been appointed Resident Medical Officer at the Royal Victoria Infirmary, Newcastle-on-Tyne.

HUNTER, J. H., M.B., Ch.B. St. And., has been appointed Assistant Tuberculosis Officer to the Dundee Town Council.

JOHNSTON, G. J. WALDRON, M.D., has been appointed Medical Inspector of Seamen for the Port and District of Fleetwood.

LODWIDGE, W. C., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Langport District of the county of Somerset.

MALLESON, H. C., L.R.C.P., M.R.C.S., L.D.S. R.C.S., has been appointed Assistant Dental Surgeon to Guy's Hospital.

PARSONS, ERNEST, L.D.S. R.C.S., has been appointed Consulting Dental Surgeon to the Metropolitan Hospital.

TARBET, P. R., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Llanwrtyd Wells District of the county of Brecknock.

WEBBER, WILLIAM WOOLMINGTON, L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Misterton District by the Chard (Somerset) Board of Guardians.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BARNSLEY, BECKETT HOSPITAL.—Second House Surgeon, unmarried. Salary £150 per annum, with apartments, board, and laundry.

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL.—House Surgeon. Salary £120 per annum, with residence, board, and laundry.

BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

BEXLEY, KENT, LONDON COUNTY ASYLUM.—Junior Assistant (Sixth) Medical Officer, unmarried. Salary £200 per annum, with board, apartments, and washing.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant for three months. Salary at rate of 52 guineas per annum. Also Clinical Assistant to Electrical Department for six months. Salary at rate of 52 guineas per annum.

BIRMINGHAM CITY EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £300 per annum.

BIRMINGHAM CITY HOSPITAL, Lodge-road.—Assistant Resident Medical Officer. Salary £150 per annum, with board, residence, &c.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon. Salary £5 5s. per week, with apartments. Also Resident Medical Officer, unmarried. Salary £220 per annum, with apartments, fire, light, and attendance.

BOLTON INFIRMARY AND DISPENSARY.—Third House Surgeon. Salary £80 per annum, with apartments, board, and attendance.

BOOTLE BOROUGH HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with residence, board, and laundry.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon (Male or Female). Salary £120 per annum, with board, residence, and laundry.

BRADFORD ROYAL INFIRMARY.—Two House Surgeons, unmarried. Salary £100 per annum, with board, residence, and washing.

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke-road.—House Surgeon for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

BRIGHTON, ROYAL SUSSEX COUNTY HOSPITAL.—House Physician, unmarried. Salary £100 per annum, with apartments, board, and laundry. Also Assistant House Surgeon, unmarried. Salary £80 per annum, with apartments, board, and laundry.

BRISTOL ROYAL INFIRMARY.—House Surgeon for Throat, Nose, and Ear Department. Salary at rate of £100 per annum, with board, lodging, and laundry.

BURNLEY, VICTORIA HOSPITAL.—Senior Resident Medical Officer. Also Second House Surgeon, each for six months. Salary at rate of £120 and £100 per annum respectively, with residence, board, and washing.

BURSLEM, HAYWOOD HOSPITAL.—Female Resident Medical Officer. Salary £100 per annum, with board, residence, and laundry.

BURY COUNTY BOROUGH.—Clinical Tuberculosis Officer and Assistant to Medical Officer of Health. Salary £500 per annum.

BURY INFIRMARY.—Junior House Surgeon. Salary £100 per annum, with board, residence, and washing.

CAMBRIDGE, ADDENBROOKE'S HOSPITAL.—House Physician. Salary [illegible] per annum, with board, residence, and laundry.

CANCER HOSPITAL (FREE), Fulham-road, S.W.—Assistant Surgeon.

CARDIFF, KING EDWARD VII.'S HOSPITAL.—House Surgeon for the Ophthalmic and Ear, Nose and Throat Departments. Salary £100 per annum, with board, residence, and laundry.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistants for three months.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House Physician. Salary [illegible] per annum, with board, apartments, and laundry.

CHICHESTER, WEST SUSSEX COUNTY ASYLUM.—Locum Tenens Medical Officer, unmarried. Salary 5 guineas a week, with apartments, board allowance and washing.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and residence.

DARLINGTON HOSPITAL AND DISPENSARY.—House Surgeon, unmarried. Salary [illegible] per annum, with board, lodging, and laundry.

DEVON COUNTY ASYLUM.—Assistant Medical Officer. Salary £225 per annum, with quarters, board, and laundry.

DEVONPORT, ROYAL ALBERT HOSPITAL.—House Surgeon, unmarried. Salary [illegible] per annum, with board and laundry. Also Assistant House Surgeon, unmarried. Salary at rate of £75 per annum, with board and laundry.

DURHAM COUNTY ASYLUM, Winterton, Ferryhill.—Junior Assistant Medical Officer, unmarried. Salary [illegible] per annum, with board, lodging, and washing.

DURHAM COUNTY COUNCIL.—Assistant School Medical Officer. Salary £350 per annum.

DURHAM COUNTY HOSPITAL.—House Surgeon. Salary £120 per annum, with board and lodging.

ECCLES AND PATRICROFT HOSPITAL.—House Surgeon. Salary £70 per annum, with board, washing, and lodging.

EGYPT, PUBLIC HEALTH DEPARTMENT.—Medical Officer, unmarried. Salary at rate of £500 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—House Surgeon. Salary at rate of £75 per annum, with board, residence, and washing.

FLINTSHIRE EDUCATION COMMITTEE.—Assistant Medical Officer. Salary £250 per annum.

GLASGOW MATERNITY AND WOMEN'S HOSPITAL (OBSTETRICAL DEPARTMENT).—Two Outdoor House Surgeons and Outdoor House Surgeon at West-End Branch for three months.

GLASGOW, ROYAL SAMARITAN HOSPITAL FOR WOMEN.—Resident Medical Officer. Salary £25 per annum.

GLASGOW, SCOTTISH WESTERN ASYLUMS' RESEARCH INSTITUTE.—Pathologist as Director. Salary £400 per annum.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—House Physician and House Surgeon for six months. Salary at rate of £40 per annum each, with board, lodging, and laundry. Also Anæsthetist. Salary 10 guineas per annum.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—Casualty Officer at Out-patients' Department, Camden Town. Salary at rate of £70 per annum, with board, residence, and laundry.

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL.—Resident Medical Officer. Salary £120 per annum, with rooms, board, and washing.

HUDDERSFIELD ROYAL INFIRMARY.—Assistant House Surgeon. Salary £80 per annum, with board, residence, and washing.

HULL CITY EDUCATION COMMITTEE.—Male Assistant School Medical Officer and Female Assistant School Medical Officer. Salary £300 per annum each.

KING'S LYNN, WEST NORFOLK AND KING'S LYNN HOSPITAL.—House Surgeon. Salary £120 per annum.

KINGSTON, CANADA, QUEEN'S UNIVERSITY, MEDICAL FACULTY.—Two Assistant Professors. Salary in each case £500 per annum.

LAMBETH PARISH INFIRMARY WORKHOUSES, Brook-street, Kennington-road, S.E.—Sixth Assistant Medical Officer. Salary at rate of £120 per annum, with full residential allowances.

LEEDS GENERAL INFIRMARY.—House Surgeon for six months. Also House Surgeon. Board, residence, and laundry provided in each case. Also Resident Medical Officer for six months at Ida and Robert Arthington Hospitals. Salary £50 per annum, with board, residence, and laundry. Also Assistant Clinical Pathologist. Salary £150 per annum.

LEEDS INDOOR INSTITUTIONS, Beckett-street.—Second and Third Assistant Medical Officers, unmarried. Salary £150 and £160 per annum respectively, with board, washing, rations, and apartments.

LEEDS PUBLIC DISPENSARY, North-street.—Junior Resident Medical Officer. Salary £130 per annum, with board, residence, and laundry.

LEICESTER, NORTH EVINGTON POOR-LAW INFIRMARY.—Resident Medical Superintendent. Salary £400 per annum, with unfurnished house, fuel, light, washing, &c.

LONDON HOSPITAL, Whitechapel, E.—Medical Registrar. Salary £100 per annum. Also Surgical Registrar.

MACCLESFIELD GENERAL INFIRMARY.—House Surgeon. Salary £125 per annum, with residence, board, and laundry.

MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer unmarried. Salary £250 per annum, with quarters, board, attendance washing, &c.

MANCHESTER, MONSALL FEVER HOSPITAL.—Fourth Medical Assistant. Salary £130 per annum, with board, lodging, and washing.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Park-place, Cheetham Hill-road.—Senior and Junior House Surgeons.

MANCHESTER, ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—House Surgeon. Salary at rate of £50 per annum, with board and residence.

MIDDLESBROUGH, NORTH ORMESBY HOSPITAL.—Assistant House Surgeon. Salary at rate of £100 per annum first six months and £110 per annum afterwards, with board, apartments, washing, and attendance.

NEWARK-UPON-TRENT HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and laundry.

NEWCASTLE-UPON-TYNE DISPENSARY.—Vacancies on Visiting Medical Staff. Salary £200 per annum.

NEW HOSPITAL FOR WOMEN, Euston-road.—Female House Physician, Two House Surgeons, and Obstetric Assistant, all for six months. Also Clinical Assistant for Out-patient Department, and Assistant Pathologist.

NEW ZEALAND, UNIVERSITY OF OTAGO.—Professor of Anatomy. Salary £900 per annum.

NORFOLK EDUCATION COMMITTEE.—Assistant Medical Officer. Salary £300 per annum.

NOTTINGHAM CITY EDUCATION COMMITTEE.—Senior Medical Inspector of School Children. Salary £400 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Physician. Salary £100 per annum, with board, residence, and laundry. Also Locum Tenens for 13 weeks. Salary £4 4s. per week, with board, residence, and laundry.

NOTTS COUNTY COUNCIL.—Assistant Tuberculosis Officer. Salary £300 per annum.

OLDHAM ROYAL INFIRMARY.—Senior House Surgeon. Salary [illegible] per annum, with residence, board, and laundry.

OXFORDSHIRE EDUCATION COMMITTEE.—School Dentist. Salary £250 per annum.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House Physician and House Surgeon for six months. Salary in each case at rate of £80 per annum, with board, residence, and washing.

PORTSMOUTH CORPORATION MENTAL HOSPITAL.—Assistant Medical Officer, unmarried. Salary [illegible] per annum, with board, apartments, attendance, and washing.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Senior House Physician and Senior House Surgeon. Salary £75 per annum each. Also Junior House Physician and Junior House Surgeon. Salary £50 per annum each. With residence, board, and laundry. All for six months.

PUBLIC DISPENSARY, 122, Drury-lane, W.C.—Resident Medical Officer, unmarried. Salary £105 per annum, with apartments attendance, coals, and light.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road.—House Physician for six months. Salary at rate of £80 per annum, with board, residence, and washing.

ROCHDALE INFIRMARY AND DISPENSARY.—Junior House Surgeon, unmarried. Salary £110 per annum, with board, residence, and laundry.

ROTHERHAM HOSPITAL.—Senior and Junior House Surgeons. Salaries £150 and £100 respectively, with board, lodging, and washing.

ROYAL EYE HOSPITAL, Southwark, S.E.—Junior House Surgeon for six months. Salary £50 per annum, with board and residence. Also Clinical Assistants.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Director of the Pathological Department. Salary £400 per annum. Also Medical Registrar. Salary 100 guineas per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Honorary Physician.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Honorary Physician in charge of Out-patients.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-street, West Strand, W.C.—Clinical Assistants for six months.

ST. HELENS COUNTY BOROUGH EDUCATION COMMITTEE.—Dentist. Salary £250 per annum.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, AND OTHER DISEASES OF THE RECTUM, City-road, E.C.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, Cavendish-square, W.—Honorory Surgeon for Throat, Nose, and Ear Department. Also Honorary Medical Radiographer.

ST. MARY'S HOSPITAL, Paddington, W.—Resident Medical Officer for six months. Salary £100 per annum, with board and lodging.

SALFORD ROYAL HOSPITAL.—Junior House Surgeon and Casualty House Surgeon. Salary at rate of £80 per annum each, with board and residence.

SALISBURY INFIRMARY.—Assistant House Surgeon, unmarried. Salary £75 per annum, with apartments, board, lodging, and washing.

SHEFFIELD, JESSOP HOSPITAL FOR WOMEN.—Assistant House Surgeon, unmarried. Salary £80 per annum, with board, residence, and laundry.

SHEFFIELD ROYAL INFIRMARY.—Ophthalmic House Surgeon for six months. Salary £80 per annum, with board and residence.

SHEFFIELD UNION HOSPITAL, Firvale.—Resident Assistant Medical Officer, unmarried. Salary £140 per annum, with apartments, rations, &c.

SHREWSBURY, SALOP INFIRMARY.—House Physician. Salary at rate of £90 per annum, with board and apartments.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Junior House Surgeon. Salary at rate of £120 per annum, with rooms, board, and washing.

SOUTHWARK UNION INFIRMARY, East Dulwich-grove, S.E.—Second Assistant Medical Officer and Third Assistant Medical Officer. Salary at rate of £170 and £160 per annum respectively, with board, lodging, and washing.

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £120 per annum, with board, lodging, and washing.

SWANSEA EDUCATION COMMITTEE.—Dental Surgeon. Salary £220 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—Two House Surgeons. Salary £125 per annum, with board, washing, and attendance.

WALSALL AND DISTRICT HOSPITAL.—Senior House Surgeon and Assistant House Surgeon. Salary £150 and £110 per annum respectively, with board, residence, and laundry.

WEST HAM AND EASTERN GENERAL HOSPITAL.—Junior House Physician and Junior House Surgeon. Salary at rate of £75 per annum, with board, residence, and washing.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Second Resident Casualty Officer. Board, lodging, and laundry provided. Also Two Assistant Anæsthetists.

WESTMINSTER HOSPITAL.—Honorary Administrator of Anæsthetics.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Senior House Surgeon. Salary £170 per annum, with board, apartments, and washing. Also Junior House Surgeon. Salary £150 per annum, with board, apartments, and washing.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House Surgeon. Salary £100 per annum, with apartments, board, and laundry.

YORK, NORTH RIDING ASYLUM, Clifton.—Assistant Medical Officer. Salary £200 per annum, with board, apartments, washing, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

BENTLEY.—On April 28th, at "Haworth," Mitcham, the wife of Harold Bentley, M.R.C.S., L.R.C.P., of a son.

BLAKEWAY.—On May 4th, at Weymouth-street, W., the wife of Harry Blakeway, M.S., F.R.C.S., of a daughter.

MARRIAGES.

SPAIN—YATES.—On May 7th, at St. Andrew's Church, Stamford Hill, N., *Harold Gordon* Spain, L.D.S. R.C.S. Eng., to Cecile Belle Gladys Yates, youngest daughter of Mrs. J. C. Yates, of Stamford Hill, N.

DEATHS.

AMBROSE.—On May 7th, George Patrick Ambrose, M.D., M.R.C.S., L.R.C.P.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE BOY SCOUT MOVEMENT.

SIR Robert Baden-Powell addresses to us an appeal in which he points out that we as a nation spend annually 30 millions in training youths up to the age of 14 in reading, writing, and arithmetic (plus a modicum of physical drill) so that they may make good citizens, and then abandon them at the cross-roads of life to drift. Then we spend 38 millions more to correct the results of their drifting into crime and imprisonment, vice and sickness, poverty and unemployableness. This waste the Scout movement aims to counteract by supplying outside the school walls character training, health development, handicrafts and service for others, and by retaining a hold over the boy after he leaves school during the critical years of life. An endowment of £10,000 a year—say a capital fund of a quarter of a million—would render it possible greatly to extend this work so as to include in its training the mass of boys, even the waste material of the slums. Of this sum £65,000 have already been subscribed, and if there is a reasonable prospect of obtaining the balance by Whitsuntide the further development of the movement can be proceeded with. This is not sought as a charity, but as an insurance by the nation against its present waste of men and money by providing the country in the coming generation with a manly and characterful race. We publish in our correspondence columns this week an eloquent letter upon the same subject from Sir Lauder Brunton, whose advocacy we are sure will meet with a ready response from members of the medical profession.

"MARRIAGES" BETWEEN THE SAME SEX.

A CASE was reported last week of a girl who has been posing as a man for the past ten years in Milwaukee and "marrying" two girl friends. It was the second "marriage," apparently, which caused the secret to be divulged. In THE LANCET of June 23rd, 1900, p. 1814, we published an annotation with the title which stands at the head of this paragraph. Many such remarkable "marriages" have occurred, and not all by any means have been discovered. A few years ago there died a woman who had lived as a married man for 40 years. One interpretation of these episodes leaps to the medical eye, but a more commonsense and probable explanation of them is that the assumption of the male sex means higher wages for one member of a partnership.

"MILLIBARS."

To the Editor of THE LANCET.

SIR,—In answer to your correspondent "Beta," whose letter under the above heading appears in THE LANCET of May 9th (p. 1369), I will endeavour to explain how the "unit" on the new scale for measuring atmospheric pressure has been arrived at.

The centimetre-gramme-second (C.G.S.) system of units is based on the metric system, and gets its name from the primary units of length, mass, and time. This C.G.S. system has long been used universally for electrical and magnetic measurements. It is now being extended to meteorological measurements.

The unit of *pressure* in the C.G.S. system is a dyne per square centimetre. A dyne, or the unit of force, is the force which produces an acceleration of 1 centimetre per second (the unit of acceleration) in a mass of 1 gramme. A megadyne—that is, 1,000,000 dynes—per square centimetre is called a "bar" or "barye," a name which was agreed upon for this unit at the Conference of Physicists in Paris in the year 1900. A "millibar," similarly, is the 1000th part of a "bar," or 0·001 of the C.G.S. unit of pressure.

The accepted normal pressure of the atmosphere, or "standard atmosphere," is that of a column of mercury 76 centimetres (or, as "Beta" writes it, 760 millimetres) high at the freezing point of water, under the conditions as to gravitation which are to be found in latitude 45° N. or S. For other latitudes a small correction is necessary to allow for the difference of gravity. This pressure of a "standard atmosphere" is 1,013,193 dynes per square centimetre, or approximately 1·013 megadynes per square centimetre.

The *practical unit* of atmospheric pressure in the C.G.S. system is the megadyne per square centimetre, which may be called the "C.G.S. atmosphere." It is equivalent to a pressure of 750·1 millimetres of mercury (29·53 inches) at the freezing point of water in latitude 45°, and is the normal air pressure at 106 metres (348 feet) above sea level.

We have now seen that the *absolute unit* of pressure on the C.G.S. system is the dyne per square centimetre. As this unit is exceedingly small a *practical unit* 1,000,000 times as reat has been suggested. This unit, the megadyne per quare centimetre, is called a "bar." In the Daily Weather ,eport issued by the Meteorological Office, South Kensing-on, the centibar and the millibar respectively—that is, the ıundredth and the thousandth part of the bar—have been .dopted as working units of atmospheric pressure since ·Iay 1st, 1914. A barometric reading of 100 centibars, or 000 millibars, is equivalent to 29·53 mercury inches; one of 05 centibars, or 1050 millibars, equals 31 inches, and—in the ıpposite or downward direction—one of 97 centibars, or 70 millibars, would represent 28·65 inches.

Observers for the Meteorological Office have been furnished ·ith tables for converting from British to metric units and ·ice versâ, and the conversion is thereby rendered quite an ·asy matter.

I am, Sir, yours faithfully,

JOHN W. MOORE, M.D. Dub., F.R.Met.Soc.

Dublin, May 9th, 1914.

THE HEALTH OF THE PHILIPPINES.

IN the report of the Bureau of Health of the Philippine Islands for the last quarter of 1913 Dr. Heiser relates that there are now more than 60,000 fewer deaths per annum in the Philippines than in 1905, the reduction being mainly in preventable diseases. A 60 bed general hospital has been opened in Cebu. Four persons were discharged from the San Lazaro Hospital after having been apparently cured of leprosy for over two years. Cholera has been under better control than at any previous time. Cholera vibrio carriers were found in every district where the disease occurred. Measures against plague have been successful, for only one case of human plague occurred and no plague-infected rats were found. Rabies is present among dogs, but a soldier and a child bitten by a rabid dog received the Pasteur treatment and no ill-effects have yet appeared.

A DISCLAIMER.

Dr. Edwin L. Ash writes to say that the reference to the London Nerve Clinic contained in a letter in the early editions of the *Pall Mall Gazette* of May 5th was published without his knowledge or consent. On its being brought to his notice he immediately protested to the writer of the letter and endeavoured to prevent its further publication. The offending notice did not appear in the evening editions of the journal mentioned.

IS SILICOSIS AN ACCIDENT?

A. G. W.—Our correspondent asks whether silicosis in a metalliferous miner would be considered an accident under the Workmen's Compensation Act. The reply is that no form of fibrosis is included in the list of scheduled diseases to which this Act applies; therefore no successful claims for compensation under the Act can be made in respect of silicosis. Further, silicosis from its nature could not reasonably be looked upon as an accident in any ordinary sense of that word.

MEDICINE AND MUSIC.

A CORRESPONDENT writes: "On Saturday last, at the Royal Academy of Music, where Dr. and Mrs. Dundas Grant now continue their friendly orchestral meetings held for many years at Cavendish-square, their amateur orchestra, which numbers upwards of 90 members, 20 of them belonging to the medical profession, conveyed their thanks to their hostess and their congratulations to their conductor upon his recent recovery from illness, by the presentation of a floral tribute and of a Japanese dwarf tree as a lasting symbol of their appreciation."

ANTITYPHOID INOCULATION IN BRITISH COLUMBIA.

Dr. Bapty, acting provincial health officer of British Columbia, has published a letter on typhoid prevention in which he quotes the results obtained by Dr. H. G. MacKid, surgeon-general of the Alberta division of the Canadian Pacific Railway. In 1912-13 amongst 13,900 men inoculated only 3 cases occurred, while 6500 men not inoculated showed 236 cases. Vaccine is being distributed free of charge by the Government of British Columbia, which hopes thus to reduce the heavy toll of life and money taken annually by this disease. 700 cases occur annually, costing some £16,000 in hospital charges and losing the patients some £50,000 of wages in the year. Moreover, amongst these 700 cases there were 85 deaths.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

The following journals, magazines, &c., have been received:— [illegible] Canadian Journal of Medicine and Surgery, Public Health, South African Nursing Record, South African Medical Record, [illegible] Journal of Children's Diseases, Journal of Laryngology, Rhinology, and Otology, Medical Review, Dominion Medical Monthly, Journal of Medical Research, Pediatrics, American Journal of [illegible] Diseases, [illegible] Today, American Journal of [illegible], Journal of Tropical Medicine [illegible] Archives de Médecine et de Pharmacie Militaires, Monthly Cyclopedia, American Journal of the Medical Sciences, &c.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Prof. W. M. Hicks: On the Effect of the Magneton in the Scattering of α Rays.—Hon. R. J. Strutt: Luminous Vapours Distilled from the Arc, with Applications to the Study of Spectrum Series and their Origin. I.—Mr. W. T. Pawlow: On the Ionisation of Gases by Collision and the Ionising Potential for Positive Ions and Negative Corpuscles (communicated by Sir J. J. Thomson).—Mr. C. E. Stromeyer: The Determination of Elastic Limits under Alternating Stress Conditions (communicated by Prof. W. E. Dalby).—Mr. G. W. C. Kaye and Mr. W. F. Higgins: The Emission of Electricity from Various Substances at High Temperatures (communicated by Dr. R. T. Glazebrook).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY.

SECTION OF THERAPEUTICS AND PHARMACOLOGY (Hon. Secretaries: W. Langdon Brown, Philip Hamill): at 4.30 P.M.

Annual General Meeting.—Election of Officers and Council for Session 1914–1915.

Paper:

Dr. E. W. Ainley Walker and Prof. Georges Dreyer: The Dosage of Drugs, Toxins, and Antitoxins.

GENERAL MEETING OF FELLOWS at 5 P.M.

Ballot for Candidates for Fellowship.

SECTION OF PSYCHIATRY (Hon. Secretaries—R. H. Cole, Bernard Hart): at 5.30 P.M.

Annual General Meeting.—Election of Officers and Council for Session 1914–1915.

THURSDAY.

SECTION OF DERMATOLOGY (Hon. Secretaries—J. M. H. MacLeod, S. E. Dore): at 4 P.M.

Annual General Meeting.—Election of Officers and Council for Session 1914–1915.

Demonstration (at 4.15 P.M.):

Cases of Mycosis Fungoides.

Debate (at 5 P.M.):

On Mycosis Fungoides (to be opened by Dr. J. H. Sequeira).

Members intending to take part in the debate are requested to communicate with the Hon. Secretaries.

7.30 P.M., Annual Dinner at the Imperial Restaurant, Regent-street, W.

Members are specially requested to notify the Senior Hon. Secretary if they intend to be present, and to give the names of their guests.

SECTION OF NEUROLOGY (Hon. Secretaries—T. Grainger Stewart, H. Campbell Thomson): at 8.30 P.M.

Annual General Meeting.—Election of Officers and Council for Session 1914–1915.

Paper:

Dr. Ivor J. Davies: The Senghenydd Explosion from a Medical Standpoint.

CLINICAL SECTION.—The Members are specially invited to attend the Meeting of the Section of Neurology.

SECTION OF DERMATOLOGY.—The Members are specially invited to attend the Meeting of the Section of Neurology.

FRIDAY.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—F. Langmead, Philip Turner, William J. Midelton): at 4.30 P.M.

Annual General Meeting.—Election of Officers and Council for Session 1914–1915.

Short Papers:

Dr. F. Parkes Weber: A Familial Case of Splenomegalic Anæmia with Infantilism.

Major R. McCarrison, I.M.S.: Nervous Cretinism.

SECTION OF ANÆSTHETICS (Hon. Secretaries—H. E. G. Boyle, Cecil Hughes): at 5.30 P.M.

Annual General Meeting.—Election of Officers and Council for Session 1914–1915.

SECTION OF EPIDEMIOLOGY AND STATE MEDICINE (Hon. Secretaries—G. S. Buchanan, William Butler): at 8.30 P.M.

Annual General Meeting.—Election of Officers and Council for Session 1914–1915.

Paper:

Lieut.-Colonel Wilkinson, I.M.S.: Tuberculosis in India.

SATURDAY.

SECTION OF BALNEOLOGY AND CLIMATOLOGY (Hon. Secretaries—Chas. W. Buckley, J. Campbell McClure).

Provincial Meeting at Leamington.

(Full particulars have already been issued to Members of the Section.)

Annual General Meeting.—Election of Officers and Council for Session 1914–1915.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—Annual Oration:—Mr. R. Jones. Conversazione.

MEDICO-LEGAL SOCIETY, 11, Chandos-street, Cavendish-square, W.

TUESDAY.—8.30 P.M., Paper:—Dr. W. A. Brend: A supposed Death from Tight-lacing in a Male.

LONDON DERMATOLOGICAL SOCIETY, St. John's Hospital, 49, Leicester-square, W.C.

TUESDAY.—4.30 P.M., Cases will be shown. 5.15 P.M., Laboratory Demonstration and Exhibit:—Mr. F. Curry: *Tuberculins, their Preparation and Standardisation.*

ROYAL SOCIETY OF ARTS, *John-street, Adelphi, W.C.*

THURSDAY.—4.30 P.M., Mr. E. A. Gait: The Indian Census of 1911: *Ethnography and Occupations.*

WIMBLEDON AND DISTRICT MEDICAL SOCIETY, Johnston's Rooms, 6, Broadway, Wimbledon, S.W.

FRIDAY.—9 P.M., Annual General Meeting. Election of President, Officers, and Committee. Address:—Mr. J. F. Colyer: Pyorrhœa Alveolaris, its Local and General Effects.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. M. H. MacLeod: Clinique (Skin). 5.15 P.M., Lecture:—Mr. H. J. Paterson: The Modern Treatment of Gastric Disease (lantern demonstration).

TUESDAY.—4 P.M., Dr. J. Galloway: Clinique (Medical). 5.15 P.M., Lecture:—Mr. L. Norbury: Pruritus Ani.

WEDNESDAY.—4 P.M., Mr. H. Lett: Clinique (Surgical). 5.15 P.M., Lecture:—*Dr. A. E. Giles: Diagnostic Aphorisms in Gynæcology.*

THURSDAY.—4 P.M., Mr. R. Davies-Colley: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. D. Sommerville: *Bio-chemistry and Medicine.*

FRIDAY.—4 P.M., Mr. T. B. Layton: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, *West London Hospital, Hammersmith-road, W.*

MONDAY.—10 A.M., Dr. Simson: *Diseases of Women.* 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. Mr. B. Harman: Diseases of the Eye. 5 P.M., Lecture:—Dr. Beddard: Gastro-intestinal Ulceration.

TUESDAY.—10 A.M., *Dr. Robinson: Gynæcological Operations.* Dr. Owen: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., *Medical and Surgical Clinics.* X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Beddard: Gastro-intestinal Ulceration.

WEDNESDAY.—10 A.M., *Dr. Saunders: Diseases of Children.* Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., *Mr. Souttar: Demonstration of Minor Operations.* 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Dr. Simson: Diseases of Women and Diseases of the Eye. 8 P.M., Conversazione.

THURSDAY.—9 A.M., Dr Bernstein: Bacterial Therapy Department. 10.30 A.M., Dr. Simson: Gynæcological Demonstration. 12 noon, *Lecture:—Dr. G. Stewart: Neurological Cases.* 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Mr. B. Harman: Diseases of the Eye. 5 P.M., Lecture:—Dr. Beddard: Gastro-intestinal Ulceration.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12.15 P.M., Lecture:—Dr. Bernstein: Applied Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: *Diseases of the Skin.* 5 P.M., Lecture:—Dr. Beddard: Gastro-intestinal Ulceration.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. H. B. Carlill: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Throat, Nose, and Ear.

TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. C. E. Zundel: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine. 4.15 P.M., Sir Malcolm Morris: Skin. 2.15 P.M., Special Lecture:—Mr. R. Carling: Gastro-enterostomy for Ulcer.

WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. H. B. Carlill: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. B. Bickerton: Eye.——2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery.

THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. H. R. Prentice: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. Dr. A. Davies: Pathological Demonstration. 3.15 P.M., Dr. R. Wells: Medicine. 4.30 P.M., Special Lecture:—Sir James M. Davidson: Notes on Various Cases in which X Rays have been of Value in Diagnosis (illustrated).

FRIDAY.—Out-patient Demonstrations:—10 A.M., Dr. C. E. Zundel: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford: Medicine. 3.15 P.M., Mr. L. McGavin: Surgery. 2.15 P.M., Special Lecture:—Sir J. Rose Bradford: Angina.

SATURDAY.—Out-patient *Demonstrations:* 10 A.M., Dr. H. R. Prentice: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. B. Bickerton: Eye.——10 A.M., Col. Barry: Radiography.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. E. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham): Gynæcological (Dr. Banister). 3 P.M., Medical In-patients (Dr. R. M. Leslie).

TUESDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Nose, Throat, and Ear (Mr. H. D. Gillies). X Ray and Electrical Methods (Dr. Metcalfe). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting).

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. Dorell). 3 P.M., Clinical Pathology and Pathological *Demonstration (Dr. W. H. Duncan).* 5.30 P.M., Eye Operations (Mr. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson); X Rays and Electrical Methods (Dr. Metcalfe).

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld): Surgical (Mr. E. Gillespie); Eye (Mr. Dorell). 3 P.M., Medical In-patient *(Dr. G. P. Chappel).* Clinical Pathology and Pathological Demonstration.

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL (UNIVERSITY OF LONDON), Albert Embankment, S.E.

Lectures in Advanced Medical Subjects:—

TUESDAY.—5 P.M., Dr. H. Maclean: Carbohydrate Metabolism in Health and in Diabetes.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL (UNIVERSITY OF LONDON), *University-street, Gower-street, W.C.*

Lectures in Advanced Medical Subjects:—

FRIDAY.—5 P.M., *Dr. C. Bolton: Recent Observations upon Ulcer of the Stomach.*

GUY'S HOSPITAL MEDICAL SCHOOL, London Bridge, S.E.

Course of Lectures on Industrial Medicine:—

FRIDAY.—Lecture III.:—Dr. F. Shufflebotham: Miners' *Nystagmus,* with a Demonstration in Living Cases.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, Medical School, City-road, E.C.

MONDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Cardiac Department, Dr. Stott; Out-patient *Department, Dr. Phear, Dr. S. Thompson.* 3 P.M., Wards, Dr. Phear.

TUESDAY.—9 A.M., Laryngological Department, Mr. Mant. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department, Dr. M. Leslie, Dr. B. King; Operations, Mr. A. Evans. 3 P.M., Wards, Dr. White. 4 P.M., Wards, Dr. M. Leslie

WEDNESDAY.—2 P.M., Wards, Dr. A. Davies; Out-patient Department, Dr. Drysdale, Dr. Kellie. 4 P.M., Wards, Dr. Drysdale. 4.30 P.M., *Roentgen Ray Department,* Dr. Jordan.

THURSDAY.—9.30 A.M., Dental Department, Mr. G. Thomson. 10 A.M., Cardiac Department, Dr. Stott. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department, Dr. Phear, Dr. S. Thompson. 4.30 P.M. Laryngological Department, Mr. Mant.

FRIDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Wards, *Dr. Calvert;* Out-patient Department, Dr. M. Leslie, Dr. B. King. 5 P.M., Lecture-Demonstration:—Dr. Phear: Tumours of the Mediastinum.

SATURDAY.—10 A.M., Out-patient Department, Dr. Drysdale, Dr. Kellie. 11.30 A.M., Roentgen Ray Department, Dr. Jordan.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), Clinical Theatre, London Hospital, Mile End-road, E.

Course of Lectures on Tuberculosis for Post-Graduates and Senior Students:—

MONDAY.—11 A.M., Prof. W. Bulloch: Bacteriology. 4 P.M., Mr. T. H. Openshaw: Caries of the Spine.

TUESDAY.—11 A.M., Dr. H. M. Turnbull: *Anatomy and Histology* (III.). 2 P.M., Mr. H. Lett: Tuberculosis of Bones. 4 P.M., Dr. S. G. Scott: *Radiography.*

WEDNESDAY.—11 A.M., Prof. W. Bulloch: *Heredity.* 2 P.M., Mr. H. M. Rigby: *Surgery of Tuberculosis of Lymphatic Glands.* 4 P.M., Mr. P. Furnivall: Surgery of *Tuberculosis of Alimentary* Tract.

THURSDAY.—11 A.M., Mr. R. Howard: Surgical Morbid Anatomy. 4 P.M., Sir Frederic Eve: Tuberculosis of Joints.

FRIDAY.—11 A.M., *Dr. P. N. Panton:* Examination of Excretions, Discharges, Effusions, &c. 2 P.M., Mr. F. S. Kidd: Genito-urinary Tuberculosis.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, *Brompton, S.W.*

WEDNESDAY.—4 P.M., Dr. Wall: Demonstration of Cases.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. J. Taylor: Cases in the Ward.

FRIDAY.—3.30 P.M., Clinical Lecture:—*Dr. G. Stewart:* Compression Paraplegia.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn-road, W.C.

FRIDAY.—3 P.M., Lecture:—Dr. D. McKenzie: Some Adventures in the Mouth.

LONDON LOCK HOSPITAL, 91, Dean-street, Soho, W.

Special Course of Instruction in Venereal Diseases, *for Post-Graduates and Students, with* Practical Demonstrations of the Various Methods of Treatment:—

MONDAY.—Clinics:—1 P.M., Mr. Ryall; 6 P.M., Mr. Gibbs. 5 P.M., Lecture:—Mr. Gibbs: The Diagnosis of Gleet.

TUESDAY.—Clinics:—2 P.M., Mr. Lane; 6 P.M., Mr. Paterson.

WEDNESDAY.—Clinic:—6 P.M., Mr. Shillitoe.

SATURDAY.—Clinic:—2 P.M., Mr. McDonagh.

THE THROAT HOSPITAL, Golden-square, W.
MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.
THURSDAY.—5.15 P.M., Clinical Lecture.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS.
TUESDAY.—MANCHESTER AND SALFORD HOSPITAL FOR SKIN DISEASES, Quay-street.—4.30 P.M., Dr. G. H. Lancashire: Pyogenic Skin Affections.
WEDNESDAY.—ROYAL INFIRMARY—4.30 P.M., Demonstration of Cases.
THURSDAY.—ANCOATS HOSPITAL—4.30 P.M., Dr. A. Renshaw: Intrathecal Injections of Neosalvarsan—The Luetin Reaction.

UNIVERSITY OF LEEDS, Great Hall of the University, College-road.
Special Lectures on Medical Subjects:—
WEDNESDAY.—4 P.M., Sir Thomas Oliver: Lead Poisoning from the Industrial and Medical Point of View.

For further particulars of the above Lectures, &c., see Advertisement Pages.

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced. In 1914:—

May 1st–Nov. 1st (Lyons).—International Town Hygiene Exhibition.
" 15th–Oct. 15th (Berne).—Swiss National Exhibition.
" 18th–21st (London, Imperial Institute).—Victoria League Imperial Health Conference.
May–October (London, Shepherd's Bush).—Anglo-American Exposition.
June 8th–10th (Berne).—Seventh International Dairy Congress.
" 9th–12th (Birmingham).—National Council of Nurses' Annual Conference and Nursing Exhibition.
" 15th–18th (Portsmouth).—International Abolitionist Conference (Prostitution).
" 18th–24th (London, Church House, Westminster).—International Conference on the Blind.
June–July (Groningen).—University of Groningen 300th Anniversary Celebration.
July 2nd and 3rd (Liverpool).—National Conference on Infant Mortality.
" 6th–11th (Blackpool).—Twenty-ninth Congress of the Royal Sanitary Institute.
" 7th–10th (St. John, N.B.).—Canadian Medical Association.
" 8th–10th (Oxford).—Ophthalmological Congress.
" 15th–20th (Edinburgh).—Congress of the Royal Institute of Public Health.
" 21st–23rd (Chester).—British Pharmaceutical Conference.
" 27th–31st (London).—Fifth Annual Session of the Clinical Congress of Surgeons of North America.
" 28th–31st (Aberdeen).—Eighty-second Annual Meeting of the British Medical Association.
Aug. 3rd–8th (London).—Sixth International Dental Congress.
" 10th–15th (St. Petersburg).—Twelfth International Congress of Ophthalmology.
Sept. 7th–12th (Berne).—International Congress for Neurology, Psychiatry, and Psychology.
" 10th–12th (Fort William and Port Arthur, Ontario).—Fourth Annual Congress of the Canadian Public Health Association.
" 21st–26th (Victoria, B.C.).—Dominion Exhibition.
" 21st–26th (Vienna).—Third International Congress on Diseases of Occupation.
" 30th–Oct. 3rd (Brussels).—Fourteenth French Congress of Medicine.
Oct. 31st–Nov. 2nd (Berlin).—First Congress of the International Society for Sexual Research.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 13th, 1914.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
May 7	29·49	W.	0·85	119	64	50	51	55	Cloudy
" 8	29·59	W.	0·02	114	69	47	45	50	Cloudy
" 9	29·76	N.W.	...	62	49	47	45	43	Overcast
" 10	30·03	W.	0·05	70	53	41	45	49	Overcast
" 11	29·99	S.W.	...	103	56	41	46	51	Cloudy
" 12	30·13	W.	...	106	55	44	44	47	Cloudy
" 13	30·19	W.	...	76	57	46	46	49	Cloudy

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A Report
OF
THE WORK AT THE RADIUM INSTITUTE FROM JAN. 1st TO DEC. 31st, 1913.

BY A. E. HAYWARD PINCH, F.R.C.S. ENG.,
MEDICAL SUPERINTENDENT AND GENERAL DIRECTOR OF THE RADIUM INSTITUTE.

With an Appendix on the Work of the Chemico-Physical Laboratory by W. L. S. ALTON, F.I.C.

(Published with the Authority of the Committee.)

THIS report deals with the cases which have presented themselves at the Radium Institute from Jan. 1st to Dec. 31st, 1913, inclusive. The experiences of the past year tend on the whole to confirm the conclusions set forth in the report of the first 17 months' work, but some few additional facts have been noticed, which serve to increase our knowledge in respect of the prognosis and treatment of various diseases.

TABLE I.—*Summary of Cases.*

Examined but not treated	112
Recently treated, and results not yet noted	176
Received prophylactic irradiation only	30
Apparently cured	56
Cured	18
Improved	341
Not improved	152
Abandoned treatment	50
Dead	37
Total	972

TABLE II.—*Classification of Cases.*

Disease.	Examined, but not treated.	Results not yet noted.	Prophylactic treatment only.	Apparently cured.	Cured.	Improved.	Not Improved.	Abandoned treatment.	Dead.	Total.
Carcinoma, squamous-celled—										
Glabrous skin...	1	—	1	2	—	4	4	1	—	13
Buccal, oral, lingual, and pharyngeal mucous membranes...	6	10	6	—	—	9	15	3	4	53
Œsophagus	5	—	—	—	—	4	4	1	—	14
Larynx	1	2	—	—	—	1	—	—	—	4
Vagina and vulva...	—	—	1	1	—	3	1	1	1	8
Uterus	—	2	2	—	—	27	8	1	2	42
Penis...	—	—	—	—	—	—	1	—	—	1
Bladder	—	—	—	3	—	3	—	1	2	9
Carcinoma, spheroidal-celled—										
Breast	11	22	11	2	—	40	19	11	12	128
Liver and gall-bladder	—	—	—	—	—	1	—	—	—	1
Thyroid	—	—	—	—	—	3	—	—	1	4
Paget's disease	—	—	—	1	—	—	—	—	—	1
Carcinoma, columnar-celled—										
Large intestine	1	4	2	—	—	—	—	1	1	9
Rectum	9	9	1	—	—	23	16	—	6	64
Stomach	—	—	—	—	—	1	1	1	—	3
Ovary	—	2	—	—	—	—	1	—	2	5
Prostate	1	—	—	—	—	4	—	—	—	5
Kidney and suprarenal gland	—	1	—	—	—	—	—	1	—	2
Parotid	—	—	—	—	—	—	1	—	—	1
Rodent ulcer	4	21	2	40	—	34	7	3	—	111
Sarcomata—										
Spindle-celled...	1	—	1	1	—	8	4	1	1	17
Round-celled...	1	—	—	—	—	1	—	—	1	3
Melanotic...	—	—	1	—	—	—	1	—	—	2
Myelosarcoma	1	—	—	—	—	1	—	—	—	2
Lymphosarcoma...	—	1	—	—	—	2	—	—	—	3
Endothelioma...	—	2	2	—	—	2	2	1	1	10
Lymphadenoma	—	—	—	—	—	4	2	1	—	7
Malignant glands	1	1	—	—	—		2	3	2	13
Parotid tumour	—	—	—	—	—	—	1	—	—	1
Abdominal tumour...	—	—	—	—	—	—	1	—	1	2
Mediastinal tumour	—	1	—	—	—	4	—	1	—	6
Villous tumour of bladder	—	—	—	—	—	2	1	—	—	3
Polypi of vagina	—	—	—	—	1	—	—	—	—	1
Adenoma of thyroid	1	2	—	—	—	—	—	—	—	3
Fibromata...	3	—	—	—	1	3	2	1	—	10
Fibroid disease of uterus	—	1	—	—	—	6	—	—	—	7
Leucoplakia	2	—	—	1	—	2	—	—	—	5
Nævi—										
Capillary...	—	4	—	—	1	19	1	—	—	25
Cavernous	1	1	—	—	2	8	2	—	—	14
Moles, warts, and papillomata	1	2	—	—	8	6	1	—	—	18
Tuberculosis—										
Glands	—	—	—	1	—	2	—	—	—	3
Skin...	1	—	—	—	—	5	—	—	—	6
Conjunctiva...	1	—	—	—	—	—	—	—	—	1
Spring catarrh...	—	—	—	1	—	1	—	—	—	2
Chronic inflammations...	1	1	—	—	2	3	—	—	—	7
Chronic ulcerations...	1	—	—	—	1	6	1	—	—	9
Skin diseases—										
Keloid and vicious cicatrices	2	2	—	2	—	10	1	—	—	17
Lupus erythematosus...	—	—	—	—	—	6	—	—	—	6
Psoriasis...	—	1	—	—	—	4	2	—	—	7
Pruritus...	—	2	—	—	2	2	2	—	—	8
Chronic eczema	—	—	—	—	—	3	1	—	—	4
Lichenification of skin	—	—	—	—	—	1	—	—	—	1
Mycosis fungoides	—	—	—	—	—	1	—	—	—	1
Roentgen-ray dermatitis	—	—	—	—	—	—	1	—	—	1
Telangiectasis	—	—	—	—	—	1	—	—	—	1
Hypertrichosis	—	—	—	—	—	—	1	—	—	1
General diseases—										
Arterio sclerosis	3	1	—	—	—	2	1	1	—	8
Exophthalmic goitre...	1	1	—	—	—	4	—	—	—	6
Myelogenous leukæmia	—	—	—	—	—	1	—	—	—	1
Myasthenia gravis	—	—	—	—	—	—	1	—	—	1
Neurasthenia...	1	—	—	—	—	2	—	3	—	6
Neuritis...	6	5	—	—	—	5	3	—	—	19
Neuralgias	—	2	—	1	—	2	1	—	—	6
Gout...	—	2	—	—	—	3	—	2	—	7
Rheumatism...	3	2	—	—	—	1	—	3	—	9
Arthritis deformans	41	69	—	—	—	47	39	8	—	204
Totals	112	176	30	56	18	341	152	50	37	972

CARCINOMA.

Squamous-celled.

The results obtained in the treatment of epitheliomata affecting glabrous surfaces call for no fresh comment, and in suitable instances removal of the growth by radium may be confidently anticipated.

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Epitheliomata of the buccal, lingual, and pharyngeal mucous membranes still prove both refractory and disappointing in their response to radium, but a new method of treatment has recently been devised which in instances of cancer of the tongue has given distinctly encouraging results; it consists in the burying within the carcinomatous nodule of a very small but intensely powerful radium emanation tube possessing an initial activity equivalent to that of 80 to 100 mgm. of radium bromide enveloped in a screen of 1 mm. of silver or 0·3 mm. of platinum, and giving an exposure of 24 hours' duration. A fairly severe reaction follows, and in some cases the nodule ceases to grow and becomes replaced by dense fibrous tissue.

Several cases of *epithelioma of the œsophagus* have been under treatment, but unfortunately the majority of these have been in so advanced a stage as to preclude all hope of success. In those instances, however, where complete occlusion had not occurred and it was possible to introduce radium actually into the lumen of the growth, distinct though temporary benefit has resulted, and that this effect is not merely a mechanical one due to the dilation of the stricture by the apparatus is evidenced by the fact that the improvement in the power of swallowing has persisted for six or even nine months after the termination of the treatment.

Carcinoma of the uterus still continues to yield most gratifying results, and the effects of radium treatment in inoperable cases are far in advance of those obtained by any other known medical or surgical methods. The local manifestations of the disease are benefited in the most striking fashion, and the complete disappearance of fungating growth, arrest of hæmorrhage and discharge, healing of ulceration and relief from pain, are phenomena of almost daily occurrence. In favourable cases, moreover, the treatment appears to exert a distinctly retarding influence on the dissemination of metastatic deposits and thus to arrest the progress of the disease. It is not possible, however, to speak of "cure" even in these latter instances.

Great care must be exercised in the treatment of recurrences which make their appearance within six months of the performance of a Wertheim's operation. The functions of the trophic nerves of the pelvis seem often to be seriously impaired by the extensive and elaborate dissection which is associated with this method of hysterectomy, and for this reason the amount of radium used should be small, not exceeding 50 mgm., the screening not less than 1·5 mm. of lead, and the total exposure not longer than 20 hours, spread over four or five days. Unless these precautions be observed a severe and extensive destructive reaction may follow the application of radium.

In all cases where radium is applied within the vagina the patient should be instructed to douche freely night and morning for at least six weeks after the termination of the treatment, as unless this be done an adhesive vaginitis not infrequently occurs. In some extremely susceptible subjects a transient proctitis has been noted to follow upon intravaginal treatment.

The screening employed in cases of carcinoma of the uterus is either 1 mm. of silver or 2 mm. of lead; but the thinner screening should only be adopted when the cervical canal is patulous and the tube can be introduced into its cavity.

Spheroidal-celled Carcinoma.

Carcinoma of the breast.—The number of patients with this disease applying for treatment far exceeds that of any other malignant condition.

The policy of declining to treat operable cases is still rigidly adhered to (unless the patients have absolutely refused to submit to operation), and radium is used as a last resource. Many patients exhibit a great susceptibility to radium, the primary growth becomes smaller, infected glands and subcutaneous nodules lessen or perhaps even disappear.

Little or no effect appears to be exerted in the prevention of metastatic deposits, though the treatment does not, at any rate, hasten their dissemination.

Some cases in which pleurisy, dependent upon carcinomatous invasion of the pleura, has been present have shown remarkable improvement; and the application of powerful apparatus screened with 2 mm. of lead over the affected pleura, after a preliminary paracentesis, has effectually prevented the further formation of pleuritic effusion.

A few patients have been under treatment at intervals of three or four months since the opening of the institute in September, 1911, and it has been noted that a stage in their treatment is reached sooner or later at which the response to radium fails and the benefit derived becomes negligible.

Small isolated recurrent nodules, inoperable by reason of their attachment to the sternum, clavicle, ribs, or rib cartilages, are best treated by burying a small powerful emanation tube screened with 1 mm. of silver in them for a period of 24 hours.

Carcinoma of thyroid.—Encouraging results have been obtained in the few instances that have come under notice; the progress of the disease has been arrested, and a decrease in the size of the existing growth has been obtained, the general discomfort and dysphagia when present being greatly relieved. The line of treatment employed has been the use of numerous powerful applicators screened with 2 mm. of lead, and so disposed over the surface of the growth as to obtain the maximal "cross-fire" irradiation. Burying of emanation tubes within the growth has not yet been adopted owing to the great tendency of these growths to fungate if any breach be made in the investing skin.

Paget's disease.—The superficial lesion in this condition is usually speedily cured by one hour's exposure to a half strength plate unscreened, but the underlying induration and affection of glands, if present, require prolonged treatment with heavily screened applicators if any real benefit is to be obtained. In cases where the patient is willing to submit to operation this procedure should always be adopted.

Columnar-celled Carcinoma.

Carcinoma of rectum.—This disease displays much variation in its response to radium therapy, and numerous factors have to be considered in prognosis. Speaking generally, the soft annular and vascular type of growth is much more favourably affected than the flat, hard, non-annular plaque with much subjacent induration. In the treatment of this latter class of growth the action of the gamma rays (which it is impossible to prevent) on the healthy rectal mucous membrane opposite the plaque produces a proctitis, which, though generally transient, sometimes proves both persistent and severe, and adds greatly to the patient's discomfort. In the treatment of the former type, if the radium tube be of proper dimensions and introduced accurately within the lumen of the growth, little or no healthy mucous membrane is affected by the gamma rays, and no proctitis occurs.

Growths situated in the upper half of the rectum appear to be more amenable to treatment than when in the lower, though this may be due to the fact that tenesmus is always more constant and severe when the growth is near the sphincters.

The performance of a colostomy before radium treatment is often advisable, as the constant passage of fæces over a surface that is reacting to radium frequently causes much pain.

Idiosyncrasy is sometimes responsible for curious results. Some patients are extremely susceptible to the action of radium, and proctitis appears quickly, is very severe, and persists for a long time. With others the reaction sometimes takes six or eight weeks to develop, proceeds exceedingly slowly, and does not disappear for two or three months.

The routine method of treatment consists of a 30-hour exposure—five days of six hours each—with a tube containing 100 mgm. of radium bromide, screened with 2 mm. of lead and 3 mm. of rubber, and applied in actual contact with the growth, the series of exposure being repeated at the end of six weeks. If the patient proves extremely susceptible smaller doses are given at shorter intervals. In the most favourable cases the carcinomatous material shrinks and becomes replaced by dense fibrous tissue. In instances where the original growth has been of the annular type a fibrous stricture will result, which will need frequent and regular dilatation.

Carcinoma of prostate.—The number of cases of this condition which have been treated up to the present is not very large, but benefit has been noted in all of them. Hæmaturia when existent has been either diminished or abolished, pain has been greatly lessened, and the size of the growth decreased. Various methods of treatment have had to be adopted according to the nature of the case. When catheterisation can be well tolerated a 50 mgm. tube of radium bromide in a "window" screen of 1 *mm.* of silver and 1 mm. of lead is introduced per urethram and maintained in actual contact with the growth for a period of two hours a day on five successive days, and its action is supplemented by another tube of 100 mgm. in a screen of 2 mm. of lead, introduced into the rectum for six hours a day on five successive days. When catheterisation is not practicable or advisable the action of the rectal tube is reinforced by a powerful flat applicator screened with 2 mm. of lead and placed either on the perineum or over the pubes.

Carcinoma of bladder.—Nine cases of this disease have been treated and in six instances the results have been most gratifying. The hæmaturia, cystitis, and all subjective symptoms have disappeared and cystoscopic examination has shown that the size of the growth has been greatly lessened and any ulcerated surface has become covered with healthy epithelium.

The treatment has consisted of the introduction of a 50 mgm. tube of radium bromide in a "window" screen of 1 mm. of silver and 1 mm. of lead inserted per urethram, and maintained by means of a pliable silver wire in such a position that the window-side of the apparatus is in actual contact with the growth. If the lesion be on the base of the bladder a second tube screened with 2 mm. of lead is placed in the vagina in female and in the rectum in male patients, but if on the anterior bladder wall a flat applicator similarly screened is fixed over the pubic region. The usual length of exposure is 10 hours intravesically in five days of two hours each, and 30 hours with the vaginal, rectal, or pubic applicators spaced over the same number of days.

Rodent ulcer.

Little has been added to our knowledge of the treatment of this condition, but when dealing with the question of prognosis it appears justifiable to divide rodent ulcers into two definite clinical types: (1) The hypertrophic nodular type, with slight superficial ulceration of a scaly character (this class responds extremely well to radium and yields most satisfactory results); and (2) the excavating type, with undermined and overhanging edges and a gelatinous base (this not infrequently proves very intractable and repair is most difficult to effect). Whenever the size and situation of the ulcer permit, it is best to give one powerful unscreened exposure, a full strength plate being applied in actual contact with the ulcer for one, two, or three hours, according to circumstances. One such treatment usually suffices to produce an apparent cure. Exposures of short duration repeated at frequent intervals are not nearly so effectual, and instances have been met with where the adoption of this procedure appears to have been responsible for the development of an epithelioma on the site of the original ulcer.

Rodent ulcers attacking cartilage, bone, or mucous membranes are very refractory; though an exception should be made with regard to the orbital mucosa, which is generally very amenable to the action of radium.

SARCOMATA AND OTHER CONDITIONS.

Speaking in general terms, *sarcomata*, if taken in their early stages and before dissemination has occurred, do very well under radium treatment. The burying within the growth of tubes of radium salts or radium emanation should be resorted to whenever practicable, and the action of these tubes may be much helped by the external application of radium plates heavily screened. It is important to use a large quantity of radium and to give a heavy dosage. Small doses should be avoided as they exert a distinctly irritating effect and stimulate the growth of the tumour. The best results are obtained in sarcomata of the tonsil and post-nasal space, and the results in many such cases are amazing, the growths completely disappearing within six weeks of the treatment. Lymphosarcomata also give excellent results. Melanotic sarcomata are not influenced by radium, and in the few cases that have been treated no benefit has been observed.

Lymphadenoma.—When the disease is localised and confined to one or more small superficial areas, the disappearance of the enlarged glands is frequently brought about by the use of radium, and the progress of the disease is thus arrested. When, however, the condition is generalised the employment of numerous large and powerful applicators becomes necessary, and this heavy dosage is almost always followed by severe systemic disturbance with high temperature and general malaise. After the reaction has subsided considerable improvement is often apparent, but this is only temporary in character, and the condition sooner or later returns with increased severity.

Mediastinal tumours.—In almost every instance that has come under observation the rate of growth has been very markedly checked by the use of radium, and in one or two cases a definite decrease in the size of the tumour—as seen by X ray screening—has undoubtedly occurred. If the condition be accompanied by an accumulation of fluid in the pleura, and paracentesis be performed, radium appears to exert a very remarkable action in lessening the tendency to the production of further effusion. In these cases the use of a very large quantity of radium (400–500 mgm.) is indicated; the applicators should be screened with 2 mm. of lead and disposed in such fashion over the chest wall as to procure the maximum "cross-fire" irradiation.

Treatment must be very persistent, a total exposure of not less than 30 hours should be given, and the series repeated at the end of four weeks. This heavy dosage is almost invariably followed in two or three days by a feeling of great fatigue and exhaustion, but this condition passes off completely in about a week's time.

Fibroid disease of the uterus.—Radium exerts a most beneficial action upon the distressing symptoms, menorrhagia and metrorrhagia, which are the almost invariable concomitants of this condition, though it seldom produces any very great diminution in the size of the uterus. As the cervical canal is rarely sufficiently patulous to admit a screened radium tube without previous dilatation, and patients are often averse from this, the treatment may be carried out by the introduction of a tube containing 100 mgm. of radium screened with 2 mm. of lead into the posterior fornix, and applying a plate of from 80 to 100 mgm. similarly screened over the fundus uteri. The total exposure should be between 30 and 60 hours, spread over from five to ten days, and the series should be repeated after six or eight weeks. The first effect noted is the checking of the metrorrhagia, and this is followed by a progressive decrease of the menorrhagia until the flow becomes normal or sometimes ceases altogether.

Leucoplakia.—Leucoplakic patches on the tongue, cheek, or vulva are speedily removed by radium, but they tend to recur sooner or later. Half-strength plates screened with 1/10 mm. of lead should be used, and exposures varying from one to three hours' duration, according to the thickness of the lesion, should be given. A slight superficial reaction takes place and the patches disappear.

Nævi and other Conditions.

Flat superficial nævi, capillary nævi, "port wine stains."—Before expressing an opinion as to the possibility of radium treatment effecting an improvement in any particular instance, it is advisable to subject the lesion to diascopy. If blanching be readily effected by gentle pressure the result of the treatment will probably be satisfactory; but if it be found impossible to produce blanching except by great pressure, it is unlikely that radium can do much for the condition. Infinite patience is necessary in the treatment of superficial nævi, and the utmost caution must be observed. The effect of each exposure should be most carefully studied, as too frequent treatments or excessive dosage may result in the production of troublesome telangiectases. It is better to use quarter or half strength applicators screened with 1/100 mm. of aluminium and to start with short exposures of from 15 to 20 minutes' duration, gradually increasing the length of the same until a satisfactory reaction has been obtained. So soon as the lesion has assumed a salmon-pink colour the screening should be altered to 1/10 or 2/10 mm. of lead, and the length of exposure increased to one, one and a half, or two hours.

Cavernous nævi.—These do excellently under radium, especially when of such shape that "cross-fire" radiation is possible. Half-strength applicators screened with 1/10 mm. of lead should be employed, and the exposure should be from one to three hours' duration, spread over three successive days. Little or no surface reaction is produced by this method of treatment, and the nævus shrinks gradually and steadily. If on palpation the presence of a pulsating vessel is appreciable the case is not likely to prove completely successful unless the vessel be first ligated.

Warts and papillomata.—These all yield readily to short exposures of from 20 minutes to one hour's duration with half-strength apparatus unscreened. The reaction is but slight and the resultant scar scarcely noticeable.

Tuberculosis of glands.—In cases where surgical measures have been declined for cosmetic reasons radium often proves of considerable value, either when used alone or as an adjunct to vaccine treatment. Heavily screened exposures of 30 or more hours' duration should be resorted to and an effort made to secure "cross-fire" irradiation where practicable. If the glands be caseating radium treatment is of but very little use.

Lupus vulgaris.—As a routine treatment for this disease Finsen light is greatly to be preferred to radium, but where the former fails to effect a cure or improvement radium sometimes proves of great use. Unscreened exposures of one or two hours' duration must be given and a destructive reaction produced. The resultant scar is usually firm, smooth, supple, and inconspicuous.

Spring catarrh.—In this condition the employment of radium is strongly to be advocated, as it will often cure the most intractable cases. Personal idiosyncrasy is, however, a very important consideration, and it is essential to proceed with great caution, giving short unscreened exposures at intervals of a fortnight and carefully noting the reaction. If the dosage be accurately adjusted the granulations on the orbital conjunctiva gradually disappear; there is no marked inflammation and no resultant scarring of the mucous membrane. A special form of applicator should be used which can readily be introduced into the conjunctival fornices. It should be of full strength, and the first exposure should not exceed 15 minutes' duration. No screening is employed. If the effect be not satisfactory the length of the exposure may be increased to 20, 25, or 30 minutes until the desired result is obtained.

SKIN DISEASES.

Keloid.—This condition continues to give most excellent results when treated with radium, and a great improvement, if not complete cure, can be safely predicted. In tender and painful keloids the anæsthetic effect of radium is generally very marked, and appears very early in the treatment. Screening with 1 mm. of silver is almost always employed, and an exposure of from 18 to 30 hours spread over from three to five days, according to the size and thickness of the lesion, is given. This brings about a gradual absorption of the keloidal tissue unaccompanied by any surface irritation.

Lupus erythematosus.—This very intractable and puzzling disease often responds favourably to radium, even after all routine methods have failed.

Short exposures with half or quarter strength apparatus lightly screened and repeated at intervals of four weeks give the best results.

Psoriasis and chronic eczema.—Both of these conditions generally yield readily to short unscreened exposures of from two to five minutes' duration, given on three successive days, the series of exposures being repeated at intervals of a fortnight. The patches quickly disappear after a slight superficial reaction, and in eczematous cases there is but little tendency to recurrence. With psoriasis, however, the disease almost invariably reappears after a time, though with some patients the interval that elapses may be of many months' duration.

Lichenification of the skin.—This affection, with its attendant intolerable itching, is quickly relieved and often completely cured by one exposure of 10 or 15 minutes' duration to a half-strength applicator screened with 1/100 mm. of aluminium. Some very obstinate cases which have hitherto defied all the usual methods of treatment have responded most favourably to this procedure; the lesions have disappeared and have not recurred.

Pruritus.—The analgesic effect of radium is often of the greatest use in this disease, and short unscreened exposures frequently produce a degree of relief which is unattainable by any other measures. This is especially noticeable if the pruritus occur in association with a definite lesion such as leucoplakia or hyperkeratosis. If the dosage be carefully considered and the treatment repeated at fortnightly intervals until the skin is restored to its normal condition, complete and permanent cure may result. If, however, the condition be a neurosis the prognosis is not so hopeful and the benefit derived, if any, is not likely to be of very long duration.

GENERAL DISEASES.

Exophthalmic goitre.—Few patients suffering from this disease have as yet been treated at the Institute, but the results obtained are sufficient to justify a trial of radium when other treatments have failed to produce any result. Prolonged exposures of 30 or more hours' duration in all should be given, with heavily screened apparatus containing 200 or 300 mgm. of radium, the apparatus being so disposed as to cover as much as possible of the gland surface. Three or four weeks usually elapse before any effect is appreciable, but from that time on a gradual diminution in the size of the gland, with slowing of the heart's action, lessening of tremor and of the degree of proptosis, may be looked for. The series of exposures should be repeated at intervals of three or four months.

Arthritis deformans.—The daily administration of 250 c.c. of radium emanation solution of a strength of not less than 1 millicurie per litre to patients suffering from this obstinate, painful, and crippling disease is sometimes attended by very remarkable results. It is difficult to predict with certainty as to the degree of improvement likely to occur in any particular instance, but the cases which appear to derive most benefit are those in which the disease is of relatively short duration, and the changes are periarticular in type, and multiarticular in distribution. The age of the patient also exerts some influence, those under 40 responding more quickly to the action of the emanation. Cases with a definite gouty history sometimes experience an acute exacerbation of all their symptoms within the first week or ten days of their treatment, but this disturbance is quite a transient one, and is usually followed by a distinct change for the better. Little or no improvement can be looked for in instances where cartilaginous or osseous changes are predominant, and the radium emanation solution is powerless to bring about the absorption of osteophytic growths or the loosening of fibrous or bony ankylosis. When limitation of movement is due to periarticular fibrous thickening, considerable increase of mobility often follows on the taking of the radium water and enables patients to perform actions such as feeding themselves, brushing their hair, shaving, &c., which they may have been powerless to do for some months or even years.

Other favourable effects of the treatment are the lessening or disappearance of the muscular and articular pains, the grating of the joints on movement is not so marked, the muscles regain much of their lost tone, and the patient's general health is much improved. This is especially noticeable when the patients are suffering from anæmia, their hæmoglobin index being rapidly increased.

Much research work has yet to be undertaken to enable an accurate opinion to be formed of the manner in which radium emanation solution produces these results, as its action appears to be a multiple and highly complex one, but the reinforcing of the body ferments, the increase of tissue oxidation, and the dissolving of uric acid are undoubtedly factors which contribute to its success.

I desire to express my indebtedness to my assistants, Dr. J. E. A. Lynham and Dr. A. Burrows, for the valuable help they have given in the compilation of this report. The opinions recorded are the result of our joint observations, as treatment has in many instances been planned and carried out entirely by them.

APPENDIX.

Report of the Chemico-Physical Laboratory, by W. L. S. ALTON, *F.I.C.* (*Director*).

Since the publication of the last report the laboratory staff has been almost wholly engaged in attending to an ever-increasing demand for emanation applicators and for radio-active water.

Emanation applicators.—These applicators have a very great advantage over applicators containing fixed radium salts, inasmuch as it is possible to concentrate the activity per unit area to a very high degree. Since the emanation in equilibrium with 1 grm. of metallic radium only occupies a volume of 0·59 c.mm., it is easy to see what advantages can be obtained by the saving of space compared with the relatively bulky radium salt. For example, the tubes containing 100 mgm. of radium bromide used in the Institute measure 40 mm. long and 2·2 mm. diameter, while it is quite easy to make an emanation tube equal in activity to them but measuring only 6 mm. long and 1·3 mm. diameter. Improvements in the construction of the apparatus used have resulted in the production of these emanation tubes of very small calibre, the latest achievement being the charging of iridium-pointed platinum needles (3 cm. long, 2 mm. diameter, and 0·3 mm. thickness) with emanation in capillary glass tubes for the insertion into malignant tissue. These needles, the suggestion of the medical staff of the Institute, appear to be easy to use, and if certain principles are observed are not difficult to fill with emanation.

The larger emanation tubes have been standardised in dimensions—that is to say, they have been constructed to fit certain standard screens. These screens are of the following dimensions: an "A" screen is 2 cm. long, a "B" screen 3 cm., and a "C" screen 4 cm., all of them with an internal diameter of 2 mm. The screens vary both as to material (lead or silver) and as to thickness of wall, thus giving considerable latitude in the treatment of special cases.

With the improvement of the apparatus the rate of production of these tubes has enormously increased; two tubes are frequently made at the same time from one piece of capillary tubing, and are separated by means of a mouth blowpipe, a constriction being made in the middle of the tube before the introduction of the gas.

It has been urged against the use of emanation tubes that their initial activity, which is often considerable, is rapidly lost, and that their residual activity, which is small in amount but of long duration, cannot be made use of. The answer to the first point is that a treatment rarely exceeds 24 hours, and that an emanation tube can so be made that its average strength during that period shall be the strength required (the loss during 24 hours being only 16 per cent). As regards the second point, when emanation applicators are returned after use to the laboratory they frequently possess considerable residual activity. As a rule the individual tubes are no longer sufficiently powerful to be of any therapeutic value, but an apparatus has been devised whereby the tubes are crushed and the emanation extracted, several tubes of low activity being utilised to make a tube of high activity.

The stock of radium salts available for emanation production has been subdivided for the sake of safety into units each of about 200 mgm. of radium bromide. Each unit has been attached to its own pump and has been mounted separately on the walls of the iron safes in the basement. All the pumps and glasswork have been made by the laboratory staff, considerable time having been spent in their construction. During the year 241 emanation tubes and applicators have been made (as compared with 44 in 1912), and the activity of these applicators was equal to that of over 19 grm. of radium bromide. These applicators were sent by post as required to various places in the British Isles.

Radio-active water.—The output of radio-active water has also been largely increased during the year, over 3600 litres being made in 1913, as compared with 400 litres in 1912. New apparatus has been constructed which permits of 150 bottles being despatched daily by post to patients as directed by their medical attendants. The strength of the water remains the same as for last year—that is to say, approximately 1 millicurie per litre.[1] The emanation used for the production of this large volume of water is equal in activity to about 6·5 grm. of radium bromide.

Radium applicators.—During the year there has been a considerable demand by medical men and by other institutes for the preparation of radium applicators similar to those used in the Institute. Applicators have been prepared for several of the London hospitals as well as for institutes in Germany and Denmark. The number of these amounts to 55 (as compared with 4 made in 1912). In addition 15 specimens of radio-active material were received from various sources for analysis, a branch of the laboratory work which shows signs of increasing since the acquisition of an International standard.

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[1] A millicurie of emanation is equivalent to 2,670,000 Maché units.

ROYAL SANITARY INSTITUTE.—The Earl of Plymouth (President) occupied the chair at the dinner of the Royal Sanitary Institute held at the Langham Hotel, London, on May 13th. Amongst those present were Sir Thomas Barlow, President of the Royal College of Physicians of London, Sir Rickman J. Godlee, President of the Royal College of Surgeons of England, Sir Shirley F. Murphy, Professor Sheridan Delépine, Mr. Herbert Jones, Colonel J. Lane Notter, R.A.M.C., Dr. Arthur Newsholme, Surgeon-General Sir Lionel Spencer, Professor H. R. Kenwood, Dr. Louis C. Parkes, Dr. W. J. Howarth, Dr. E. F. Bashford, Professor Bostock Hill, and Mr. A. Wynter Blyth. After the usual loyal toasts had been honoured the toast of "The Royal Sanitary Institute" was proposed by the President, who pointed out that the institute was obtaining support from the most distant parts of the Empire. Sir Henry Tanner, chairman of the council, replied. The health of the visitors was proposed by Mr. H. Percy Boulnois, M.I.C.E., and Sir Thomas Barlow and Principal E. H. Griffiths, F.R.S., of the University College of South Wales and Monmouthshire, responded. The health of the chairman was proposed by Colonel Notter, and Lord Plymouth made suitable acknowledgment.

THE DIAGNOSIS OF PULMONARY TUBERCULOSIS:

THE VALUE OF BESREDKA'S ANTIGEN IN THE COMPLEMENT-FIXATION TEST FOR TUBERCULOUS DISEASE.

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IN May, 1913, M. Besredka, of the Pasteur Institute, in Paris, asked me to undertake some observations on patients suffering from pulmonary tuberculosis with a view to determining the diagnostic value of the complement-fixation test of the blood in the presence of a tubercle antigen prepared by himself. For this purpose he kindly supplied me with a quantity of antigen which is prepared by growing tubercle bacilli in a liquid medium consisting of veal broth and the white and yellow of the hen's egg. No peptone, glycerine, or salts are employed. After the growth has proceeded for from three to four weeks the culture is heated to 115° C., filtered free from bacteria, and should contain sufficient tuberculin to kill a tuberculous guinea-pig in a dose of 1·5 c.c. to 2 c.c.

The technique employed in the series of experiments referred to in the present communication needs description. In the complement-fixation test the following reagents are required: antigen, control and test human sera, complement, specific hæmolytic amboceptor, the corresponding erythrocytes, and physiological salt solution.

1. *The antigen.*—This was received direct from Paris in hermetically sealed stout-walled test-tubes and placed in the ice safe until required for use. Immediately before each experiment the required amount was decanted into a measuring flask and 1/20 c.c. of a 15 per cent. solution of pure crystallised sodium chloride for every 1 c.c. of antigen was added. The mixture was well shaken and poured into test-tubes. After a series of trials the dose of antigen for each tube was fixed at 0·3 c.c.

2. *The human serum.*—10 c.c. of blood were removed from the median basilic vein by venepuncture. The serum was always inactivated at 55° to 56° C. for 30 minutes. The blood was examined within 48 hours of withdrawal. The dose of serum was fixed at 0·2 c.c. for each tube. In the majority of experiments progressive dilutions of the serum were examined, as will be shown later.

3. *Complement.*—Fresh guinea-pig blood was used. Immediately after withdrawal clotting was allowed to take place in the air incubator at 37° C. for one hour. The clot was then freed from the walls and the tube placed on ice until required for immediate use. A 1 in 30 dilution of the clear serum was used in a dose fixed by titration in the presence of antigen and normal serum. The adequate dose was usually found to be 0·5 c.c. or even 0·4 c.c., rarely 0·6 c.c.

4. *Specific hæmolytic amboceptor.*—A rabbit-sheep hæmolysin was used. This was obtained already standardised from the Sächsisches Serumwerk und Institut für Bakteriotherapie, Dresden, and gave uniformly satisfactory results. The dose used was four to five times the minimal hæmolytic dose.

5. *The test erythrocytes.*—The corpuscles contained in 5 c.c. of fresh whipped sheep's blood were washed at least three times and suspended in 95 c.c. of physiological salt solution. The corpuscles were

sensitised 20 minutes previous to use, and the dose for each tube was fixed at 0·3 c.c.

6. *Physiological salt solution.*—0·85 gramme of pure crystalline sodium chloride was dissolved in 99·15 c.c. freshly distilled water, the solution being newly prepared for each experiment.

The Complement-fixation Text.

A preliminary series of bloods were examined as follows:—The complement 1 in 30 was titrated in the presence of antigen and a known normal serum in doses 0·2, 0·3, 0·4, 0·5, 0·6, 0·7, 0·8 c.c. The hæmolytic dose having been established, four tubes were arranged for each blood and received the reagents as shown in Table I.

TABLE I.

Tube number.	Antigen.	Inactivated serum.	Complement (1 in 30).	0·85% NaCl.	Sensitised sheep's corpuscles.
	c.c.	c.c.	c.c.	c.c.	c.c.
1	0·3	0·2	0·5*	0·3	0·3
2	0·3	0·2	0·6	0·2	0·3
3	0·3	0·2	0·7	0·1	0·3
4	0·3	0·2	0·8	—	0·3
	Contact for one hour at laboratory temperature and one hour 37° C. in air incubator.				
	Contact for half an hour at 37° C. in air incubator.				

* Minimal hæmolytic dose.

The tubes were then placed in the ice safe overnight and the results read off on the following morning. Of 52 sera obtained from patients suffering from pulmonary tuberculosis with tubercle bacilli present in the sputum, 50 cases gave a positive reaction, and 2 cases a negative reaction. At this point I had the advantage of discussing my results with Professor Georges Dreyer, and he advised me to make quantitative examinations of the blood by progressively diluting the serum whilst keeping the other reagents constant. By trial and error the following technique was found to be most suitable for the purpose, and it was thus that the remaining 286 cases referred to in this communication were examined:—

TABLE II.

Tube number.	Antigen.	Inactivated serum.	Complement (1 in 30).	Sensitised sheep's corpuscles.
	c.c.	c.c.	c.c.	c.c.
1	0·3	0·2 undiluted.	0·5*	0·3
2	0·3	0·2 diluted 1 in 2.	0·5	0·3
3	0·3	0·2 „ 1 in 4.	0·5	0·3
4	0·3	0·2 „ 1 in 8.	0·5	0·3
5	0·3	0·2 „ 1 in 16.	0·5	0·3
6	0·3	0·2 „ 1 in 32.	0·5	0·3
7	0·3	0·2 „ 1 in 64.	0·5	0·3
8	0·3	0·2 „ 1 in 128.	0·5	0·3
9	0·3	0·2 „ 1 in 256.	0·5	0·3
	Contact for an hour at 37° C. in water bath.			
	Contact for half an hour at 37° C. in water bath.			

* Dose determined by titration in presence of antigen and known negative serum.

The results obtained may be conveniently given in tabular form. Table III. summarises the findings gained from single examinations in 100 cases of pulmonary tuberculosis, having tubercle bacilli present in the sputum at the time of the blood examination, and chosen at random from the in-patients at the hospital.

TABLE III.

1. Hæmolysis with serum undiluted...	5	= 5 per cent. negative.			
2. „ „ „ diluted ½ ...	5	95% positive.			
3. „ „ „ „ ¼ ...	7				
4. „ „ „ „ ⅛ ...	16	... ...	83% positive.		
5. „ „ „ „ 1/16 ...	19				
6. „ „ „ „ 1/32 ...	22			48% positive	
7. „ „ „ „ 1/64 ...	14	... ...	... ...		
8. „ „ „ „ 1/128 ...	10	... ...	... ...		
9. „ „ „ „ 1/256 ...	2	... ...	... ...		
	100				

Of the five negative cases three were "resting febrile," one "ambulant febrile," and one "ambulant afebrile." In all five cases the duration of the disease was under one year. Subsequent re-examination of these cases gave a positive reaction in four, whilst one of them remained negative.

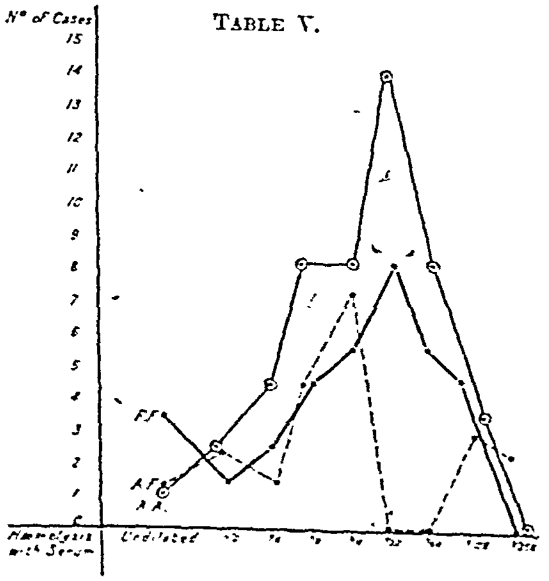
Table IV. deals with the strength of the reaction in relation to the duration of the disease, and is self-explanatory.

TABLE IV.

Hæmolysis with serum—	Duration of disease.			
	1 month–12 months.	1 year–3 years.	3 years–5 years.	Over 5 years.
Undiluted	5	0	0	0
Diluted 1 in 2... ...	5	0	0	1
„ 1 in 4... ...	5	0	1	0
„ 1 in 8... ...	6	8	0	2
„ 1 in 16 ...	11	5	2	2
„ 1 in 32 ...	12	6	1	2
„ 1 in 64 ...	9	4	0	0
„ 1 in 128 ...	5	4	2	0
„ 1 in 256 ...	1	1	0	0
Total	59	28	6	7

Table V. graphically represents the frequency of strong and weak reactions in febrile and afebrile cases. It also is self-explanatory.

TABLE V.



R.F., Resting febrile (32 cases). A.F., Ambulant febrile (20 cases). A.A., Ambulant afebrile (45 cases).

For controls reliance had to be placed on bloods obtained from patients admitted to general hospitals in London suffering from diseases presumably other than tuberculosis. Manifest sources of error creep in here. Firstly, cases admitted for the treatment of traumatic, infective, or neoplastic diseases, or of diseases anatomically defective in origin, are not minutely examined for evidence of tuberculous infection. Secondly, in many of the cases here dealt with a special examination with a view to determining the presence or absence of active tuberculous infection was impossible. Thirdly, tuberculous infection, at all events of a transient nature and of such a degree of activity as only to be detected with difficulty, is common amongst the hospital classes of the population of the country. Such evidence as is to hand tends to show that the number of positive reactions would be considerably diminished were a series of healthy adults drawn from the same social status to act as controls.

TABLE VI.

1.	Hæmolysis with serum undiluted ...	76	= 76% negative.	
2.	" " " diluted 1/2 ...	7	24% positive.	
3.	" " " " 1/4 ...	8		
4.	" " " " 1/8 ...	5		
5.	" " " " 1/16 ...	4		
6.	" " " " 1/32 ...	0	... ...	0% positive.
7.	" " " " 1/64 ...	0	... ...	
8.	" " " " 1/128 ...	0	... ...	
		100		

Table VI. gives the results obtained, and is valuable in that it shows that no positive reactions were obtained with a 32-fold dilution of the serum, whilst reference to Table III. shows that nearly one-half of the certainly active cases of pulmonary tuberculosis give a positive reaction with the serum thus diluted.

The composition of the antigen suggested the possibility of a positive reaction being obtained in cases of syphilitic infection. Indeed, this proved to be the case. Samples of serum examined by independent observers at several London hospitals were investigated according to the technique described above, and the following results were obtained:—

TABLE VII.

15 Wassermann negative sera.
1 ... { Complement-fixation test negative in 13
" " positive in 2*

21 Wassermann positive sera.
2 ... { Complement-fixation test negative in 0
" " positive in 21

* The clinical diagnosis was not inquired into in these cases.

It remained, therefore, to determine in how far this necessitates the simultaneous determination of the Wassermann reaction if the test is to be used for diagnostic purposes.

In a series of 158 cases of pulmonary tuberculosis at the Brompton Hospital, excluding those cases with clinical manifestations or a history of syphilis, Captain A. N. Dickson, I.M.S., and myself have found that 8 cases (5 per cent.) gave a positive Wassermann reaction. Strictly speaking, then, the possibility of a positive Wassermann reaction interfering with the correct interpretation of the test must be excluded if the test be applied for the diagnosis of tuberculous infection. In practice, however, it can hardly be gainsaid that such a precaution, at all events in reasonably selected cases, need not be seriously considered so long as the contingency is borne in mind.

Fifty cases were examined because the diagnosis of active tuberculosis was uncertain. It must be understood that the positive diagnosis in these cases may have been probable or improbable; the sole reason for their investigation was the absence of tubercle bacilli from the sputum. Table VIII. summarises the results obtained.

TABLE VIII.

1.	Hæmolysis with serum undiluted...	20	= 40% negative.
2.	" " " diluted 1/2	4	60% positive.
3.	" " " " 1/4	10	
4.	" " " " 1/8	7	
5.	" " " " 1/16	3	
6.	" " " " 1/32	1	
7.	" " " " 1/64	3	
8.	" " " " 1/128	2	

It is suggestive that these figures almost exactly coincide with those obtained in a similar class of case investigated by means of the tuberculo-opsonic index test.

Exercise produces no immediate quantitative effect upon the antihæmolytic power of tuberculous serum as the following experiment shows:—

TABLE IX.

Case.	Hæmolysis with inactivated serum.								Tuberculo-opsonic index.	
	Undiluted.	1/2	1/4	1/8	1/16	1/32	1/64	1/128	Active serum.	Heated serum.
1.—At rest	0	0	+	C	C	C	C	C	0·78	0·16
After 1½ miles' walk	0	0	+	C	C	C	C	C	1·00	0·47
2.—At rest	0	0	0	0	0	+	C	C	0·88	0·32
After 3 miles' walk	0	0	0	0	0	+	C	C	0·63	0·28
3.—At rest	0	0	+	C	C	C	C	C	1·04	0·12
After 1 mile walk	0	0	+	C	C	C	C	C	1·00	0·06

0 = no hæmolysis. + = partial hæmolysis. C = complete hæmolysis.

Conclusions.

1. The antihæmolytic power of tuberculous serum can be made manifest in a hæmolytic experiment by introducing Besredka's antigen into the mixture.

2. Repeated positive reactions, especially with a 32-fold serum dilution, in the absence of a positive Wassermann reaction, indicate the presence of an active tuberculous lesion.

3. Repeated negative reactions indicate the absence of an active tuberculous lesion, if cases of under 12 months' duration be excepted.

A word of thanks is due to those who have helped in the accumulation of material for this research. To those physicians at Brompton Hospital who so unreservedly placed cases under their charge at my disposal, to Dr. Arthur Latham, Dr. J. W. Linnell, Dr. D. Embleton, Dr. A. Paine, Dr. A. Leitch, Mr. E. A. Tozer, Dr. H. A. Treadgold, and Dr. W. P. Johnston I express my gratitude. To Professor Georges Dreyer I owe an especial debt of gratitude for friendly criticism and advice. To M. Besredka I extend my thanks with the wish that his labours in the interest of suffering mankind may meet with the success they deserve.

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REMARKS ON THE SO-CALLED RE-EDUCATION OF THE DEAF.

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FOR many years there have been before the public and the profession various mechanical contrivances which have been recommended for the so-called re-education of the deaf, and also for the education of the congenitally deaf, the contention being that it was possible materially to improve the hearing in those who were suffering from acquired deafness, as one already knew that it was frequently possible to stimulate or educate the hearing of those congenitally deaf. For a considerable time the use of instruments was confined to a few aurists in Paris and Vienna, some of these gentlemen claiming very wonderful results. As was quite natural these claims became known to the British public, and one was constantly finding inquiries directed towards the subject of sound re-education of the deaf by one's patients, and at the same time one not infrequently heard stories of very wonderful recoveries. Within the last few years mechanical engineers of considerable ability, seeing the large amount of money that was to be made by acting as unqualified re-educators of the deaf, produced clever sound-producing instruments and started in the business, and now flood the land with pamphlets, and by all accounts have a very large following. I have seen, I must admit, a large number of people at one time or another who have been to them, but so far I have personally observed no good results from the treatment. And, indeed, as will appear by what I shall say presently, I should have been astonished if I had.

Some years since I purchased an instrument designed for the relief by re-education of the deaf, having been very favourably impressed by the improvement that had been derived by one of my patients from this treatment, an instrument in which the sound-producing force was air; the treatment was carried out by Dr. Marage. I have treated during the last two years for a greater or less time somewhere about 20 cases, with an appallingly small amount of success. It may be that it was because the cases so treated were almost without exception cases which had refused to yield in any way to my ordinary methods of treatment, either cases of advanced progressive middle-ear deafness or otosclerosis, with a few nerve cases. Only one case appeared materially benefited, and that lady was of a very nervous temperament. I have therefore come to the conclusion that in cases of acquired deafness this method of treatment is not to be recommended, and that it rarely offers further hope for those patients whose deafness does not yield to properly and judiciously applied remedies.

There is, however, an obverse of this, and that is the use of mechanical educational methods in the treatment of the congenitally deaf, and it is pleasing to be able to say that at any rate one variety of one re-educational instrument (perhaps others) is of great benefit in stimulating the dormant power of hearing in this class of patient. But it must also be understood from the beginning that the appreciation of sound by the deaf-mute can only be of value when correct instruction is given to the child in the appreciation of sound pitch and so on. Besides the boy whom I showed at the Otological Section of the Royal Society of Medicine on February 20th of this year I have a little girl patient of nearly the same age who has made very marked improvement, though not so great as the boy. At the end of a twelvemonth's intermittent treatment, the former is now able to hear and comprehend most words which are spoken to him in a distinct voice into the concha, whereas the little girl is somewhat behind this, yet her progress is very remarkable. A third case I have treated was a boy very much older, who has just become an apprentice, and who has six weeks' treatment once or twice a year. Everybody has been struck by the great improvement in his vocalisation and hearing.

Another case was that of a young lady, aged 18, a congenital deaf-mute, who commenced to hear a little at about the age of 12, and when she came to me was able to hear a loud voice at about 3 inches from her right ear. I gave her four weeks' treatment at mechanical re-education, and at the end of the four weeks she was able to hear on the right side words spoken in an ordinary voice over 3 feet away. None of these patients had ever been treated with the method of Urbantschitsch, so one is unable to say whether mechanical treatment would succeed where vocal treatment failed.

Educational treatment of the congenitally deaf must be considered from a totally different standpoint from the re-education of the sufferers from acquired deafness. This treatment is rational and by no means new. Itard was, as far as I know, the first to practise education of the congenitally deaf, and since that time very many attempts have been made, both by vocal stimulation of the auditory nerve and by mechanical stimulation, to rouse and bring out, as it were, the dormant power of hearing possessed by many congenitally deaf children and even adults. Urbantschitsch was one of the modern pioneers of these endeavours to ameliorate the condition of these unfortunate people.

One asks oneself how is it that in some instances children born without any sense of hearing have been known to acquire, usually in late childhood, without any artificial nerve stimulus, a certain amount of hearing. The only feasible explanation is that the connecting tract between the nerve centres, and therefore the perception and interpretation of sound, is delayed in its development. Whatever the interpretation may be, there is no doubt that there are analogous instances in at least one or two of the special senses, and there are many minor ones in the auditory nerve, such as tone deafness and inability to copy certain sounds; this is especially marked in the aspirates, which may, and often does, persist through life, but which may entirely be eliminated by tuition.

These cases of delayed auditory perception have been made use of to show miraculous cures by means of these hearing appliances. In the class of case to which I am referring the connexion between the centres is already made, and it only requires a little practice or use to give the recognised acquaintance, both conscious and subconscious, with the altered conditions. But there exists, no doubt, a very large number of people who are born deaf, and who never in the ordinary way develop any hearing power, but in whom it is possible to develop this power if proper steps are taken. In fact, we may classify congenital deaf-mutes under (*a*) those with demonstrable rudimentary power of hearing, and (*b*) those with no apparent hearing. Of these congenital deaf-mutes the first are all potential hearers; the second, however, certainly contain an unknown proportion of non-potential hearers. The class of case in which one can demonstrate a rudimentary power of hearing is relatively small, and the amount of hearing that these persons possess is often restricted to a single note.

The great drawback to educational treatment by means of mechanical appliances is the length of time over which the treatment has to extend and the consequent great expense entailed. For it is quite certain that one must at times be prepared to work for somewhere about three months even if no result is appreciable earlier; the two children under my care, as I have already mentioned, have now had considerably over a year's treatment.

If these congenitally deaf patients do not acquire a sufficient amount of auditory perception and acuity to enable their hearing to be of definite use in daily life, yet it is of immense value as enabling them to acquire a proper or better pronunciation, or one might say an intelligible pronunciation. It enables them to acquire a voice free from the monotone of the ordinary deaf-mute, though it is true this latter has apparently been obtained without the benefit of any auditory perception on the part of the patient. Still, it must be infinitely harder to teach a patient without auditory perception and must take a far greater time.

Briefly summarised, my view with regard to the instrumental re-education of the deaf is that it is almost useless in acquired deafness of adults. It is most useful in congenital deafness, even should this be total, and it is also of value in acquired deafness of childhood when this is not due to any destructive lesion of the internal ear.

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A CONTRIBUTION TO THE KNOWLEDGE OF EXPERIMENTAL NEPHRITIS.

BY HORST OERTEL, M.D.

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UNTIL quite recently the opinion prevailed that the action of certain poisons on the kidney was selective. It was supposed that some, like cantharidin, injured almost exclusively the vascular system and therefore produced a vascular nephritis; others, like chromium, bichloride of mercury, and uranium nitrate, destroyed the secretory tubular cells, leaving the blood-vessels and glomeruli untouched, and therefore produced tubular nephritis. It became, then, common to differentiate between vascular and tubular nephritis as rather distinct affections, and this in spite of well-founded evidence to the contrary.

In 1904 Lyon, in an important contribution[1] which has not received the general recognition and appreciation it deserved, showed clearly from his own experiments and the investigations of others that in cantharidin poisoning there occur not only vascular injury and reaction, but a diffuse necrosis of the secretory tubular cells, and that in poisoning by bichloride of mercury glomerular lesions may also be present. Similar results have been obtained by subsequent investigators for these and still other types of experimental nephritis. Thus Pearce, for example, found the evidences of tubular injury and reaction in cantharidin nephritis,[2] and Christian and O'Hare[3] have described various glomerular lesions in uranium nephritis. I have further emphasised on various occasions that, as far as the human kidney is concerned, a distinction between vascular glomerulo-nephritis and tubular nephritis is not justifiable.[4]

While these investigations have considerably modified the former conception of a strict division between vascular and tubular nephritis, the idea still remains that in some types of nephritis the involvement of one or the other renal structure is greater, and therefore dominates in the effects on resulting functional disturbances. There is hardly any other idea which is more indiscriminately used and has done so much harm in the formation of correct pathological conceptions. For it is in fact extremely unsafe to judge the severity of functional disturbances by the relative ease with which morphological changes may be detected, or to use mere quantitative measures as an absolute index of functional disturbances. Pearce and Eisenbrey,[5] for example, demonstrated that nephrotoxic and hæmolytic immune sera cause changes which by physiological methods present no evidences of vascular injury, but which are anatomically characterised by exudative glomerular lesions of moderate severity. In arsenic poisoning, on the other hand, physiological methods show profound vascular changes, but the anatomical investigation shows little or no vascular lesion. A simple observation will further convince one in that respect: cantharidin produces morphologically an impressive exudative nephritis with an abundant emigration of leucocytes, diapedesis of red cells, and frequent hæmorrhages; uranium nitrate, on the other hand, produces usually only serous exudation, no emigration of leucocytes, and rarely small and limited hæmorrhages. Still in these, apparently milder, less severe vascular lesions the amount of serum albumin (coagulable by heat) in the urine is as great as, sometimes greater than, in the apparently more severe cantharidin nephritis. The injury to the vessels in uranium nephritis, therefore, must be quite pronounced. This is borne out by a careful morphological investigation, for, while an impressive emigration of leucocytes is absent, we find an unusually large quantity of serous exudate. We are dealing in such cases with still unknown qualitative disturbances which are, although more difficult of detection, of importance in altering the constitution of tissues.

Indeed, Aschoff's and Suzuki's[6] extensive work has shown in regard to the secretory tubular cells that the character of degeneration differs for various poisons, and that these differences may have an effect on accompanying functional changes. They deserve, therefore, a closer study than has until now been accorded to them. Aschoff and Suzuki find that, for example, uranium and mercury produce necrosis of cells associated with a dropsical hyaline degeneration; cantharidin, on the other hand, necrosis with marked swelling and vacuolisation of the cells. They come to the conclusion that *all* poisons act primarily on the parenchyma—that is, the different parts of the convoluted tubules; and further, that the differences in functional disturbances, which have lately been the source of much experimentation and discussion, must rather be attributed to individual differences and complexity in the topographical action of poisons and their varying effects on blood pressure, and not to injury of specific kidney constituents.

Without going into a full discussion of this matter again, I may add that I have recently been able in the course of some experiments to convince myself that, at least as far as cantharidin, chromium, bichloride of mercury, and uranium nitrate are concerned, there occurs primarily parenchymatous degeneration of the tubular cells which is most marked in the convoluted portions. In cantharidin nephritis particularly this is, even with small and moderate doses, extremely severe, leading to early necrosis of these cells, even before an exudation in glomeruli is visible. For this reason the fatty changes in cantharidin poisoning are probably less conspicuous than after bichloride of mercury and, under certain conditions, in uranium nitrate, in which the parenchymatous destruction appears to proceed less violently.

It should further be noted that these kidney poisons involve early the vascular system in an exudative process. In chromium, mercury, and uranium nephritis this is mainly of a serous character, while in cantharidin it is associated with marked emigration of leucocytes. These are constant results, but others may at times be noted, such as hyaline thrombi or hæmorrhages in the glomeruli and hæmorrhages in the tubules. A noticeable output of serum albumin and the formation of casts are therefore features of all cases of experimental nephritis. Differences in these results are individual rather than specific. There is, however, still another important complication of experimental nephritis that undoubtedly enters into the functional changes which have been observed by various investigators and which have been interpreted by some as an index of the type of renal injury—namely, the results of metabolic disturbances which follow the general effects of poisons on the organism. For it is evident that functional disturbances of renal activity may not only arise within but outside of the kidney. This consideration has until quite lately been disregarded, and we know very little about the changes which these poisons produce in other organs, notably the liver, which as the largest metabolic gland demands first importance.

In a recent contribution Opie[7] has offered some interesting information in this respect. His attention was attracted by the occurrence of œdema of the liver and gall-bladder in cantharidin nephritis, which suggested to him the possibility that changes in the liver may have a part in the functional disturbances which accompany this nephritis. His investigations showed that cantharidin exerts a decided influence on the lymph flow of the liver which is associated with definite structural changes. In observing these changes for several hours after the administration of cantharidin, he found at first a short period of retardation of lymph flow from the liver, later, however, a decided rise. Macroscopically the liver became turgid, homogeneously deep red, without lobular markings, and blood escaped in great abundance from the cut surfaces. Microscopically such livers showed an accumulation of lymph containing red blood cells in the dilated lymph vessels. Similar pictures were presented by the regional lymph glands, which also showed the presence of polymorphonuclear leucocytes.

I have lately carried on an investigation into the structural changes which cantharidin, bichloride of mercury, and uranium nitrate produce in the liver of rabbits. Fifteen animals were employed. Of these 7 were poisoned with varying doses of cantharidin of a strength usually employed in the study of experimental nephritis, 4 were in similar fashion poisoned with bichloride of mercury, and 4 with uranium nitrate. The changes were noted at various times after administration, as seen by the following tabulation, which is arranged according to dosage and length of time the animals lived after poisoning. It should be emphasised that these investigations were not conducted to determine the poisonous properties of definite doses of the respective drugs *per se*, but rather whether doses usually employed and sufficient for the production of nephritis had any effect on the liver. In all cases the presence and the features of nephritis were therefore noted and compared with the liver lesions.

Cantharidin.

Rabbit 1; 2050 grm. Dec. 11th, 1913, ¼ c.c. of 1 per cent. cantharidin in acetic ether at 11.45 A.M. Killed at 4.45 P.M.

Rabbit 2; 2020 grm. Nov. 24th, 1913, ¼ c.c. of 1 per cent. cantharidin in acetic ether at 3.15 P.M. *Died during night.*

Rabbit 3; 1700 grm. Dec. 11th, 1913, ½ c.c. of 1 per cent. cantharidin in acetic ether at 11.45 A.M. Died during night.

Rabbit 4; 2520 grm. Nov. 24th, 1913, ½ c.c. of 1 per cent. cantharidin in acetic ether at 3.15 P.M. Lived to the morning of Nov. 28th.

Rabbit 5; 1470 grm. Nov. 18th, 1913, ½ c.c. of 1 per cent. cantharidin in acetic ether at 2.40 P.M. Died during night.

Rabbit 6; 2070 grm. Ditto (as No. 5).

Rabbit 7; 2000 grm. Feb. 10th, 1914, ½ c.c. of 1 per cent. cantharidin in acetic ether at 3 P.M. Died during night.

Mercury.

Rabbit 8; 1820 grm. Jan. 21st, 1914, 1 c.c. of 1 per cent. mercuric bichloride at 2.45 P.M. Killed on Jan. 22nd at 9 A.M.

Rabbit 9; 1950 grm. Jan. 12th, 1914, 1 c.c. of 1 per cent. mercuric bichloride at 2.45 P.M.; repeated on Jan. 13th at 2.40 P.M. Killed on Jan. 14th at 1 P.M.

Rabbit 10; 1850 grm. Jan. 12th, 1914, 1 c.c. of 1 per cent. mercuric bichloride at 2.45 P.M.; repeated on Jan. 13th at 2.40 P.M. Killed on Feb. 9th at 5 P.M.

Rabbit 11; 1870 grm. Jan. 21st, 1914, 1 c.c. of 1 per cent. mercuric bichloride at 2 45 P.M. Jan. 22nd 2 c.c. of mercuric bichloride at 2.30 P.M. Repeated on Jan. 23rd at 2.30 P.M. Died during the night following Jan. 24th.

Uranium.

Rabbit 12; 1270 grm. Feb. 23rd, 1914, 1 c.c. of 2 per cent. solution of uranium nitrate at 3 P.M. Killed on Feb. 24th at 3 P.M.

Rabbit 13; 1900 grm. Feb. 10th, 1914, 1 c.c. of 2 per cent. solution of uranium nitrate at 3 P.M. Repeated on Feb. 11th at 3 P.M. Killed on Feb. 12th.

Rabbit 14; 1420 grm. Ditto (as No. 13).

Rabbit 15; 3070 grm. March 25th, 1914, 2 c.c. of 2 per cent. uranium nitrate at 3.30 P.M. March 26th 3 P.M. 2 c.c. of uranium nitrate. Killed on March 27th at 3 P.M.

Cantharidin.

The investigations into the effects of cantharidin on the liver showed, in conformity with the observations of Opie, primarily a massive hæmorrhagic congestion and œdema of the liver which at the time when my observations commenced (five hours after administration) had already proceeded to exudation of leucocytes and were associated with marked parenchymatous destruction of liver cells. It is evident, therefore, that the œdema which Opie observed was inflammatory œdema, a view which is also supported by the admixture of red cells to the œdematous fluid in his cases and the presence of polymorphonuclear leucocytes in the similarly affected regional lymph glands. In all my cases there existed from the start marked engorgement of portal vessels with red blood cells and leucocytes. A similar engorgement occurred early in the central veins and the intralobular capillaries. Distinctly eosinophile leucocytes (which always predominate in the rabbit) were scattered through the lobules.

In animals which survived a somewhat longer time, say through part of the night following the afternoon of the injection, these features had become accentuated, advanced, and certain other phenomena had appeared. The liver cells were actively proliferating, showed frequent mitosis, and many of the portal vessels were plugged by inflammatory thrombi. This led to peculiar pictures in some of the adjoining peripheral parts of lobules. Proliferating liver cells had been dislocated, isolated, and, mixing with inflammatory cells, formed rather independent, more or less sharply defined cell foci. Within such foci vessels and bile ducts were seen whose lining cells with their nuclei had fused to form giant cells. Destruction of liver cells throughout was severe and rapid. A large-drop fat infiltration was practically absent, but very fine fat droplets appeared within the protoplasm of disintegrating liver cells.

In one rabbit, which lived for about four days after poisoning, the lesion had undergone some recessions, so that its distribution through the liver appeared somewhat irregular, more localised, and less active. The swelling of the cloudy liver cells appeared generally greater, and was more conspicuous on account of lesser intralobular capillary engorgement. This allowed a better preservation of liver cell columns. Invasion of the lobules by leucocytes was very slight, in many fields absent, even near the portal spaces, so that throughout parenchymatous changes predominated. The nuclei of the liver cells were pale and large, and frequent amitotic and mitotic division occurred.

Mercury.

Schlayer and Hedinger employed a 1 per cent. solution of bichloride of mercury for the production of nephritis, which was administered in doses of ½ c.c. to 1 c.c. and repeated in 14, 19, and 55 hours. The susceptibility of rabbits to mercury is much less than to cantharidin, so that they survive even larger doses better than small doses of cantharidin.

The lesions produced in the liver by bichloride of mercury in a moderate small single dose—say 1 c.c. of a 1 per cent. solution—are after a period of about 18 hours pronounced but irregular parenchymatous degeneration with granular disintegration of the protoplasm most marked around the central vein. Associated is a prominent and diffuse large-drop fat infiltration. This fat is situated not so much in the cells as between them in the lymph and capillary spaces, which show a moderate and irregular but quite evident dilatation, which is also most conspicuous in the centre of the lobules. The disintegrating liver cells contain small fat drops within their degenerating protoplasm. The peripheral cells of the lobules are better preserved, although more or less swollen and cloudy. The portal spaces are intact except for engorgement of their blood vessels. Emigration of leucocytes is absent.

The changes after repeated moderate doses are somewhat more accentuated and modified. Parenchymatous swelling becomes more diffuse, and an œdematous imbibition and dissolution of the liver cells become pronounced, these changes being most advanced in the centre of the lobule. Such necrotic parts are therefore separated by better preserved areas. Fat is found in diffuse distribution, mostly in the form of large fat drops in the necrosing foci, but also in the connective tissue of the portal spaces.

Nuclei of liver cells are to a great extent in various stages of solution, but an abundance of deeply staining, richly chromatic, large nuclei are also seen, which impress one as of very recent origin. Dilatation of capillary vessels remains prominent in the central portions of the lobules and is most conspicuous in the necrosing areas.

On the whole the lesion is dominated, as will have been seen, by the impressive parenchymatous changes with œdema. Leucocytes are absent or present in insignificant number in the affected parts.

Finally, after repeated larger doses (1 c.c. of 1 per cent. bichloride of mercury, followed the next day by 2 c.c., and the day after by another 2 c.c.) one finds a generally quite marked necrotic dissolution of the central lobular cells around dilated central veins. The surrounding peripheral cells are swollen, cloudy, and fatty. Fat in the cells is visible in the form of fine, small drops, but fat is also carried by the larger portal vessels which not infrequently are the seat of hyaline thrombi. Such fat is carried along in the intralobular capillaries and is seen in intercellular spaces in form of small granules.

One of the rabbits after receiving two doses of 1 c.c. of 1 per cent. mercuric bichloride in an interval of one day was allowed to recover from the acute symptoms of the poisoning and to live for about a month. During that time the at first pronounced albuminuria gradually diminished to a faint trace, but the amount of urine became more concentrated and darker coloured. (Bile could not be demonstrated in it.) The animal, however, after a week began to lose weight very rapidly, although it continued to eat quite well. It lost thus from 1850 grm. to 1050 grm. in a month. At that time it was much emaciated and very weak, and was therefore killed.

The changes in the kidney bore a resemblance to those found in continued degenerative nephritis in man. The degeneration of the tubular cells was marked and general but not very violent, and seemed to consist to a great extent in an œdematous swelling associated with fatty changes. The latter were particularly marked in the straight and collecting tubules. These also contained a good number of hyaline casts. The nuclei of the lining cells were relatively well preserved but generally pale, and in the convoluted tubules poor in chromatin and often dissolving. The glomeruli were engorged, plump, œdematous, and the capillary loops individually obscured and adherent to each other, but not to the capsule. There remained, however, only a narrow capsular space as the glomeruli occupied most of it. Cell infiltration or increase was universally absent; neither glomeruli nor periglomerular nor intertubular tissue were increased in thickness or showed an appreciable number of new cells. The whole picture was then controlled by an apparently chronic œdematous imbibition and slow disintegration of parenchyma cells associated with fatty changes and œdema of the glomeruli.

The liver presented also a general swelling and œdematous solution of its cells, which was most pronounced around the engorged and dilated central veins, some of which contained hyaline thrombi. In advanced places this had proceeded to necrosis of liver cells. The arrangement into columns had thus been lost, but the liver cells were for the most part tightly packed without a definite arrangement. Only where a more extensive solution had taken place dilated and engorged capillaries were seen. The peripheral portions of the lobules were better preserved, but the vessels of the interlobular spaces were engorged and the portal connective tissue showed œdematous swelling and turbidity. Cell infiltration or connective-tissue proliferation was absent, but there existed a rather diffuse small-drop fat infiltration mostly visible at the periphery of cells and, where intercellular spaces were visible, between them.

Uranium.

The changes in the liver after administration of uranium bear superficially a closer resemblance to those of mercury than to those produced by cantharidin, inasmuch as parenchymatous degenerations and a serous, not cellular, exudate dominate the picture. There exist, however, certain characteristic differences. In the liver, as in the kidney, the serous exudate is very abundant, so that the inflammatory œdema of the tissues is marked throughout. Consequently the œdematous swelling of the liver cells with subsequent cytolysis is pronounced and complete. These characteristics are noticeable even after relatively small doses (1 c.c. of a 2 per cent. solution). While in mercury poisoning the liver cells show generally prominent fatty degeneration and granular disintegration, uranium seems to produce a simpler œdematous dissolution of cells. Indeed, after larger doses fatty changes, which are present after small or moderate doses, become inconspicuous, probably on account of a more rapid solution of cells, and the enormously swollen, pale cells actually compress the intercellular blood and lymph vessels. They are aided in this by the inflammatory œdema, and in hardened sections coagulated lymph can sometimes be seen between cells. Under such conditions only narrow, short, thin streaks of fat are visible between necrosing cells. Proliferation of liver cells is, probably for the same reasons, practically absent. The central veins are dilated, filled with blood and at times with hyaline thrombi. Their walls are swollen and hazy. Lobular necrosis is most marked around them. Irregular capillary dilatation is present, more especially in wasted areas in which only necrotic cells remain.

Summary of Results.

It is evident from these experiments that definite lesions result in the liver after the administration of cantharidin, bichloride of mercury, and uranium nitrate. These bear a more or less close resemblance to the changes in the kidney. Shortly summarised, cantharidin produces a rapidly progressing and general parenchymatous degeneration, and necrosis associated almost from the beginning with tremendous hæmorrhagic vascular engorgement and cellular exudation. These lead, even in small and moderate doses, to a marked and rapid disorganisation of the liver. The accompanying constitutional symptoms are severe and lead to speedy death.

In mercury the picture is controlled by parenchymatous and fatty degenerations with which œdematous swelling is associated. These lead, according to dose and susceptibility of the animal, to rapid or retarded solution of the cell, especially in the central parts of the lobules. Somewhat similar to mercury are the changes brought about by uranium, but a much greater inflammatory œdema or serous exudate and a greater swelling, vacuolisation, and cytolysis of the parenchyma in kidney and liver distinguish it from mercury poisoning. The fatty changes are less marked than after mercury, due, in all probability, to the greater and more rapid œdematous dissolution of the cells. But in both lesions the central parts of the lobules are most severely involved.

The conclusion may therefore be drawn that cantharidin, mercury, and uranium are not selective poisons, that they affect not only the kidney but the liver, and that they involve in both organs parenchyma as well as circulatory system. Functional changes which have been observed in those instances cannot therefore be regarded as solely due to injury of one or the other part of the kidney, in fact not to the kidney alone, for the alterations in the liver make it probable that these changes are, at least partly, dependent upon metabolic disturbance by these poisons.

Pathological Changes in Liver of Untreated Rabbits.

Before closing, I may be allowed to add a few remarks about certain pathological changes which are frequently found in untreated rabbits, and which at times may become confusing in the investigations of experimental lesions. I will disregard the various parasitic diseases to which the rabbit is liable, because these are most always easy of interpretation. Of others, however, early or later evidences of portal sclerosis which must be the results of frequent vascular or bile duct infections may, particularly when recent and cellular, become a source of trouble in the study of experimental inflammatory changes in the liver. But these are practically always restricted to the periphery of the lobes in close continuity with the portal or bile-duct system and irregularly streaky in distribution.

In this connexion it must also be remembered that the majority of rabbit's leucocytes are, as pointed out by Price-Jones,[8] acidophile, so that the appearance of eosinophile leucocytes is no criterion of the recency of an inflammatory exudate as in man and some other animals. The liver of the rabbit presents, further, not uncommonly small granulomatous formations or pseudo-tubercles. However, most important and misleading are certain changes in the liver cells which occur in connexion with regenerative activities during recovery from spontaneous inflammatory or traumatic liver injury. Under such conditions appear closely packed clear cells without columnar arrangement, usually smaller than normal liver cells, but generally uniform in size. They resemble the lining cells of the collecting tubules in the kidney. Their nuclei are as a rule well preserved, appear at a glance in greater than normal number, and are, depending upon the stage and rapidity of regeneration, in various states of chromatin contents. Many are very rich in, and plump with, chromatin; intermingled with these are others poor in chromatin and even pale. It is not possible to decide whether these latter cells are very early forms of recovering cells, or new cells which gradually are lost during over-production of regeneration. They show sometimes a faint protoplasm. These cells might easily be taken for evidences of a more or less diffuse pathological cytolysis; they differ, however, from this, not only in a much more even distribution and regularity in their morphological appearance, the evident increase in number, their new arrangement, and the greater chromatin contents in many nuclei, but also in the absence of the characteristic irregular, sometimes tremendous, swelling with œdematous imbibition of the cells and the distinct evidences of progressing cytolysis to necrosis which, leaving only a hazy, swollen reticulum, allows a gradual prominence and engorgement of intercellular capillaries with ultimate hæmorrhagic extravasation.

Care must therefore be exercised not to confound, on the one hand, the results of idiopathic infections with the results of experimental procedures, and, on the other hand, the evidences of liver regeneration, occasionally encountered in untreated rabbits, with normal conditions or related to normal liver function.

Many of these pictures were at first very confusing to me, and I owe their better understanding and knowledge to the opportunity offered to me by Dr. Gordon Goodhart, who allowed me a free study of his instructive collection of normal and abnormal rabbits' livers, notably those following trauma or ablation of part of the liver. I must also acknowledge my indebtedness to Dr. P. P. Laidlaw and Dr. R. A. Chisolm *for many acts of kindness. To the latter I owe specimens for the study of chromium* nephritis.

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OBSERVATIONS ON SYPHILIS OF THE CENTRAL NERVOUS SYSTEM, WITH A NOTE ON SALVARSAN.[1]

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FOR convenience in dealing with lesions of the central nervous system the body will be considered as consisting of two divisions: (*a*) that part which is bathed by blood—i.e., the systemic division; (*b*) that part which is bathed by cerebro-spinal fluid—i.e., the nervous division. The distinction is necessary, since there is practically no connexion between the blood and the cerebro-spinal fluid, so that sterilisation of the former may still leave the latter affected. Complete sterilisation of the body will naturally include both the systemic and nervous parts. This point is illustrated by the *following case:—*

A boy, aged 17, contracted syphilis in October, and came under care the following January, being covered from head to foot with a diffuse papulo-erythematous eruption. After eight weekly intravenous injections of neosalvarsan the Wassermann reaction became negative; then mercurial injections were carried on until April. Three weeks after treatment was stopped the patient began to complain of headache, insomnia, and loss of appetite. These symptoms became gradually worse, and he came up for advice again in June, by which time he had lost 2½ st. in weight. The boy looked pale and emaciated, the pupils were slightly unequal, and the reflexes were on the plus side, and there was a general hyperæsthesia, otherwise nothing abnormal was discovered; the Wassermann reaction was negative. Fearing cerebro-spinal syphilis, a lumbar puncture was performed with the following result: Cells, 450 per cubic millimetre; 68 per cent. lymphocytes; 27 per cent. endothelial cells; 5 per cent. *polymorphonuclears.* Nonne-Apelt reaction positive. (This reaction involves the presence of globulin.) Wassermann reaction positive in all dilutions—i.e., from 10 per cent. to 500 per cent. (10% = 1/10 c.c. of a 1 in 10 dilution).

The early onset of cerebro-spinal syphilis makes this case interesting, since few books point out that cerebro-spinal syphilis may occur a few months after infection. I have seen four cases, one of which developed nervous symptoms four months after the chancre was first noticed, no treatment having been received. The other three cases I took to be cured by salvarsan and mercury. Herein also lies the explanation of some of the reported cases of reinfection. Any area of the system can be shut off like the central nervous system, with the result that when the other areas are sterilised the spores in the single area can develop and give rise to a fresh chancre, which is followed in time by the usual secondary symptoms, but such an instance is not a true case of reinfection.

The suggestion at once offers itself that sterilisation of the blood may hasten an attack of cerebro-spinal syphilis owing to a diminution of antibodies. This is, however, far from being the chief point to be learned from such cases. The nervous part of the body can be reached by the infective agent as easily as the systemic, and symptoms of an affection of the former may occur in spite of treatment. The former point is still further emphasised by the fact that the examination of the cerebro-spinal fluid of several early cases of syphilis showed pathological changes; in fact, a lymphocytosis may be obtained in the cerebro-spinal fluid before the Wassermann's reaction in the blood is positive. The cerebro-spinal fluid of latent cases was also examined, and that from cases which had been well treated and *in which the* Wassermann reaction in the *blood* was negative; *pathological changes* were *found*, although no suggestion of the disease manifested itself clinically.

It is very seldom that treatment given by the skin, *muscle*, or *vein* can effect a complete cure in a case of cerebro-spinal syphilis, tabes, or general paralysis of the insane, since the diseased area does not receive a sufficient dose of the drug prescribed. Homer Swift and Ellis[2] have obtained many good results by injecting intraspinously serum rich in antibody, *but* it is feared the treatment is *only* palliative, and several injections are necessary to obtain a satisfactory result. The patient is first given an intravenous injection of salvarsan or neosal*varsan*, and an hour later blood is withdrawn. The *following* day, after the serum has separated off, it is collected, mixed with an equal quantity of distilled water or saline (about 25 c.c. of each), and after a corresponding *amount of cerebro-spinal* fluid has been withdrawn the diluted serum is injected into the canal and the patient placed with his head low *down* and the bottom of the bed raised *so* as to allow the fluid *to gravitate towards* the brain. The best needles for performing lumbar puncture are Barker's, and Messrs. Maw, Son and Sons, the *makers*, have constructed a mount *for my* three-way syringe which makes the injection a simple matter. My best results have been in cases of cerebro-spinal syphilis, in which the improvement has been remarkable, but as a rule *about* eight injections given at weekly intervals are necessary before the cerebro-spinal fluid approaches the *normal*. In some cases, especially in the parenchymatous lesions, the globulin and Wassermann reaction never completely disappear. Some cases of tabes have markedly improved, pupil reflexes returned, crises disappeared, gait become steadier; but so much depends upon the stage the patient is in when treated. On the other hand, some of my cases have remained unaltered and a few have been made worse. I know of two cases in which death resulted. Two cases of general paralysis of the insane which I injected were undoubtedly made worse. Three other cases improved but only to a slight extent.

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[1] Part of a lecture given to post-graduates at the *London Lock* Hospital, April 17th, 1914.

[2] Journal of the American Medical Association, May, 1913, p. 1577.

Clinically, we draw a very sharp line between cerebro-spinal syphilis, tabes, and general paralysis of the insane. So sharp is it that we may fail to see the common foundation upon which the three are built. The three conditions are not only extremely closely related but may merge into one another, and which is going to crop up will depend largely upon the treatment that has gone before. If sufficient salvarsan to cure the symptoms be given to a patient during the stage of general infection, but not to sterilise the system, and if a recurrence appear, it may be generalised and indistinguishable from the original trouble. The action of the drug is sudden; on the basis of the life-cycle, as described by me,[3] it may be considered that the gametes which are responsible for the symptoms are killed; the body has no further need to form antibodies, and all is well. The spores remain *in situ* and, having no antibodies to disturb them, resume their cycle and give rise to new gametes in exactly the same situations in which they were stunned.

Under the influence of mercury—the action of which is insidious, and not powerful enough to destroy the gametes as previously described, or to give the host its stimulus for the formation of antibodies—the spores to some extent become crippled, extend peripherally to find fresh soil, and if they subsequently multiply they can give rise to a sufficient number of gametes. The lesions will be fewer, more localised, and in the form of circles or segments of circles. Later, owing to the presence of the spores, the vessels become inflamed. This leads to narrowing of the lumen, diminution of the blood-supply to the part, consequent necrosis, and so a gumma.

During the stage of general infection the nervous system is not spared, and that part of it which is fed by blood—namely, the meninges and blood-vessels, becomes infested with organisms. Sterilisation of the systemic part does not sterilise the meninges, as shown by the case to which I have just referred. There are no antibodies except in the cerebro-spinal fluid—a fact which would appear to be for the benefit of the nerve tissue rather than of the meninges—with the result that a generalised meningitis ensues. The cases of cerebro-spinal syphilis seem to me to be relatively increasing. This, if a fact, is explained on the hypothesis that, owing to the feebler action of the antibodies in the cerebro-spinal fluid compared with that of those in the blood, there is nothing to prevent the extension of the parasites from the meninges into the nerve tissue; and this is more likely to occur where they come most closely in contact—viz., brain and cord.

The former results in general paralysis of the insane, the latter in tabes. Most of the blood-vessels extend into the cord from the meninges along the septum posticum, with the result that the posterior part of the cord is better supplied with blood than the anterior part, and as the syphilitic organisms extend along the paths of the vessels it becomes clear how tabes arises. The vessels to the anterior part of the cord do not run along any septum, and therefore have no close connexion with the meninges. A syphilitic lesion of the anterior part of the cord is a vascular one, and is analogous to the early endarteritis of the basilar artery and its branches in the cranium. This makes transverse myelitis and early syphilitic hemiplegia similar pathological conditions. General paralysis is brought about by a spread of the organisms from the meninges into the cortex of the brain, which brings it into the same pathological condition as tabes. This I have been able to prove by finding the phases of the leucocytozoon syphilidis in both the pia mater and brain substance in nine of the ten cases so far examined. Pure endarteritic lesions, if treated early, are cured, the patient recovers without a trace of what has happened, and the condition does not tend to recur. Pure nerve lesions, such as tabes and general paralysis, are not cured, i.e., broadly speaking, since spontaneous cure in tabes is certainly possible. Should the organisms spread in the nervous part, but be crippled in the way described in the systemic part (as occurs under treatment by mercury), localised symptoms prevail; the cerebro-spinal syphilis will become divided, with the appearance of two separate types—the pure cerebral type and the pure spinal type. Further, when the extension of the organisms has become greater and the vascular disturbance more marked, tabes and general paralysis of the insane will follow, and appear late in the course of the disease when the production of the systemic antibodies is checked. I have observed cases which gave persistently negative Wassermann reactions develop parasyphilis, and only when symptoms showed themselves did the Wassermann reaction become positive.

If adequate treatment is begun before the nervous system is attacked it will presumably always remain free. If treatment is begun after the nervous system has been attacked and the treatment is sufficiently powerful early in the disease to stop the host producing antibodies, symptoms of the nervous system, should they arise, will be those of cerebro-spinal meningitis. If the production of antibodies be not stopped till late in the disease, tabes and general paralysis of the insane will ensue. Therefore, if treatment be begun in the secondary stage with mercury alone, or with one or two injections of salvarsan, the patient will run greater risks of getting tabes and general paralysis of the insane. Both these conditions are, in my opinion, steadily on the increase. If, on the other hand, several injections of salvarsan be given and supplemented with mercury, cerebro-spinal syphilis is more likely to result. The patient should be put under treatment before the nervous system is attacked, since, although the pathological changes in the cerebro-spinal fluid may be made to disappear by treatment, sooner or later they all come back again. As to whether this is true after the intraspinal injections of salvarsanised sera, only the future will show.

The moral of all this is to diagnose a sore at once and to put the patient under the most adequate treatment possible—that is, treatment which may be expected to cure the disease completely.

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[3] Proceedings of the Section of Pathology of the Royal Society of Medicine, [illegible] THE LANCET, [illegible] [illegible]

The nervous system may be affected in other ways, but space forbids their mention here.

Treatment by Salvarsan.

In discussing the action of salvarsan reference will be made to the preparation which is now supplied, since it is considerably feebler in its action than the drug which was first used. The majority of the cases of primary syphilis to which one injection was given over three years ago are now both clinically and serologically sound. The majority of the cases of primary syphilis to which two injections of salvarsan were given when the drug came upon the market have developed symptoms since. Of those which were already in the stage of general infection nearly all showed recurrences within a year, and many within three months. It is only since the rule has been followed to give as many injections as are necessary to procure a negative Wassermann reaction in the blood taken between the seventeenth and forty-eighth hour after the last injection, and to prescribe a year's treatment with mercury, that the fewest recurrences have been observed. Probably in a few more years many of those which have *not* so far recurred will develop symptoms, but until our knowledge increases this procedure is the best. Unfortunately, the Wassermann reaction cannot be relied upon to tell us when a patient is cured because a positive reaction is not necessarily indicative of the disease being active.

In the primary stage, provided that sufficient injections of "606" are given to procure a negative Wassermann reaction in the blood withdrawn within the limits above specified, and that this treatment is further augmented by 24–48 intramuscular injections of mercury, given in 3–6 courses of eight weekly, within the 12–24 months, in the light of our present knowledge a cure is possible. In the secondary stage a cure may possibly be obtained.

Success for the same treatment in the latent stage of the disease and in the stage of early recurrences is improbable, while in the stage of late gummata, nervous syphilis, &c., a cure is impossible—i.e., broadly speaking, since a spontaneous cure may occur at almost any stage. In the primary stage three to five injections and in the secondary stage six to nine injections are required. In late cases even 15 or more injections of salvarsan may fail to procure a negative Wassermann reaction, and supposing a negative Wassermann reaction be obtained it is not long before it becomes positive again. In late cases it appears wiser to give two or three injections of salvarsan to heal the symptoms, and to augment it with a course or two of mercury and iodides, meanwhile informing the patient that he should place himself under treatment again the moment symptoms reappear. Such a patient may go for years without a recurrence, and, should symptoms reappear, they will almost certainly do so at the site of the previous recurrence.

It is universally agreed that the best way to give salvarsan is intravenously, and my own opinion is that the requisite number of injections should follow upon one another at intervals of not longer than eight days; if possible they should be given every four days. It has been frequently noticed that those cases which recurred to which *only two* injections had been given, with or without supplemental mercurial treatment, were never cured, if the subsequent treatment with salvarsan was given in courses of two.

I had two early cases of syphilis in which each patient received in all more than 16 injections of salvarsan, given in pairs and threes with a course of mercury after each, who, after an interval of three months or more, according to the time at which the symptoms reappeared, were in much the same condition in the end as they were before treatment was started—a point in favour of the view that the spasmodic administration of salvarsan greatly lessens its therapeutic action. A most important point to remember in salvarsan treatment is that if too few injections are given to a patient with infectious symptoms, should the symptoms recur, they will simulate those for which the drug was prescribed. Several cases have been seen of patients who had condylomata, for instance, which disappeared under two injections of salvarsan, returning within three months with condylomata again, in spite of the fact that mercury was given as well.

After insufficient salvarsan treatment symptoms recur before the mercury which has been subsequently prescribed (usually in the form of pills) has had time to exert its action. Insufficient salvarsan treatment in the early stages of syphilis will do more harm than good, as it gives the patient a false sense of security, and renders him for a longer period a danger to the community. I have seen six cases within the last year of patients who had had two injections of salvarsan infecting others when they themselves thought, and had been told, that they were cured. The cases which recur after several injections of salvarsan and mercury have been given may be roughly divided into two classes: (*a*) those in which the symptoms reappear; (*b*) those in which the Wassermann reaction becomes positive. Oddly enough, the majority of the former gave a negative Wassermann reaction, and the majority of the latter show no symptoms. The interpretation of this paradox is at present not quite clear, but nevertheless the observation is an important one, since the class which cannot be recognised by a laboratory test is dangerous, for the symptoms are usually infectious. Another interesting point is that several of the cases that give a positive Wassermann reaction, but exhibit no symptoms, give a negative Wassermann reaction a few months later, and still show no symptoms.

As to whether salvarsan is more potent than neosalvarsan or *vice versa* different opinions prevail. I have given over 2000 injections of salvarsan, and over 4000 injections of neosalvarsan, controlling both by the Wassermann reaction, and have come to the conclusion that the action of both is very much the same. Neosalvarsan has the advantage of being less toxic and more easily administered than salvarsan, and it is perfectly safe to give it to out-patients.

NOTE ON A NEW COMBINED METHOD OF PROSTATECTOMY

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ABOUT two years ago I was summoned one Sunday afternoon to see a man, in his eighty-third year, suffering from retention of urine. I gave instructions to have him shaved for a possible operation and *not* to pass a catheter. On arrival at the King Edward VII. Hospital I found the patient prepared for another attempt at passing a catheter, which I decided not to do on account of hæmorrhage. His condition was an extremely grave one. His tongue was dry and parched, his breath was strongly urinous in odour, the pupils were very contracted, and he had general subsultus tendinum. The action of the heart could not be felt, and his radial and ulnar arteries were calcified and could be moved from side to side under his wrinkled skin like an articulated stem of a "churchwarden" pipe. Roentgen photographs subsequently taken after recovery showed three long dark tracks in each forearm in the course of the calcified radial, ulnar, and interosseous arteries.

I decided not to tap suprapubically, but to make an incision into the bladder under stovaine spinal analgesia. As soon as the bladder was emptied of fœtid urine I poured about an ounce of pure tincture of iodine into the bladder, before proceeding to enucleate the prostate according to a method which I have adopted for the last seven years, and which was described at the British Medical Association meeting at Sheffield in 1908 and at the Twenty-second Congress of the Association Française de Chirurgie in 1909. I drained perineally after injecting tincture of iodine through the meatus along the urethra into the prostatic bed. Thanks to the assiduous care of my house surgeon, Mr. Owen, in irrigating with hot saline solution for long periods through the suprapubic opening, and to good nursing, the patient made a satisfactory recovery.

There are three points in my operation which require emphasising, as several of my friends who have performed it had not grasped their importance.

1. The first is that the patient is lying on his back as in the ordinary suprapubic operation during the whole of its performance, the perineal opening being made upon the point of the forceps passed transvesically from above, whilst the legs are simply spread apart in order to see and to cut upon the projecting end of the forceps under the skin. The enucleation is as a rule easily done by the forefinger in the bladder, but frequently I pass the other forefinger into the perineal opening to assist the enucleation from below as in the ordinary perineal prostatectomy. The two forefingers enucleating *en rapport* greatly facilitates the performance of those cases which are not easily enucleable.

2. The pouring of pure tincture of iodine into the bladder *before* the enucleation is started is of great importance, because as soon as fresh raw surface is made in the process of enucleation the tincture follows into every hole and corner. The injection of the tincture along the urethra also ensures a cleaner urethra and further floods the freshly made "prostatic bed." Operations can, as a rule, be completed by rubber-gloved hands. (N.B.—There is no danger in using the pure tincture of iodine. I first advocated its use in a paper read at Carmarthen on Dec. 8th, 1904.[1])

3. The operation can be performed as quickly as the suprapubic operation alone. The time I spent in the hospital examining, preparing for operation, completing the operation, and seeing the patient off to the ward was 25 minutes.

Cardiff.

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[1] Remarks on Complete Prostatectomy, Founded on 15 Cases, Brit. Med. Jour., May [illegible].

GRESHAM LECTURES, 1914.—Four lectures on the History of Nursing and Florence Nightingale will be given on Tuesday, June 2nd, Wednesday, June 3rd, Thursday, June 4th, and Friday, June 5th, at 6 P.M., by Dr. F. M. Sandwith, Gresham Professor of Physic. The lectures, which are free to the public, will be given at Gresham College, Basinghall-street, London, E.C.

A CASE OF CONGENITAL DEFECT OF THE ULNA.

BY PAUL BERNARD ROTH, F.R.C.S. ENG.,
SURGEON, KENSINGTON GENERAL HOSPITAL; SENIOR ORTHOPÆDIC CLINICAL ASSISTANT, LONDON HOSPITAL.

Congenital defect of the ulna is an extremely rare condition. When Wierzejewski recorded a case in 1910 he was only able to collect 22 others from the literature. His paper[1] is the most complete account of this condition yet published, and is furnished with a comprehensive bibliography. He accepts the classification of Kümmel,[2] who divides the cases into three groups, as follows:—

A. The ulna is partly or completely absent; the radius is normal, though often curved; the ulnar fingers are absent.

B. The ulna is partly or completely absent; the radius is ankylosed with the humerus at a more or less obtuse angle; when a proximal part of the ulna is present it also is fused with the radius and humerus.

C. The ulna is partly or completely absent; the upper end of the radius is dislocated forwards and upwards on the humerus.

It is to Group C that the present case belongs. Of the 23 cases, including his own, Wierzejewski placed 7 in Group A, 6 in Group B, 7 in Group C, and 3 he classed as doubtful. As regards sex, 13 occurred in males, 7 in females, and in 3 the sex was not stated. In 7 cases the defect was bilateral; in 4 of these both ulnæ were completely missing, and in 1 case the defect was total on one side and partial on the other. Of the 16 cases where the defect was unilateral, in 11 it was on the right side and in 5 on the left. In 12 cases the defect was total. In 11 where it was partial, in 8 the distal end failed and in 3 the shaft.

The patient in the case here recorded, a girl aged 7, attended hospital on March 31st. Her aunt stated that the child's left arm had been withered since birth, and that lately it was becoming more crooked. She is the second of three children; her own birth was normal, but her mother died in giving birth to the third child, who died also. There is nothing abnormal in the family history. On examination the following condition was found. The left upper extremity is defective; the lower two-thirds of the ulna together with three digits are absent; the upper end of the radius is dislocated forwards and upwards on the humerus, and the shaft of the radius is markedly curved, with convexity outwards. Of the two digits present one is undoubtedly the thumb, while the other has all the appearance of the little finger. The hand, the palm of which seems to consist solely of a thenar and hypothenar eminence, is deflected to the ulnar side, so that its ulnar margin forms almost a right angle with the ulnar side of the forearm. Except that it is 1 inch shorter than its fellow of the opposite side the left humerus appears normal. (Tip of left acromion to external condyle of left humerus = 7¼ inches; tip of right acromion to external condyle of right humerus = 8¼ inches.) With regard to voluntary movements, the elbow can be flexed and extended completely with good power; the hand can be completely supinated, but from the fully supinated position can only be pronated through 90°, inability to pronate it further being apparently due to the curvature of the radius. The wrist can be flexed or extended completely; the thumb and finger can also be fully flexed or extended, and also abducted and adducted, but the thumb cannot be opposed to the finger. These two digits are of great use to the child, being used to hold material when sewing, and for doing up her clothes, &c.

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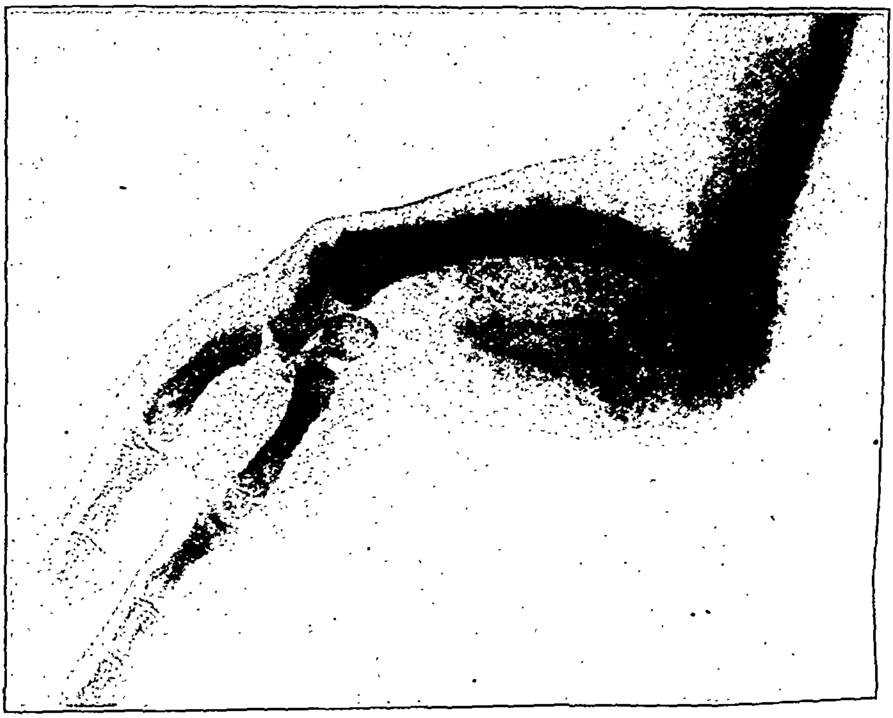
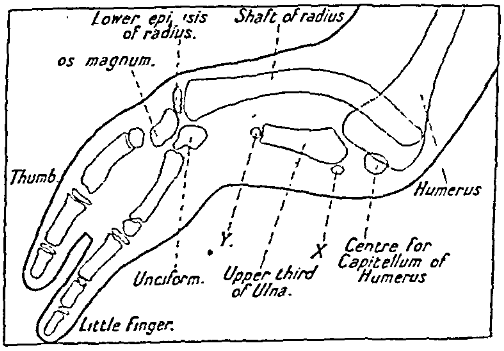
[1] Wierzejewski: Zeitschrift für Orthopädische Chirurgie, Band xxvii., 1910, pp. [illegible].

[2] Kümmel, quoted by Wierzejewski, Die Missbildung der Extremitäten durch Defekt, Verwachsung und Ueberzahl. Bibliotheca medica Abt. E, H. 3, Cassel, [illegible].

The radiogram taken the next day by Dr. W. Ironside Bruce shows many interesting features. The humerus is apparently normal, and the ossific centre for the capitellum is well marked. Of the ulna, only the upper third is present. Immediately beneath the proximal extremity of this is a small ossific centre X (see radiogram and explanatory diagram); this may be the centre for the tip of the olecranon process, which does not, as a rule, appear so early, or it may be, as Dr. Bruce suggests, the centre for the head of the radius, from which the shaft has been completely separated. One-third of the way down, the shaft of the ulna terminates abruptly in a stump, the lower end of which is slightly cup-shaped. Directly distal to this lower end is another small ossific centre Y (see illustration and key), the size of a peppercorn; this is either the lower epiphysis of the ulna, or more likely, the cuneiform bone. The radius is so much curved that it forms the fifth part of the circumference of a circle, the convexity of the curve being directed upwards and outwards. The upper end does not articulate with the ulna and capitellum, but is dislocated forwards and upwards, lying on the anterior aspect of the lower end of the humerus, apparently articulating in the "radial depression." The centre for its upper epiphysis is absent, unless indeed it is represented by the centre X already described. The lower end of the radius is slightly malformed, but the centre for its epiphysis is present and well marked. At the wrist the centres for two carpal bones are present, and there is also the previously mentioned centre for the cuneiform. An inspection of radiograms of the wrists of normal children of this age only reveals the presence of three carpal bones—the os magum, unciform, and cuneiform, and it is therefore reasonable to suppose that the three centres present in this case are for these bones. Later on centres for other carpal bones may appear. Two complete digits are present: one is a thumb, and the base of its metacarpal is opposite the os magnum; the other has no special distinctive features—the base of its metacarpal is opposite the unciform. There is no sign of the other three digits.



Radiogram showing congenital defect of ulna.



Key to radiogram.

Treatment.—Since birth no attempt has been made to keep the hand in line with the forearm, and the patient has now only come under observation because of the increasing deflection of the hand to the ulnar side. The hand and wrist are now being regularly manipulated every day, and it is hoped that in a few months part of the ulnar deflection will be got rid of. In addition to this a celluloid splint will be worn at night to retain the upper arm, forearm, and hand in as straight a line as possible. If these measures do not meet with the hoped-for success, the advisability of the removal of a wedge of bone from the shaft of the radius will be considered.

Harley-street, W.

GLASGOW UNIVERSITY CLUB, LONDON.—The summer dinner of this club will be held at the Trocadero Restaurant, Piccadilly Circus, W., on Wednesday, May 27th, at 7.15 for 7.30 o'clock, under the chairmanship of Emeritus Professor John Cleland, M.D., F.R.S.

SECONDARY OR SYMPTOMATIC LEUKÆMIA.*

BY GORDON R. WARD, M.D. LOND.

THE division of anæmias into primary and secondary has long been practised and accepted. That a similar division of leukæmias may conveniently be made it is the object of this paper to demonstrate.

What is ordinarily called leukæmia the writer would call primary leukæmia, and this may be regarded as a disease of which the chief clinical and pathological features reflect the response of the blood-forming organs to a stimulus of which the nature is unknown. It is convenient to suppose that this stimulus is produced by the excessive destruction of white cells within the body, just as after a sublethal but toxic dose of benzene the red cells are destroyed in the body and their products give rise to a very extensive and irregular reaction of those blood-forming organs which are concerned in the formation of red cells.

In leukæmia, then, and in response, as we more or less plausibly suppose, to excessive leucocyte destruction, the blood-forming organs show a great and irregular exaggeration of white-cell formation. Nor is this confined to the marrow, glands, and spleen—i.e., the normal blood-forming organs of the adult. The liver also takes a share, and after death we find in Glisson's capule a by no means inconsiderable amount of tissue which is morphologically (and presumably functionally) identical with that of the marrow or glands as the case may be. In this condition of the liver we have one of the surest criteria of the presence of leukæmia. Further search will reveal similar growths in other organs and in organs which are not associated with blood formation even in fœtal life. But in all these situations we must assume the presence of primitve cells which are capable of forming blood cells under the influence of a sufficiently powerful stimulus.

Now in primary leukæmia we have the most powerful of all stimuli—viz., an excess of the products of leucocyte destruction—and consequently the resulting changes are better marked than in any other condition. Almost invariably, for example, there is so great a proliferation of white cells that the blood shows two or three hundred times the normal number of white cells. This, however, is not an essential of the disease; we know little or nothing of the mechanism by which the cells of the marrow are shed into the blood stream, but clinical observation sufficiently attests that this is a very variable factor even in the individual case of leukæmia, and that the blood may in some cases or at some times be practically normal. Hence, although a "leukæmic blood picture" is good evidence of the changes in the organs detailed above, its absence by no means excludes such changes.

It may be at once stated that in secondary leukæmia the full picture of primary leukæmia is rarely met with, just as in the secondary hæmolytic anæmias—e.g., chronic benzene poisoning—the full, so-called "pernicious," blood picture of Addisonian anæmia is not often met with. Histologically the secondary leukæmias fall naturally into two classes—viz., secondary lymphæmia and secondary myelæmia, these being the usual divisions also of primary leukæmia. The former seems to be especially associated with septic diseases, the latter with cancer.

Clinically, and here it must be admitted that much more information is necessary before anyone can venture to speak with assurance, it seems that we can recognise certain classes of cases more often associated with secondary leukæmia than others. Of course, in all these cases the leukæmia is purely a symptom; it is secondary to obvious or plausibly conjectured causes. Some of these classes can now be discussed.

Secondary leukæmia in septic processes.—Cabot[1] has put on record 4 cases in which there was a blood picture so similar to that of primary lymphæmia as to cause considerable misgiving to the attending physicians. Yet all these cases made a good recovery, and one at least was known to be well 15 years later. In the latter case the lymphocytes reached 70 per cent. of all white cells. It was that of a young physician who infected his finger at a necropsy, and had thereafter swelling of the glands in the axilla of the same side and later in the opposite axilla also. In the next case, one of persistent boils, the lymphocytes reached 86 per cent., and it is further noted that they were unlike the ordinary hæmic lymphocyte in that they showed mitotic figures and other irregularities. One may legitimately attach some importance to this fact when a diagnosis of leukæmia as against lymphocytosis is under consideration. Cabot's other two cases were of a more doubtful type. The blood, indeed, was that of leukæmia, but the clinical signs seem to have been very indefinite. In both sore-throat and enlargement of the glands were present. Dr. J. A. Braxton Hicks, of the Westminster Hospital, informs me that he has seen a similar case, and I remember also a case under the care of Dr. A. M. Gossage in the same institution which presented a lymphatic blood picture and swelling of the glands with a septic condition of the mouth. These cases all made a good recovery and no necropsy was possible.

Lindsay Steven[2] reported a case of broncho-pneumonia in a child aged 1 year and 10 months, in which the white cells reached 236,000 per c.mm., of which 65 per cent. were mononuclears. They are referred to as lymphocytes, but Dr. W. K. Hunter, who examined some of the films, notes that several stained abnormally, so we may assume that they were allied to the abnormal lymphocytes which one expects to meet with in leukæmia. The patient died, but the account of the necropsy is devoted to the condition of the lungs. Cabot[3] also reports two cases of pneumonia in children aged 1 year and 3 months, and 6 years. Both seem also to have had pertussis. In the first the white cells reached 185,000 with 64 per cent. of lymphocytes, and the second 94,000 with 66 per cent. of lymphocytes.

Austrian[4] reports a case of broncho-pneumonia with mastoiditis in a child, aged 4, which proved fatal. The white cells reached 192,000, and the percentage of myelocytes was from 10 to 14. This is not a high percentage, but a little arithmetic shows that the total number of myelocytes per c.mm. was over 23,000. There was also a varying percentage of cells which could not be classified under any of the ordinary headings, and these were, perhaps, myeloblasts. The necropsy showed "marked hyperplasia" of the marrow, although there were "still some areas of fat remaining."

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* An abstract of a paper read before the Medical Section of the Royal Society of Medicine, [illegible]

The "large neutrophil myelocyte" was the predominant cell. The Malpighian bodies in the spleen were grey and "tremendously enlarged." The parenchyma of the liver was infiltrated with mononuclear cells and occasional myelocytes. The bronchial and mediastinal glands were much enlarged. On these facts the presence of a process to which the name "leukæmia" may properly be given seems established. This is the most complete case that I am able to bring forward in this class.

Morawitz[5] records a case in which the patient was aged 16 and suffered from "a feverish malady of the heart without sequelæ." The white cell count was always low, but the myelocytes reached 15 per cent., and of these 1·5 per cent. were eosinophil myelocytes. Recovery was complete. Hirschfeld and Kothe[6] report a case of gangrenous appendicitis complicated by hæmorrhage from a duodenal ulcer in a boy aged 10. The white cells reached 190,000 and the myelocytes 7 per cent.

Fractures and secondary leukæmia.—The second class of cases to which one draws attention with some diffidence comprises those in which a fracture has been accompanied by peculiar blood changes. The classical case is that of Simon,[7] in which an adult negro sustained a fracture of the ankle by having the leg crushed. On admission to hospital the blood showed merely a polymorph leucocytosis, but a week after the following changes were noted —viz., the wound was septic, the spleen was enlarged, and the blood showed 50,000 white cells with 15 per cent. of neutrophil myelocytes, 1·2 per cent. of eosinophil myelocytes, and 17·5 per cent. of mast cell leucocytes. A week later the blood was almost normal, and three months later was still normal. Simon appears to have been at some pains to search the literature for similar findings, but with little result. He says, however: "Hastings writes me that in two cases he has seen myelæmia with myelocytes between 3 and 7 per cent., the one being a severe crush of the thigh and femur, and the other one of the forearm, with no break in the skin and no evidence of infection."

Wiczkowski[8] records the case of a man, aged 24, who also sustained a crush of the ankle, and in whom the inguinal glands on the side of the crush were enlarged ten days later. Soon all the glands and the spleen were enlarged, and the white cells reached 590,000 per c.mm. The patient died, but no necropsy was permitted. It is a peculiar coincidence that Hirschfeld and Kothe[6] also report a case, aged 16, in which there was a fracture of the leg and a leucocytosis of 108,000, but no differential count is given.

Sepsis was probably a factor of importance in most of these cases, and there is not sufficient evidence to incriminate the fractures *per se*.

Cancer and secondary leukæmia.—The first case has not yet been published. It is that of a woman, aged 47, who was under the care of Dr. R. Hutchison at the London Hospital. She was also seen by Dr. F. Parkes Weber. The pathological report will be published by Dr. H. M. Turnbull shortly. I am extremely indebted to these gentlemen for the kindness with which they have permitted me access to the records of the case, and especially to Dr. Turnbull, who has shown me all the sections and specimens connected with it.

The patient died from cancer of the breast and during life was very anæmic. The white cells were 22,000 per c.mm. and the myelocytes 8·5 per cent. It is of interest that a blood count of this sort, which might be paralleled from the records of all sorts of widely differing diseases, was nevertheless associated with extremely extensive myeloid changes in all the organs. At the necropsy the marrow was found to be almost entirely replaced by cancerous infiltration, and the same was true of the spleen, the liver, many of the glands, and the affected breast. The other breast was free from cancer, but nevertheless showed considerable areas of tissue which was composed of cells such as are met with in the marrow. Such tissue was also found about the cancer growths in other organs. It contained not only neutrophil and eosinophil myelocytes, but also foci of red-cell formation in the centre of which were seen primitive nucleated red cells and at the periphery those more fully formed. The red cells in the blood also showed the changes which one meets with in primary myelæmia. Nevertheless there were still some fatty areas in the marrow itself.

The case of Kurpjuweit[9] was very similar. The patient was a woman aged 34. The primary disease was in the stomach. The liver, spleen, and some of the glands showed myeloid transformation. The blood showed 11 per cent. of myelocytes, but the total number of white cells was not increased.

In the case of Kast,[10] a man with carcinoma of the penis of 18 months' duration, the spleen was myeloid and contained Charcot-Leyden crystals; the marrow contained the same crystals. The glands that did not contain cancer were myeloid. The white cell count was rather remarkable, the numbers reaching 120,000 per c.mm., but the myelocytes were only 1 per cent.

Other cases of secondary leukæmia.—Emile Weil[11] investigated cases of variola before suppuration had set in, and found remarkable changes in the blood which were of short duration, being displaced by a polynuclear leucocytosis later. He remarks apropos of the blood picture: "En meme temps coexiste toute la série des formes leucocytaires qu'on peut voir dans la leucémie myélogène." He also finds nucleated red cells but rarely except in the hæmorrhagic form. He claims that he is the first to describe this "syndrome." Courmont and Montagard[12] covered the same ground, and agreed with his "leukæmic" finding.

Labbé and Delille[13] record a case of hereditary syphilis in a child 1 month old with enlarged spleen. The white cell count was increased, and the mononuclears were altogether 85 per cent. Of these 50 per cent. were large mononuclears. In the discussion which followed his communication, several speakers emphasised the fact that this "anémie pseudo-leucémique" was only a symptom and not a disease, and might be met with in syphilis, rickets, tuberculosis, and intestinal infections. Dominici[14] carried out some experiments on dogs with the idea of producing myeloid changes, and seems to have been very successful in experimental tuberculosis, typhoid, sepsis, and potash poisoning. He remarks that the hæmopoietic organs react as a whole to these poisons, but do not bring the changes into comparison with those of primary leukæmia.

Dr. Turnbull informs me that he has always taught that the splenic anæmia of infancy described by von Jaksch was a myeloid leukæmia, and very kindly showed me slides from several cases which certainly seem very strongly to support that contention.

Conclusion.—It is submitted that the above cases considered alone are sufficient justification for a division of leukæmia into primary and secondary.

It is quite true that primary leukæmia, of which the cause is not established, may be due to some micro-organism which will eventually be identified. Then all leukæmias will take their proper places as symptoms of the specific infections or other disease processes with which they are associated. The so-called primary anæmias are already reaching the stage to which leukæmias must eventually come. No progress, however, is likely to be made with the study of leukæmia clinically until subdivisions are established, and in this case the idiopathic varieties are properly and according to precedent labelled primary until their true nature can be established.

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Sevenoaks, Kent.

BACILLUS COLI AS A CAUSE OF SEPTIC ONYCHIA.

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AND
W. W. D. THOMSON, B.A., M.B., B.Sc. BELF., D.P.H.,
RIDDELL DEMONSTRATOR OF PATHOLOGY, QUEEN'S UNIVERSITY, BELFAST, AND CLINICAL PATHOLOGIST, MATER INFIRMORUM HOSPITAL, BELFAST.

THREE cases have recently come under our notice of septic onychia due to infection by the bacillus coli.

One of these cases occurred in a medical man who was attending a case of bacillus coli cystitis, which he was treating by lavage of the bladder. He developed a very painful swelling, red, tender, and œdematous, round the roots of two nails. In both the affected fingers there was a history of a minute abrasion. These were treated by incision and cauterisation without effect. Two doses of stock staphylococcus vaccine produced no improvement. A culture taken from the sero-purulent discharge which exuded from beneath the swelling contained as well as some staphylococci and diphtheroids, bacilli coli, morphologically and culturally typical. The patient's opsonic index to the bacillus coli was found on two occasions to be raised above 2. His serum did not agglutinate the bacillus coli. A vaccine of this micro-organism was administered, and after the first dose of 2½ millions immediate improvement set in, and it was only necessary to administer a second dose to secure a complete cure. Both nails were lost.

The second case was that of a lady with a curious condition of the nails. The lesions resembled psoriasis and had been diagnosed and treated unsuccessfully as psoriasis. The condition had first appeared 15 years ago and had lasted for one year and then disappeared. Four years ago it returned and had persisted ever since. The margin of skin around the nails at intervals became swollen and discharged pus. This patient was troubled with constipation, "bilious turns," and headaches. The pus from the fingers contained bacillus coli in pure culture. She was treated with a bacillus coli vaccine (autogenous). Vaccination was followed by marked benefit. Her fingers on the last occasion on which she was seen were practically well. Her general health was also greatly improved. The reaction from the vaccine caused the fingers to inflame and was accompanied by diarrhœa and sickness.

The third case was one of very severe onychia. A swab taken from this case yielded on culture bacilli coli and staphylococci. Here again vaccine treatment with the patient's own strain of bacillus coli was of value. In these two latter cases no obvious source of infection was discovered.

We thought that these cases were of sufficient interest and importance to report, as we have been unable to discover any previous record of onychia due to this organism.

A CASE OF TETANUS TREATED WITH SUBCUTANEOUS INJECTIONS OF CARBOLIC ACID; RECOVERY.

BY W. GRAHAM REYNOLDS, M.R.C.S. ENG., L.R.C.P. LOND.,
LATE HOUSE SURGEON, HOUSE PHYSICIAN, AND RESIDENT OBSTETRIC OFFICER, ST. MARY'S HOSPITAL, LONDON.

THE patient, a boy aged 11, was paddling in a canal when he cut his foot on a piece of glass. Ten days later he complained of stiffness in his neck. For the next four days there was increasing difficulty in moving the head, and the muscles of the lower jaw showed signs of rigidity. On the fourteenth day from the date of the accident the spasms started, and he was admitted to St. Mary's Hospital during the evening.

On admission general rigidity was seen, and there was well-marked opisthotonos. Abdominal spasm was particularly evident, and there was inability to open the mouth. The risus sardonicus was also present. He had very frequent and severe spasms, but was mentally quite clear. There was a very small wound, nearly healed, on the dorsum of the right foot, one inch from the cleft between the second and third toes; there was also the scar of a small recent cut in the cleft between these toes.

The patient was anæsthetised. The wound and the scar were excised and pure carbolic acid was applied. At the same time the subcutaneous injection of carbolic acid was started, 1 oz. of a 1 per cent. solution being given in the right axilla. Under chloroform anæsthesia the injections were repeated as in the list, the strength of the carbolic solution being raised to 3 per cent. The groins and axilla were treated alternately. Chloroform was administered at each injection owing to the spasms produced by the stimulation of the needle-prick. A careful watch was kept for carbolic acid poisoning, but at no time did the patient show any symptoms. The urine retained its normal colour throughout.

On the day following admission the spasms became very violent, and the child suffered great pain. Potassium bromide gr. xx. and chloral hydrate gr. x. were administered four-hourly, and the patient became quieter. On the sixth day cutaneous erythema and slight œdema were noticed at the sites of injections, and these were discontinued. The spasms were increasing in violence and frequency, and the carbolic solution was again administered on the seventh day.

The injections were discontinued on the eighth and ninth days, but were recommenced at 2 A.M. on the tenth. On the thirteenth day the opisthotonos became very marked, and it increased during the following six days. By the twentieth day it had become excessive, although the spasms decreased both in violence and in frequency. On the same day the opisthotonos suddenly began to diminish, and had entirely disappeared by the twenty-third day.

The rigidity, especially that of the abdomen, did not relax for some time; in fact, this did not disappear for about seven weeks. The patient was able to open the mouth slightly about the sixteenth day, and by the eighteenth was eating bread and butter. Improvement continued uneventfully during the next four weeks, and he was discharged cured on the fifty-sixth day. He was seen three weeks later on return from a convalescent home, and was in perfect health. No antitetanic serum was administered.

The chief interest in this case lies in the fact that the carbolic treatment, recommended so long ago as 1888 by Bacelli, but which has never gained many adherents in this country, was adopted throughout, and also the fact that at the time, when for the reasons stated it had to be discontinued, the spasms increased in number and violence, the recommencement of the injections at once modifying these attacks. This does seem to prove that carbolic acid has a definite action in inhibiting the reflex activity in the cord.

It would be interesting to hear the results of others who have tried this treatment, and to know the dosage they employed.

I have to thank Mr. J. Ernest Lane, senior surgeon to St. Mary's Hospital, for permission to publish this case.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF RODENT ULCER IN AN UNUSUAL SITUATION.

By MILNE MCINTYRE, M.B., CH.B. GLASG.,
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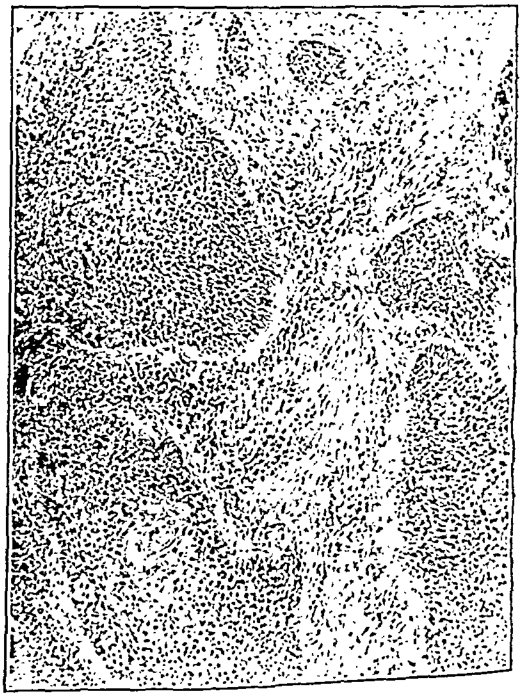
RODENT ulcer is a common affection when found on the face, particularly on the upper third, and mostly about the inner canthus of either eye. On any other part of the body it is decidedly rare, and for this reason its occurrence elsewhere than on the face is worthy of note.

The patient, a woman 52 years of age, was admitted to the Glasgow Royal Infirmary during November of last year for treatment of a large slowly spreading ulcer situated on the back between the scapulæ and towards the right side. It commenced nine years ago as a small wart, which for some time was unheeded, till it ulcerated and discharged, when she sought advice. Since then it has gradually increased in size, though under treatment apparently healing over from time to time, and as often breaking down again; but for the last two years the discharge has been constant, with progressive increase in size.

On admission an ulcer about the size of the palm of an adult hand occupied the above situation, extending down to the fascia covering the muscles of the back. There was no tumour, the condition being purely spreading ulceration. The base was fixed, the outline irregular, and the floor pale, free from granulations and exuding a scanty, sticky, muddy discharge. The edges were slightly raised, indurated, and sinuous in outline. Parts of the surrounding skin had a dusky hue from passive congestion, and, though full from œdema, extended otherwise unaffected right up to the margin of the ulcer. The patient's general health suffered little in consequence, and there was no evident glandular involvement or metastasis elsewhere. The ulcer was completely excised and the raw surface treated with carbon dioxide snow.

Histological examination.—The sections prepared were from the margin of the ulcer, and present the characters of a rodent ulcer. Broad processes of the deeper layers of the epithelium are observed dipping deep into the corium. The cells are arranged in groups varying in size, discretely scattered through a fibrosed corium. They are all alike in type, resembling the cells of the deeper layers of the epithelium, but differing among themselves a little in size and shape, many showing mitotic figures. A few of the cell groups have a necrosed centre, the stratum corneum is atrophied, and there are no cell nests.



From a microphotograph.

Glasgow.

AN UNUSUAL PERI-SINOUS ABSCESS.

By HAROLD L. WHALE, M.D. CANTAB., F.R.C.S. ENG.,
SURGEON FOR DISEASES OF THE EAR, THROAT, AND NOSE, LONDON TEMPERANCE HOSPITAL AND HAMPSTEAD GENERAL HOSPITAL.

A GIRL, aged 5, was seized with earache and vomiting on Christmas Day, 1913. On admission to hospital on Dec. 29th she presented the stereotyped signs and symptoms of acute suppurative mastoiditis. Except measles two years previously, and mild recurrent earache for one year, inquiry elicited no relevant history. The membrane was bulging but intact; the retro-auricular swelling was tense and fluctuating.

A Schwartze operation was at once instituted. The periosteum was found to be lifted up by a bag of pus, but deep to this the outer antral wall was intact and healthy. Beginning at a point one-eighth of an inch behind the surface marking of the posterior limit of the antrum and running backwards for nearly an inch was a fistula one-eighth of an inch wide, quite straight and quite horizontal; nearly an ounce of thick foul pus gushed through this slit. On removing the outer antral wall it was evident that the pus in the antrum, a mere bead, had no macroscopic connexion with that which lay along the horizontal part of the lateral sinus; the finest seeker detected no fistula. In front, the purulent focus was shut off by adherent dura, so as to end abruptly at the upper genu of the sinus, where its horizontal passes into its sigmoid limb. The edges of the bony fistula were widened with a chisel to a quarter of an inch, and with simple drainage recovery was uneventful.

This case presents certain points of interest. 1. It is not without precedent for an acute otitis media to lead to acute mastoiditis without perforating the membrana tympani; nor, again, for an acute antritis to proceed to intracranial infection without finding its way through the outer antral wall. But the double event, which happened in this case, is very rare—that is, for an acute otitis media not only to leave the drum intact, but also to show no evidence of assault on the antral wall, and first to declare itself remotely as pus in the posterior fossa. 2. If, in explanation of the route selected in this case, we invoke the line of least resistance, the possibilities are: first, the saccus endolymphaticus by the aquæductus vestibuli (but during this journey the infection must have caused labyrinthitis, whereas this patient had no nystagmus, vertigo, or interference with vestibular reactions); or, secondly, one of the sutures, after delayed or imperfect closure between the component parts of the temporal bone. In this latter event, if the infection had travelled by the petro-mastoid suture, it would have reached the middle rather than the posterior fossa, and there would have been no visible external fistula; if by the squamo-mastoid suture, the dehiscence would have been directed obliquely upwards and backwards. There is no anatomical reason for a fistula extending horizontally backwards, and the route taken is therefore not easy to explain. 3. It is very uncommon for a peri-sinous abscess to track along the horizontal part without also, and as a rule previously, involving the vertical part of the lateral sinus.

Harley-street, W.

ROYAL WEST SUSSEX HOSPITAL.—There has been no more eventful year than 1913 in the history of this hospital at Chichester—one of the best-equipped and best-served hospitals in the south of England. After extensive reconstruction work the institution was visited by King George, who declared it re-opened as a Royal hospital in memory of his illustrious father. The whole cost of that reconstruction scheme was met, and on that account there is a small balance in hand. The income account showed a deficiency of £210 7*s.* 6*d.*, and in spite of the strictest economy it is found that the ends are not meeting. An annual income of £4200 is necessary if the hospital is to be kept going as now, and an earnest appeal is being made for at least another £500 a year in addition to the existing income. Although a broken year, owing to the extensive reconstruction work, the in-patients numbered 510 and the out-patients 2640.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF SURGERY.

The Relation of Ducts and Acini to Cysts and Cancer of the Breast.

A MEETING of this section was held on May 12th, Mr. G. H. MAKINS, the President, being in the chair.

Mr. G. LENTHAL CHEATLE read a paper on the Relation of Ducts and Acini to Cysts and Cancer of the Breast. He said that in proof of the ducts being the cause of cysts he would state that: (*a*) In the normal state the columnar type of cell which lined the ducts extended to the acini, but was not continued into them. Cysts were lined by the same epithelium. (*b*) An accidental injection by a central hæmorrhage occurred in a cystic breast. The only parts injected with blood were the normal ducts, and even the acini, and also the cysts. (*c*) The cysts could be shown opening into acini. The acini were not dilated. Single cysts, although apparent clinically as such, were always coexistent with smaller cysts, which were easily made manifest by microscopical examination. It was hard to understand why cysts formed. He believed they formed to accommodate the proliferating epithelium. Obstruction to ducts might conceivably induce cystic formation, but it would not be likely to cause the intracystic papillomatous condition which was so common in cysts. The hæmorrhagic breast to which he had alluded appeared to confirm the idea that no obstruction existed, because all the ducts, acini, and cysts were full of blood. Acini would be more likely to be dilated were obstruction the cause of the cystic condition of ducts. Duct cancer divided quite obviously and naturally into two types—(*a*) intracystic papillomatous, and (*b*) intracystic "laciform." 1. Each, even when type appeared present, was more or less mixed. 2. Each in its spread showed alveolar arrangement in parts. Hence to discover the origin of an alveolar cancer of the breast large sections, and possibly extensive serial sections, might have to be made. It must be noted that even in the alveolar arrangement there was a tendency for each to become typical of its origin. 3. Each showed simple cystic conditions. 4. The lymphatic glands, when affected, showed the intracystic "laciform" type. He had not yet discovered the intracystic papillomatous type in a lymphatic gland. With regard to the relation between acini and cysts, he had no evidence to prove or even indicate that one existed, nor that there was any relation between acini and cancer. In his 250 cases of cancer of the breast 45 per cent. were duct cancer in origin. Of the remaining 55 per cent., some might have been of similar origin. In no case could he trace a definite connexion between cancer and acini. He did not mean to say it did not exist. Probably at wanted only definite proof. An alveolar arrangement certainly was no proof.

Mr. Cheatle then gave an exhibition by the epidiascope of 52 macroscopic and microscopic preparations of duct cancer of the breast in support of his contentions.

SECTION OF LARYNGOLOGY.

Exhibition of Cases.

A MEETING of this section was held on May 1st, Dr. D. R. PATERSON, the President, being in the chair.

Dr. W. MILLIGAN showed X ray bismuth photographs of three patients with Pharyngeal Pouches. An external operation was performed in the three cases; one died from septic pneumonia (probably due to food ingestion).—Dr. G. W. HILL advised Halstead's operation, in which the unopened sac was dissected out and turned upwards into the upper angle of the external wound. At a second operation after the formation of adhesions the sac was removed. He considered the photographic method better than œsophagoscopy for diagnostic purposes.

Dr. MILLIGAN also brought exhibits of Inoperable Thyroid Gland and Fungating Œsophageal Carcinomata treated by radium emanation tube He pointed that out it was essential to exclude the α and β rays and utilise the γ rays by suitable filters. Irradiation of healthy tissues was dangerous.—Sir **FELIX SEMON** related an instance where radium caused sloughing with fatal mediastinitis.—Mr. W. D. **HARMER** had found that external insertions of 150 mgm. of radium for 18 hours resulted in a wound which did not heal.—Dr. **HILL** laid great stress on the filtration. He had employed 150 mgm. with a screen of 2 mm. of platinum covered with rubber for 18 hours without injurious effect.—Mr. S. **HASTINGS** in 18 cases had found sloughing in one case where septic teeth were present. He placed the radium in a Symonds' funnel and inserted it by means of an œsophagoscope.

Mr. E. A. **PETERS** brought forward a case previously exhibited with left unilateral abductor paralysis, but which now had progressed to complete paralysis with the cord in a cadaveric position.

Dr. J. **DONELAN'S** two cases of Papilloma of the Vocal Cords, in which he had found it easier to employ the indirect instead of the direct method, were discussed by Sir **STCLAIR THOMSON**, who related that both Killian and von Eicken preferred the indirect method where this could be employed. Indeed, by the old principle of *cito, tuto et jucunde* the indirect method came first.—Sir **FELIX SEMON** remarked that the need for good technique in the application of the indirect method had constituted laryngological work as a specialty, accordingly he regretted the disuse of this method by the younger men.—Dr. **HILL** pleaded for the simplicity of direct laryngoscopy, and mentioned the tolerance of chronic tuberculous patients to its use. He also considered that suspension laryngoscopy would still further diminish the field of the indirect method.—Mr. E. B. **WAGGETT** upheld indirect laryngoscopy.—The **PRESIDENT** considered that where a general anæsthetic had to be employed the direct method was preferable, in other cases the indirect. The advance from the days of Hartmann's direct spatula to the present duck-billed tubes was remarkable.

Dr. W. **JOBSON HORNE** showed a case of Laryngeal Neoplasm which Mr. H. C. **FOX** and Mr. J. F. **O'MALLEY** considered to be attached to the anterior commissure; also an extreme case of Congenital Webbing of the Palate.

Dr. L. H. **PEGLER** brought a case with an Œdematous Fibroma depending from the left vocal cord.

Mr. C. I. **GRAHAM** exhibited a case of Chondro-Sarcoma of the Pharynx.

Mr. P. R. W. **DE SANTI'S** case of Lupus of the Nose, Ear, and Tongue and Pharynx was discussed. The Wassermann reaction was only partially positive on one occasion; giant cells, but no tubercle bacilli, were recognised in a microscopical preparation.

Mr. C. **POTTER'S** case of Perithelioma of the Pharynx, which was enucleated with the capsule by an incision through the mucous membrane, was referred to Mr. S. G. Shattock.

In Dr. **HILL'S** case of Carcinoma of the Base of the Tongue and Epiglottis Mr. **DE SANTI** recommended a subhyoid pharyngotomy through a central incision.

SECTION OF OTOLOGY.

Primary Tuberculosis of the Ear.—Exhibition of Cases.

A MEETING of this section was held on May 15th, Mr. **RICHARD LAKE** being in the chair.

Dr. W. **JOBSON HORNE** described a case of Primary Tuberculosis of the Ear in a child aged 13, in which the diagnosis was established by the finding of tubercle bacilli in the tissues over the necrosed portion of the temporal bone, which he exhibited. There had been a cough for three months, and the child had been wasting seven months; there had been measles two months ago. Fifteen days before death facial paralysis developed, and the child died with signs of cerebral disease. There had been a discharge from the right ear for about four months. Post mortem the temporal bone and membrana tympani were found to have been destroyed, the ossicles had perished, and the middle ear was disorganised. The antrum and middle ear were filled with débris and caseous matter, and the cancellous portion of the mastoid was involved. Above and behind the external auditory meatus a subperiosteal abscess was found, and at its site a sharply defined area of necrosed bone corresponding to the outer wall of the antrum. On deflecting the dura mater from the cranial surface of the bone an extradural abscess was found and some tuberculous deposits. There were also found extensive disease of the lymphatic glands, general miliary tuberculosis, tuberculous meningitis, and tuberculous nodules in the brain. Dr. Horne expressed the opinion that primary tuberculosis of the ear presented such definite clinical and pathological features that it could easily be distinguished from the secondary form of the disease. Primary tuberculosis of the ear was essentially a disease of childhood, if not even of infant life. This case also illustrated the exhibitor's contention that in the primary form the stress of the disease was, in the first instance, on the mastoid bone.—Mr. C. E. **WEST**, in discussing the case, said that bone tubercle was very rarely primary in the sense of being the site for the first deposition of tubercle in the body; it was nearly always preceded by a focus, generally a caseating one, in the lymphatic glands. Supposed tubercle of the temporal bone in children he believed to be much rarer than was generally supposed. The operative results on these cases, though good at the time, were unfavourable later, for 50 per cent. died from tuberculous meningitis three or four years afterwards.

Dr. E. A. **PETERS** and Dr. H. J. **DAVIS** showed interesting cases of Exostoses of the External Meatus, and the advisability of operation in such instances was discussed. Dr. Davis also showed a remarkable case of Recovery from Operations, at different dates, on two large temporo-sphenoidal abscesses. The patient, a girl aged 16, was shown a year ago after recovery from an abscess on the right side, and three months ago she again presented herself with similar symptoms on the left side—namely, earache, vomiting, and vertigo—and an aural polypus was protruding from the meatus. Owing to great restlessness, aphasia, and rapid unconsciousness, with rotatory nystagmus to the right, and signs of meningitis, he, with the assistance of Mr. Addison, opened and drained a large temporo-sphenoidal abscess. The brain was motionless and on incision pus and a quantity of sanious fluid streamed from the lobe, which then commenced to pulsate. Salines were continuously administered, and Mr. Addison performed lumbar puncture. As the pathologist reported that pus was found in the cerebro-spinal fluid the prognosis was regarded as hopeless. Dr. J. M. Bernstein and Dr. Elworthy, who also saw the case, recommended intraspinal injections of antistreptococcus serum, and 10 c.c. were given twice at 24-hour intervals. She also had three vaccine injections in the flank, and was kept alive on champagne, pituitrin extract, &c., and her recovery, though slow, was uneventful. She was now bright and the aphasia had disappeared, but she could only hear the tuning fork on contact.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Empyema in Children.—The Pathology and Etiology of Duodenal Ulcer.

A MEETING of this society was held on May 6th, Dr. **JOHN PLAYFAIR**, the President, being in the chair.

Dr. **NORMAN WALKER** showed a case of advanced Mycosis Fungoides apparently cured by the application of X rays, only pigmented areas remaining.

Dr. G. H. **MELVILLE DUNLOP** contributed a paper on Empyema in Children, based upon 98 cases treated in his ward in the Sick Children's Hospital. He pointed out that during the same period in which these empyema cases occurred there had been 861 cases of pneumonia, or 1 case of empyema to every 8 or 9 cases of pneumonia. The pleural fluid effused during childhood showed a marked tendency to become purulent, and the younger the child the more pronounced was this tendency. The effusion in a child under 3 years would almost certainly be of a purulent character. In 59 cases of pleural effusion in such young children the fluid was purulent in 53. The tendency of the fluid to become purulent gradually lessened from 3 years till the age of 10, when the formation of a serous effusion was usual in the great majority of cases. Of 149 cases of pleural effusion the following was the analysis:—

Under 6 months of age	3 cases, all purulent.		
Between 6 months and 12 months	9 „	8 „	1 serous.
„ 1 and 2 years	26 „	24 „	2 „
„ 2 „ 3 „	21 „	18 „	3 „
„ 3 „ 5 „	23 „	18 „	5 „
„ 5 „ 10 „	57 „	27 „	30 „
Over 10 years	10 „	1 „	9 „

The following shows the percentage distribution of infecting organisms: In 53 per cent. the pneumococcus was present alone; in 16 per cent. the streptococcus was present alone; in 14 per cent. the pneumococcus and streptococcus were mixed; in 3 per cent. the staphylococcus and streptococcus were alone; in 1 per cent. staphylococcus and pneumococcus were mixed; in 2 per cent. the staphylococcus, pneumococcus, and streptococcus were mixed; in 3 per cent. the tubercle bacillus and streptococcus were alone; and in 6 per cent. there were no growths. As to the causation of empyema in children, while admitting the occurrence of primary forms due either to cold or injury, Dr. Dunlop believed that in the majority of cases the condition was secondary. In only 7 per cent. of the cases was a history of lung or other antecedent history lacking. In the majority of cases the effusion either occurred with or followed lobar pneumonia; and then the fluid was invariably purulent. Empyema in his experience was much less frequently associated with bronchopneumonia. It frequently developed after scarlet fever, measles, or whooping-cough, and occasionally after influenza. Any suppurative process, such as purulent arthritis or osteomyelitis, might account for it, and in young infants septicæmia was a common cause. In striking contrast to empyema in the adult, a very small proportion in children was due to tubercle. Of his cases, lobar pneumonia accounted for 69 per cent.; infectious diseases, 11 per cent.; broncho-pneumonia, 5; suppurative processes, 3; tubercle, 3; influenza, 2; causes unknown, 7. In most instances the effusion in cases of pneumonia occurred within a few days of the crisis. Sometimes the symptoms heralding the onset of empyema were acute and violent; in others they were insidious and indefinite. He cordially agreed with the writer who said that latency in pneumonia was synonymous with carelessness in the physician. The child was often sent into the hospital with a diagnosis of atrophy or miliary tuberculosis, and the general appearance went far to confirm such a diagnosis. In six of his cases convulsions were the earliest manifestation of empyema, while the other symptoms in the order of frequency were fever, cough, vomiting, quick breathing, sweating, restlessness, and delirium. In older children, and especially after infectious diseases, the foregoing symptoms were less pronounced, but the child gradually assumed a languid appearance, suffered from a short paroxysmal cough, and emaciated rapidly. As regarded sex, 53 were boys and 45 girls. The left side was involved 45 times, the right 39, which was not at all the usual proportion or what would have been expected from the frequency with which left-sided pneumonia occurred. Both sides were involved in four cases. The amount of fluid varied greatly both in quantity (¾ oz. to 40 oz.) and in the time it took to collect. In some cases he found one side of the chest filled with pus in a few days. A number of symptoms were very suggestive of empyema. First, in almost every case the child looked seriously ill, had an anxious, pinched, and frightened expression, and was profoundly anæmic. The face was earthy or yellow in colour with sometimes puffiness under the eyes. There was a very rapid and sometimes extreme emaciation. When a child was suffering from marasmus he invariably excluded three diseases—viz., tuberculosis, congenital syphilis, and empyema—before concluding that the diagnosis was correct. There was usually some cough, either suppressed or paroxysmal, and the breathing was quick, but never so quick as in pneumonia. Even when the pleura was full of pus there might be little real dyspnœa. The temperature was usually raised from 3° to 4°, and it might be very high or subnormal. In ten of his cases it was either normal or subnormal during the whole period of observation. Clubbing of the fingers might be observed when the empyema had lasted a long time. When the fluid was present there was generally a leucocytosis of from 20,000 to 30,000. His experience did not bear out the statement that diarrhœa might be present. Clinically, whenever absolute dulness of a board-like character at the base with a boxy percussion note at the apex was noted a pleural effusion should be suspected. The sense of resistance to the percussing finger also was of great value. It was quite common to get loud tubular breathing over a purulent effusion in the child—a misleading point to those accustomed to investigate empyema in the adult. Vocal fremitus was of little help, but displacement of the heart's apex was a very valuable aid in diagnosing fluid in the chest. It might be found in the epigastrium, or even as far as the right mammary line. The complications of empyema were generally due to further pneumococcal infection, and the commonest was purulent pericarditis, present in 40 per cent. of his fatal cases. This complication, often altogether undiagnosed during life, for friction was seldom if ever detected, should always be suspected if after draining the pleura freely the child continued ill with a rapid pulse. Purulent meningitis and peritonitis also occurred, but not suppurative arthritis or general septicæmia. Diagnosis was often difficult without the aid of an exploring needle; it might have to be passed repeatedly before the collection was reached, and even then if the fluid were thick it might not pass, or large masses of lymph might block the lumen. It was often said that a hectic temperature indicated pus, but he had found as high temperatures in serous as in purulent cases. The prognosis of pleural effusion was difficult, as the mortality was largely determined by the cause and duration of the illness and the age of the child. In the 98 cases there were 20 deaths, or 19 per cent. Under 2 years the prognosis was very grave; in 30 cases he had 11 deaths (36 per cent.). After 2 years 68 cases with 9 deaths (13 per cent). With a double effusion, of 4 cases only 1 recovered. Pneumococcal cases over 2 years almost invariably recovered, but in streptococcal and mixed infections the prognosis was not nearly so good. Tuberculous empyema was fortunately rare in the child, but the prognosis was not nearly so grave as in the adult. Pus in the pleural cavity should be evacuated as soon as diagnosed, for if the drainage was good and sepsis avoided the risks of complication were greatly diminished. In most cases any attempt to relieve the effusion by aspiration was a dangerous waste of time, and it was not very efficient. Where the exploring syringe had drawn off merely turbid serum aspiration had often given him good results, and it should be tried in very young infants unable to stand a serious operation. Aspiration was useful also, when the effusion was very large, to draw off a quantity of pus the day previous to operation. It did not draw off all the pus; large masses of fibrin were left, and no drainage being possible resection was usually needed later. In operation either resection of the rib or simple incision of the pleura formed the choice. The former gave better drainage and less risk of sepsis but was a more serious operation. Simple incision was better for young infants. Of his cases, 8 were aspirated, with 1 death; 61 were resected, with 14 deaths; and 29 were incised, with 5 deaths. The main danger of the operation being syncope and death from the anæsthetic, local anæsthesia was preferable in young infants. The incision, 2 or 3 inches long, should be made in the sixth interspace in the mid-axillary line. To avoid syncope the pus should be allowed to escape very gradually. The tube might be removed in 7–10 days and should seldom be retained longer than 3 or 4 weeks.—Professor F. M. CAIRD alluded to the value of Truby King's suggestion of having a few drops of sterile water in the exploring syringe, so that if the needle became blocked a few drops could be injected and then withdrawn. If pus were present it could easily be detected in the syringe.—Dr. JOHN THOMSON said that he had never been able to hear friction in pericarditis in children. He attached importance to the child's general health in determining whether a pleurisy were serous or purulent. If the child was healthy there was much less risk of empyema than if it were weak. As a preliminary measure he favoured aspiration, and he had had two or three dozen cases where a single aspiration had been sufficient to effect a cure.—Dr. ALEXANDER GOODALL had found auscultation very misleading in empyema in adults, and bronchial breathing was often marked and loud over an effusion.—Dr. DUNLOP replied.

Mr. D. P. D. WILKIE read a communication entitled "Observations on the Pathology and Etiology of Duodenal Ulcer," with an epidiascope demonstration. He said that the credit of recognising that this ulcer was of frequent occurrence was due to W. J. Mayo, Moynihan, and Mayo Robson. He wished to demonstrate certain facts gained chiefly from the post-mortem room. During the past three years he had investigated the condition of 490 cadavers, and he had met with 41 cases of duodenal ulcer, and in only 6 of these had the ulcer any direct connexion with the death of the patient. In only 6 cases had a diagnosis of duodenal ulcer been made before death, and all of them had been operated on. In one or two cases where a chronic ulcer had been found it had caused during life none of the typical symptoms. Such "silent" ulcers might attain considerable size and cause death from hæmorrhage or perforation without producing any noteworthy symptoms. The subjects of these "silent" types of duodenal ulcer were generally old people with arterio-sclerosis. The "syndrôme pylorique" described by Soupault and resembling the Moynihan's symptom-complex of duodenal ulcer might be, but was not invariably, associated with a duodenal ulcer. It appeared to be the clinical expression of an irritable condition of the pyloric musculature favouring spasmodic contraction. It might, however, be associated with an ulcer on the gastric side of the pylorus. *Morbid anatomy:* In the 41 cases the lesions were situated on the first part of the duodenum and with two exceptions within one inch of the pylorus. In 9 cases the ulcer was on the anterior wall from half to three-quarters of an inch beyond the pylorus; in 12 it was on the posterior, and in other 12 there was an ulcer on both anterior and posterior walls directly opposite one another (the so-called "kissing ulcers" of Moynihan). In 5 cases the ulcer was at the upper part or roof of the duodenum just beyond the pylorus, whilst in one female case a large ulcer occupied the lower wall of the duodenum, extended to the posterior wall, and invaded the pylorus. In 21 cases there was but one ulcer, in 16 two ulcers, and in 4 more than two ulcers. In some of the cases where a fair-sized ulcer was found on the posterior wall no suspicion of its presence had been aroused by a careful examination of the unopened gut. The impression left by such cases was that this type of ulcer must be frequently overlooked at operation, and the question arose whether the duodenum should not be opened in doubtful cases. In 5 cases besides the duodenal lesion one or more gastric ulcers situated on the lesser curvature some distance from the pylorus were found. Of acute and chronic ulcer it was not so easy to speak with assurance as in the case of gastric ulcer. With ulcers on the anterior wall, many which from the outer surface of the intestine showed evidence of chronicity closely resembled acute ulcers when viewed from the mucous aspect. Chronic ulcers of the posterior and postero-superior walls were usually more easily recognised, resembling as they often did the large crater-like ulcers of the stomach. The essential factor for the formation of a duodenal as of a gastric ulcer, was that a portion of the mucosa became so devitalised that it might be digested and leave a breach of surface. This devitalisation might be brought about by (1) the lodging of an embolus in an arteriole of the duodenal wall; (2) venous embolism; (3) the circulating of toxin in the blood, causing a degeneration not only of the lining epithelium of the bowel but of the endothelium of the capillary blood-vessels, so that small hæmorrhages took place and determined local areas of lowered resistance; and (4) reflex nervous spasm of the vessels or of the muscularis mucosæ causing small hæmorrhages into the mucous membrane. He discussed these causes at length, and said that toxic degeneration or necrosis of the mucosa or of lymph follicles of the duodenum followed by digestion was probably the most frequent cause of acute ulceration. The source and nature of the toxin might vary widely; thus the products of tissue autolysis circulating in the blood caused degeneration in the parenchyma of various organs, and in the stomach and duodenum digestion of the devitalised tissue followed with the formation of ulcers. In two of his cases death resulted from widespread superficial burns, in one case five and in the other 12 days after the accident. Mr. Wilkie was convinced that some definite relationship existed between morbid conditions in the lower bowel and duodenal ulcer. The relationship between them was not clear, but he was inclined to think that the ulcer was due to a combined action through the blood and through the autonomic nervous system. Rössle had been struck by the frequent association of chronic appendicitis and duodenal ulcer. There was some evidence to show that toxic absorption from the colon had a definite vago-tonic influence. The periodicity of the symptoms of duodenal ulcer, the effect of worry, over-fatigue and chills, and vaso-motor disturbances in determining the onset of a fresh attack all pointed to the importance of the nervous factor in duodenal ulcer. After discussing the site of the ulcer and the sex incidence he drew the following conclusions: 1. Duodenal ulcer is a disease of frequent occurrence and one which often passes unrecognised. 2. Although as a rule readily recognised, a chronic ulcer may occasionally exist and give rise to none of the characteristic symptoms, the first evidence of such a "silent" ulcer being sometimes its perforation. 3. "Silent" duodenal ulcers are met with most frequently in the subjects of arterio-sclerosis and are found for the most part on the posterior wall. 4. Some toxic or irritative factor, usually within the abdomen and most often associated with the colon or appendix, is found in a large proportion of cases. 5. Probably many acute duodenal ulcers are primarily follicular ulcers from the breaking down of inflamed lymph follicles. 6. Whatever be the primary cause of a gastric or duodenal ulcer, spasm of the muscular coats of the viscus is an important factor in determining its chronicity. 7. The situation of the opposing ulcers on the anterior and posterior walls on the boundary zone of the areas supplied by the anterior and posterior branches of the supraduodenal artery suggests that a common vascular deficiency, rather than a contact infection, accounts for the peculiar tendency to chronicity and recurrence. 8. This vascular deficiency may be due to arterio-sclerosis, but probably it is usually due to spasm of the muscular coats of the duodenum, induced by a slight local anæmia consequent on strain on the supraduodenal vessels, this muscular spasm being favoured by the increased vago-tonus and the irritable condition of the autonomic nervous system which exist in such cases. 9. The sex incidence of duodenal ulcer is to be explained on anatomical grounds. The relatively high pylorus and short fixed duodenum of the male allow of its vascular supporting ligament, the hepato-duodenal ligament, being exposed to strain, which in the female with her relatively low pylorus and lax duodenum is borne by the left border of the gastro-hepatic omentum and lesser curvature of the stomach. 10. The fixity of the male duodenum further predisposes to kinking at the first duodenal angle, and thus to an unduly long exposure of its first part to the acid chyme from the stomach.—Professor **CAIRD** said that the late Professor Hamilton, of Aberdeen, believed that there was no relation between burns and duodenal ulcers, and personally he had found no such association.—Professor **WILLIAM RUSSELL** alluded to the relation which existed between conditions in the lower part of the intestinal tract and duodenal ulcer. He was glad to know that Mr. Wilkie did not believe in the view of embolism as a cause of duodenal ulcer. He had taught for long that local spasm caused anæmia and this led to acute erosion. Both duodenal and gastric ulcers were very frequently associated with hyperchlorhydria. Duodenal ulcer was very difficult to diagnose if there was hyperchlorhydria present, and one ought never to diagnose it unless there was melæna or occult blood present.—Professor **ALEXIS THOMSON** thought we should be chary in accepting the theory of the bands in connexion with the stomach and duodenum as causal agents as well as about the condition of the lower bowel. The toxic factors which underlay the production of appendicitis might be the cause of duodenal ulcer also. The stasis of the bowel in women rather was antagonistic to the sex relationship of the disease, and the ulcer was often present in young men who had no intestinal stasis.—Dr. **D. CHALMERS WATSON**, Mr. **J. WHEELER DOWDEN**, and Mr. **J. W. STRUTHERS** also took part in the discussion.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

Wassermann Reaction.

A MEETING of this section was held on May 1st, Dr. **J. B. COLEMAN**, C.M.G., the President, being in the chair.

Professor **E. J. McWEENEY** read a communication on Experiences with the Wassermann Reaction. He had invariably carried out the original technique with the exception that he used a non-specific antigen and adopted the quantities and general procedure laid down by M'Intosh and Fildes in their valuable text-book on syphilis. The number of cases he had tested so far was 240, of which 182 were available for statistics. From the Lock Hospital he had examined 54, of which 47 were undoubtedly syphilitic. The percentage of cases in which the reaction gave results in accordance with the clinical aspect was 91·3. Of the 7 non-syphilitic cases, all reacted negatively to the test. From the Mater Misericordiæ Hospital 46 cases were available, of which 37, or nearly 85 per cent., gave reactions in accordance with the clinical aspect. From the Richmond Asylum he had tested the serum of 35 cases, of which 26 were definitely diagnosed as general paralysis, 5 were looked upon as certainly not of that nature, and 4 were regarded as suspicious or doubtful. Of the 26 clinically certain cases, 19, or 74 per cent., gave a strongly positive reaction, 4 were negative, and 3 were doubtful to the test. For reasons mentioned two of the latter ought to be regarded as positive, raising the number of accordant positive results to 81 per cent. All the cases (5) in which general paralysis was clinically excluded gave a negative result. The speaker had also examined a number of cerebro-spinal fluids, and found a positive reaction in nearly all that were diagnosed as general paralysis of the insane. With regard to the globulin-content of these fluids he had found the Nonne-Apelt, "Phase I.," test the most satisfactory, provided a time limit of three minutes was observed, and the fluid was mixed with the ammonium sulphate, not superposed, as recommended by Ross and Jones. With the Noguchi (butyric acid) method he had obtained, too, many positive results. Out of 49 cases sent in from various hospitals and private practitioners there were only four in which the result of the Wassermann test was not reconcilable with the clinical aspect. The speaker then described the technique. He mentioned the several pitfalls which the method presented for the inexperienced operator, more especially that due to "cutting the hæmolytic system too fine," with the result that complete hæmolysis did not occur in the tube without antigen. He discussed the value of various antigens, and stated that in his experience alcoholic extract of sheep's heart, without added cholesterin, worked quite well, and kept almost indefinitely. He drew attention to the superior delicacy of the method of Browning, Cruickshank, and M'Kenzie, which had given a positive result in a congenitally syphilitic child, when the ordinary technique was negative. He referred to comparative tests which he had done with active serum by Stern's and Fleming's methods, and also with the precipitation methods of Elias and Neubauer, and of Herman and Perutz, but would not place implicit reliance on any of them in the absence of a proper Wassermann test. He drew attention to the great prevalence of syphilis amongst imbecile children, and also amongst gynæcological out-patients, as shown by the Wassermann test in the hands of members of the Glasgow school, and stated that one of his objects in coming forward with the paper was to point out the necessity for systematic investigation on similar lines amongst the same classes in Ireland.

Dr. J. T. Wigham said that the experience in the Trinity College Laboratory did not enable him to make any more definite pronouncement on the subject than that made in the paper. He commenced with Birt's method, which he considered the easiest, and which had been found in the army to give satisfactory results. The method differed essentially from the original; the antigen was very much the same as in the original, but the complement was the patient's complement, the cells were the patient's cells, and the amboceptor was from the rabbit; hence the results were not so certain as if the original reaction was used. The Fleming reaction had now been adopted in his laboratory. As it was a method in which inactivated serum was not used it had been found to be too sensitive in some respects, giving a positive reaction in some cases where the original method would have given a negative; it had, however, the advantage that it did not require much blood. He referred to the difficulty of getting practitioners to send a sufficient quantity of blood. He considered that in any case in which human complement was used it was necessary to leave the serum on the clot. Having latterly controlled results with the original Wassermann test, working with two antigens, it was found that Fleming's method was on the whole satisfactory.

Dr. Adrian Stokes said he considered that the results of treatment were still better shown by the Wassermann test. Patients were seen with secondary syphilis giving a strong positive reaction, and after three or four weeks' treatment the reaction might be observed shading off. He considered that a negative reaction was the ultimate proof as to whether a patient had any active syphilis in his body or not, and no patient who ever had syphilis should be satisfied until he gave a negative reaction, and although tertiary cases might take an enormous amount of salvarsan before a negative reaction was produced, yet he thought it was worth trying to bring it about. Referring to deafness and blindness, the result of syphilis, he thought that in some such cases this was brought about by syphilitic neuritis, and suggested the advantage of lumbar puncture. As to the question of heating the serum, he thought that the reason why it was important to do this was that it produced destruction of the non-specific fixing bodies. He suggested that it was unnecessary to kill the guinea-pigs. He had succeeded in getting as much as 10 c.c. from the heart without killing the animal, and after 20 days' time it gave a complement as good as at the beginning. In his own tests he always titrated the complement and the antigen, and having done this, two hæmolytic doses of each were used. Two different antigens were used also, one more active than the other, which helped in the reading. The tendency to use more than two antigens was on the increase. He pointed out that the cerebro-spinal fluid tests depended upon the quantities used. If large quantities were taken there was more likelihood of getting reaction than if smaller quantities were used. He was at present using 0·1 serum for diagnosis, and 0·5, 0·4, 0·3, 0·2, 0·1 of cerebro-spinal fluid.

Mr. H. Moore said it was not sufficient to treat a patient until he gave a negative reaction, and then tell him that he was cured. The patient should come back several times at intervals and have the test done. In cases where secondary syphilis was well established a patient might give a negative reaction, but if tests were done every two or three months it would be generally found that within one year he would give a positive reaction again. This he considered the time to commence a second course, and in his opinion if a second course was then carried out it was improbable that a recurrence would take place. In many of the cases of secondary syphilis that he had seen a positive reaction was found again in about nine months, and when the patients had got another course they then remained negative. He referred to the experience of negative reactions in cases of tertiary syphilitic lesions of bone.

Dr. W. R. Dawson said that although it had recently been discovered that in cases of mental defect some 66 per cent. gave a positive reaction in England, he did not think that a similar state of things existed in Ireland. He thought it would be found that, except in a few of the larger towns, there was very little syphilis amongst the mental cases in Ireland, and pointed out that there were very few paralytic symptoms. He was fairly convinced that throughout Ireland syphilis had very little to do with insanity or any other mental defect.

Professor McWeeney, in reply, said that he did not wish to take up the position of denying that simplified methods, such as Birt's and Fleming's, had no value, but he leaned to the view that the original technique should be adhered to whenever possible. Using a Fleming technique with several strengths of antigen it seemed to him as complicated as the original method. He would feel anxious about giving a diagnosis on the result of any simplified method. He agreed that it was advisable that lumbar puncture should be done more frequently in nervous cases. He agreed with the remarks of Dr. Dawson that the examination of mental or nervous patients in Ireland would not reveal any great prevalence of syphilis, but he would nevertheless like to have this placed beyond doubt. The statement regarding tertiary bone lesions giving a negative reaction agreed with his experience.

Medico-Psychological Association of Great Britain and Ireland.—A meeting of the Northern and Midland Division of this association was held on April 30th at the West Riding Asylum, Menston.—Dr. S. Edgerley, who presided, read an interesting paper on the Alleged Increase of Insanity, taking a very optimistic view of the subject. He stated that his paper only dealt with the north part of the West Riding, the area, consisting of manufacturing cities and towns and agricultural districts, from which Menston Asylum draws its patients. Statistically the West Riding occupied a very favourable position as regarded its sanity. The first point to be settled was: What was meant by an increase in insanity? It might signify an increase in the total number resident, an increase in the number of admissions, or an increase in the annual number of first admissions —the last would appear to be the really important aspect of the question. *Are people becoming more liable to insanity?* had also to be considered. He thought the total increase in the asylum population depended on the relation of the output to the intake; they would therefore not see a reduction until they could reduce the intake and increase the output. Can anything be done to diminish the incidence of insanity? Four great causes were being grappled with—poverty, ill-health, excessive indulgence in alcohol, and preventable contagious diseases. He thought it was possible to exaggerate the influence of hereditary predisposition. His conclusion was that in that part of the West Riding, whatever bald statistics might appear to show, insanity was not in the real sense increasing; indeed, there was every reason to hope and expect that it would decrease.—An interesting discussion followed in which many of the members took part. The main points were: Was epilepsy increasing or decreasing? Did the decreased infantile mortality mean an increase of insanity, or were we saving children for them to become insane later? One member considered that the tendency was for insanity to increase, in view of the reduced number of children more especially in middle-class families. —Dr. Bedford Pierce then opened a discussion on the Treatment of Incipient Insanity. This, he said, had to be considered under two main heads—viz., in the case of those able to pay, and those unable to pay for their treatment. He thought that some new kind of institution would be required; that cliniques attached to hospitals would be advisable; that coöperation of hospitals, boards of guardians, &c., would be necessary. Institutions would have to be equipped with up-to-date methods of treatment, and suitable means of employment and recreation would have to be found for the patients. How to carry out all this would be difficult, as the capital expenditure would be a serious item, and then, would the public support it? He, however, thought that something should be done in the way of erecting suitable sanatoriums for the treatment of incipient cases.—Many interesting points were brought out in the discussion which followed.— A vote of thanks was accorded to Dr. Edgerley for his hospitality and for presiding.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 30th, Mr. W. S. Kerr, the President, being in the chair.—Dr. R. Gordon opened a discussion on Malingering under the Insurance Act. He said that many medical men seemed to think that there was practically no such malingering, but Friendly Society and insurance officials asserted that it was rampant. It certainly looked as though there was a considerable amount, for a Departmental Committee had been appointed to inquire into it. Under the old Friendly Society system a certain amount of malingering existed, but as every man took a personal interest in his lodge or society anyone found shamming was very soon brought before the club. At that time 6,000,000 persons belonged to societies. Now over 14,000,000 were insured, and in the competition for members many thousands of weakly men and women were enrolled who really should have been deposit contributors. Many of these were of poor physique and far below the normal standard of health, and as unearned increment had a fatal fascination for most people, it was not surprising that many took advantage of the slightest illness to "go on the State." Then many men, in addition to being insured, also belonged to one or more clubs, and were actually drawing more money than when working, so that the desire to return to work was not so great as it would otherwise be. The sickness and disablement figures on which the Act was based varied from 0·92 week per annum at 16 years of age to 6·31 at 65—the period covered by the Act of 1911. In one of the large societies, consisting of men between 16 and 65 years of age, in Sheffield, and comprising steel workers and labourers, cutlers, grinders, and silver workers, 32·92 per cent. were ill. The average duration in proportion to the whole number was 6·87 days, and the amount paid was 9*s.* 6·59*d.* This compared very favourably with the actuarial allowance of 9*s.* 6.*d.* Of men from 65 to 70 years, 41·32 per cent. were ill for an average period of 13·28 days, and the amount paid was 11*s.* 7·16*d.* Of women, 37·104 were ill for an average period of 10·08 days, and the amount paid was 10*s.* 7·72*d.*, which was very much more than the actuarial allowance of 6*s.* 11½*d.* These figures were also borne out by a large industrial insurance society, where the men received 8*s.* 0·009*d.*, and the women 11*s.* 0·205*d.*; also by the Manchester Unity, where the actual payments to men were £196,628, and the actuarial estimate £213,196. For women the amount paid was £48,303, the estimate being £42,292. These figures, Dr. Gordon said, went to show that there was very little malingering among men, and that if the giving of certificates was more strictly regulated there would be less still. So far as women were concerned the figures showed that the actuarial estimate was entirely wrong, and that there was much more sickness among them than was estimated.—In the discussion which followed there was a consensus of opinion that there is very little malingering under the present Act.

HARVEIAN SOCIETY.—A meeting of this society was held on April 30th, at the Stafford Rooms, Tichborne-street, W., Mr. J. Jackson Clarke, the President, being in the chair.—Mr. Ernest Clarke read a paper on Some Errors in Diagnosis and Treatment in Ophthalmic Practice. He first spoke of epiphora, stating that mistakes were frequently made by omitting to examine the position of the lower punctum. The slight ectropion which often appeared after middle life caused the punctum to look up, and made it incapable of "sucking up" the tears. The specific for this was slitting up the canaliculus, putting in a nail-head style, and making a gutter in the ocular lip for it to lie in. He recommended West's operation for lacrymal obstruction in bad cases of chronic dacryocystitis. He spoke of the frequency with which early iritis, cyclitis, and small corneal abrasions were missed, and dwelt upon the importance of alimentary toxæmia as the cause of iritis. Eye strain was generally due to a small amount of astigmatism, and might be the cause of almost any functional nerve trouble. It should be insisted upon that the examination should be made with the aid of a cycloplegic. It was a most dangerous and useless placebo to order +·50 sph. for children to use for school work. If astigmatism were present glasses should be worn always. Myopia should be corrected fully except in very high degrees. He advocated *invisible bi-focal glasses* for cases of presbyopia complicated by other errors. From an examination of over 3000 patients after correction of their refractive error he proved that the average accommodation was from 1 to 1½ dioptres higher than was stated by Donders 50 years ago. He again emphasised the importance of intestinal stasis as a cause of presbyopia.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.—The last meeting of the session of this society was held in the board room of the Great Northern Central Hospital on May 14th, Dr. T. Wilson Parry, the President, being in the chair. The election of officers for the next session took place, Dr. Ernest H. Shaw being elected President.—Dr. Parry then gave his presidential address entitled "Prehistoric Man and his Early Efforts to Combat Disease." He first sketched a picture of prehistoric man in his different stages from neolithic back to palæolithic and pre-palæolithic times. To this last-mentioned period must be attributed man's "beginning." Animals endeavoured to cure themselves when confronted with illness or injury; primitive man did likewise, only always a little more. Like an animal, primitive man would first of all lick his wounds, which after all was only a combination of modern fomentation and massage. Demonology was the origin of trephining. Dr. Parry gave details, from some 19 experiments he had performed on recent and dry skulls, how trephining was done in the Stone Age. This paper will shortly appear in a summarised form with illustrations in THE LANCET. It was profusely illustrated by lantern slides, and prehistoric implements and aboriginal trephined skulls were exhibited.

UNIVERSITY OF CAMBRIDGE.—The new School of Physiology erected by the Worshipful Company of Drapers will be declared open by H.R.H. Prince Arthur of Connaught at 3.30 P.M. on Tuesday, June 9th. Invitations to an "At Home" in the new building have been issued by Professor and Mrs. Langley.

Reviews and Notices of Books.

The British Journal of Surgery.

Volume I. 1913–14. With 486 figures, 4 portraits, and 9 coloured illustrations. Bristol: John Wright and Son. Pp. 748. Price 25*s.*

THIS new quarterly periodical, devoted entirely to British surgery, was noticed in these columns on its first appearance, and now the completed first year's volume lies before us. It is managed by an editorial committee of 35 surgeons, including representatives from all the great teaching centres of the United Kingdom and from the principal colonies. This committee, under the chairmanship of Sir Berkeley Moynihan, includes many of the leaders of British surgery, as well as a sufficient number of the younger men to ensure authoritative editing on the one hand and the energetic exploitation of new ideas on the other. Short notes of the work of a great teacher of surgery accompanied by a portrait appear in each number, and the present volume deals with Lord Lister, John Hunter, Abernethy, and Sir Astley Cooper. These articles, the letterpress of which is perhaps too brief, serve as a link between the progressive surgery of to-day and the pioneers of the past, whose work has laid the foundation upon which we are now building.

The greater part of the volume is occupied by original articles on surgical subjects, the majority being of a clinical character and the rest experimental and pathological. Among the most important of these may be mentioned the following: Renal Varix as a Cause of Symptomless Hæmaturia, by David Newman; the Influence of the First Costal Cartilage on the Incidence of Apical Phthisis, by Morriston Davies; Rupture of the Crucial Ligaments and Fractures of the Tibial Spine, by Robert Jones and Alwyne Smith; the Surgery of the Spleen, by Sir John Bland-Sutton; Intramural Extension of Rectal Cancer, by Monsarratt and Williams; Sellar Decompression, by Thorburn; an exhaustive article on Cleft Palate, by Goyder; the Congenital Enlargement of the Colon and Rectum, by Barrington-Ward; Radio-ulnar Synostosis, by Wilkie; a clinical study of cases illustrating the Growth and Repair of Bones, by Rutherford Morison; Experiences of Splenectomy in the Tropical Diseases of Egypt, by Owen Richards; an experimental study of 100 cases of Fracture of the Long Bones in Rabbits and Cats treated by Operative Methods, by Hey Groves; a study of Congenital Elevation of the Scapula, by Fairbank; an article on Massive Collapse of the Lung, by Pasteur; Typhoid Spine, by Elkin and Halpenny; Transplantation of the Fibula, by Bond; papers on Osteomyelitis, by Pringle and Evans; and a full account of Loose Bodies in the Knee-joint, by Anglin Whitelock.

The mere enumeration of these subjects will serve to indicate how wide has been the scope of the articles. Another series of articles of great value is that devoted to the critical review of subjects of theoretical and practical importance. In most of these articles the author has in addition to a review of the work of others made a substantial original contribution of his own observations.

A description of the methods employed by great masters of their craft is supplied in the form of visits to surgical clinics at home or abroad, and in this series some aspects of the work of Macewen, Tuffier, Lane, Lambotte, Horsley, Rutherford Morison, and Garré are noted with that fidelity in detail which conveys an accurate idea of the technique employed. One feature of special interest and novelty is the publication of "instructive mistakes." Short notes of rare or obscure cases also appear in each issue.

The journal as a whole appears to us to have removed the reproach that we have no British journal comparable to the annals, zeitschrifts, archivs, and revues of surgery which for many years past have formed the main organs for the publication of surgical research in foreign countries. Such a journal, managed and controlled by a large body of clinical and teaching surgeons, must do much towards bringing about a coöperation of workers in surgery in the advancement of their art. It provides, moreover, a suitable vehicle for the publication of special articles on research and experiment the nature of which makes them unsuitable for general medical literature.

In the matters of printing, illustration, and general get-up the new journal has been very well served, and if the present standard of originality and literary merit can be maintained its continued success is assured.

Acute General Miliary Tuberculosis.

By Professor Dr. G. CORNET. Translated by Mr. F. S. TINKER. London: John Bale, Sons, and Danielsson, Limited. Pp. vi.–107. Price 6*s.* net.

IN this small work, which has been translated in a pleasing manner by Mr. Tinker, Professor Cornet gives a summary of our present knowledge of general acute miliary tuberculosis. He considers that the breaking down of vascular tubercles which can be found in the walls of the big vessels fulfils all the conditions necessary for the origin of miliary tuberculosis. He makes the important statement that there is no proof of the existence of virulent bacilli in the blood of the phthisical patient or of the assumption that tubercle bacilli can multiply in the blood stream. He discusses the origin of the vascular tubercle, the methods of dissemination, and the causes thereof.

Chapter II. deals with pathological anatomy, and especially with findings of the vascular tubercles in the intima of the vein; also with the important question of mixed infections. Chapter III. deals with the symptoms and physical signs, and the author points out that the clinical picture is a much wider one than the anatomical picture. He gives illustrative cases showing that the disease is not always fatal. Though these non-fatal cases are rare, one in particular is beyond doubt, inasmuch as tubercle bacilli were found in the cerebro-spinal fluid, yet the case recovered. Discussing the difficulties and often the impossibility of making a certain diagnosis, the author deals with the more specific means to be adopted. Concerning the finding of bacilli in the blood, we agree that there is nothing definite known, and even acid-fast bacilli from distilled water have been mistaken for tubercle bacilli. He mentions the more trustworthy methods of finding the bacilli in the cerebro-spinal fluid and tubercles in the choroid, though an interval of one or two weeks must elapse after dissemination before these grow to macroscopic size. Such methods as diazo reaction, the viscosity of the blood, and the "complement-deviation method" are merely mentioned, and perhaps this is all that they at present deserve. The author considers that an X ray picture may often give important information as far as the lungs are concerned. An extensive bibliography completes the work.

We have found this book most readable and can recommend it as a summary of the subject with which it deals.

Biology, General and Medical.

By JOSEPH MCFARLAND, M.D., Professor of Pathology and Bacteriology, Medico-Chirurgical College of Philadelphia. Second edition, thoroughly revised. With 160 illustrations. London and Philadelphia: W. B. Saunders Company. 1913. Pp. 457. Price 7*s*. 6*d*. net.

IN reviewing this book in THE LANCET of Feb. 4th, 1911, on its first appearance, we were enabled to congratulate Professor McFarland on the admirable manner in which he had carried out his aim in providing first an excellent summary of the elements of biology for general readers, and, secondly, in the attention devoted to the more specialised medical aspects of the subject, so as to offer to general practitioners of medicine a broad but accurate survey of various fields of new knowledge. The former object naturally remains much *in statu quo;* but as regards the latter the present volume introduces such new matters as will bring the contents up to date and increase the usefulness of the book for medical readers particularly. The second half of the book, beginning with the chapter on ontogenesis, which is followed by chapters on conformity to type, divergence, structural relationship, blood relationship, parasitism, infection and immunity, mutilation and regeneration, grafting, senescence, decay, and death, gives a just summary of contending theories in language that will tend to afford a good bird's-eye view of the present status of knowledge and opinion. We note a slight blemish on p. 226, repeated elsewhere, where "fœti" is used as the plural of fœtus. Fœtus is, of course, fourth declension, and the plural, therefore, is also fœtus. But in English why not fœtuses?

The book is an admirable one, clearly written so as to be intelligible to those without much preliminary biological training, and well printed and got up.

A Practical Treatise on Medical Diagnosis for Students and Physicians.

By J. H. MUSSER. Sixth edition, revised by J. H. MUSSER, Jun. With 196 engravings and 27 coloured plates. London: H. Kimpton. 1914. Pp. 794. Price 25*s*. net.

THE sixth edition of the well-known treatise on medical diagnosis by the late Dr. John H. Musser has been brought out by his son, and fully maintains the high standard of excellence set by its predecessors. It has been necessary to make considerable additions to the last edition, which came out nine years ago, with the result that the book has been practically rewritten, while several of its sections have been materially shortened in order to keep the volume within reasonable bounds of size. The book is divided into two parts. The first of these deals with general diagnosis and contains four sections in which diagnosis is considered subjectively, objectively, from the physical point of view, and from the point of view of the laboratory. Part II., occupying the last 300 pages of the book, is devoted to the special diagnosis of the disorders of the various parts and systems of the body.

To point out the merits of this time-honoured text-book, the friend of many generations of medical students in America, may seem to be unnecessary. It is the work of an experienced practical physician, well arranged and clearly written, not encumbered by an abundance of references to the literature or to methods of physical examination whose only merit is their novelty. It gives an adequate account of the laboratory methods of diagnosis that are within general reach. The illustrations are well chosen, and there is a fairly good index at the end of the volume.

It may be cordially recommended to medical students and practitioners in search of a trustworthy book on medical diagnosis.

Technik der speziellen klinischen Untersuchungsmethoden.

Herausgegeben von TH. BRUGSCH und A. SCHITTENHELM. Part I. With 359 illustrations. Berlin: Urban und Schwarzenberg. 1914. Pp. 522. Price, paper, 36 marks per part.

THIS is the first volume of a large text-book on the technique of special clinical methods of investigation by many authors. It contains seven sections; the first of these, under the misnomer "hæmodynamics," devotes four of its five subsections to problems of hæmostatics. The fourth section gives a good account of German X ray methods; the fifth and sixth sections deal with bacteriological and histological methods of diagnosis generally; while the last section gives some account of various methods of optical investigation—polarimetry, colorimetry, and the like.

The book is well illustrated. It is not immediately apparent, perhaps, for what class of readers it has been written; for while it gives a general account of the increasing number of special methods of clinical investigation, it often fails to describe them with detail sufficient to enable a reader to give them a trial. It should, however, be of service in many clinical laboratories.

LIBRARY TABLE.

Problems of School Hygiene. Being a Report of the First Conference of Scottish School Medical Officers. Edited by W. LESLIE MACKENZIE, M.A., M.D. Aberd., LL.D.; and LEWIS D. CRUICKSHANK, M.D. Aberd., D.P.H. Edinburgh and London: W. Hodge and Co. 1914. Pp. 112. Price 2*s*. 6*d*.—The conference recorded in this volume took place on May 1st and 2nd, 1913, in Edinburgh, and was called at the instance of the officers of the Scotch Education Department. The interest of the conference will lie for the non-Scottish reader partly in its accentuation of the differences between England and Scotland, and partly in its full contribution to the discussion of physical training. In the field of medical inspection and in that of the segregation and special treatment of definite classes of defective children Scotland is, generally speaking, behind England. But there are some notable exceptions, and work on deaf children is being done at Glasgow of a particularly thorough character, and the holiday home provision for children at Edinburgh is very useful. On the physical training side of education, however, Scotland is giving a very definite lead through the instrumentality of the Dunfermline College of Hygiene and Physical Training. The work is of a very high standard, and in its effects may do as much to change the face of the school curriculum as will the application of open-air school ideas. The exactitude of the physical training work may be gauged from a summary of the more important points demanded from a student wishing to train as a teacher of this subject: "Age 18, height 5 ft. 4½ in., weight 9 st. Organs generally sound (these are specified in detail, of course, in the report), voice refined and of good round tone. Carriage and appearance good, not coarsely muscular. Evidence of good morals, self-discipline, general refinement, and temperamental fitness. The intellectual type preferred to the crudely muscular." One wonders if the time will come when analogous characteristics and qualities will be demanded from the ordinary teacher, and even, perhaps, from medical inspectors of schools. The speculation at least opens up an interesting vista into the future.

The Dietetic Treatment of Diabetes. By B. D. BASU, Major, I.M.S., retired. Fourth edition. Allahabad: Panini Office. 1913. Pp. 52. Price Rs. 1.8, or 2*s*.—This little book has been out of print for some time, but the author has not found it necessary to make any considerable alterations in the present issue. A summary of the statements of various authorities on the subject is given, and the author concludes with his own recommendations as to dietary, in which milk and cocoanut (i.e., coco) preparations figure largely, but exact directions as to quantity are not provided. The restriction, if not the total withdrawal, of meat, alcohol, tea, coffee, and cocoa (i.e., cacao) is advised.

How to Treat by Suggestion with and without Hypnosis. By EDWIN L. ASH, M.D. Lond. London: Mills and Boon, Limited. 1914. Pp. 104. Price 1*s*. net.—This is a little book detailing practical methods of suggestion, simple and hypnotic, intended, according to the author's prefatory note, solely for the medical profession. There are a few illustrative cases, and remarks on special indications, kinds of suggestions, and so on. In addition are reprinted four papers by the author from THE LANCET and other medical journals.

MISCELLANEOUS VOLUMES.

IN *Building By-Laws in Rural Districts* (London: P. S. King and Son. 1914. Pp. 66. Price, cloth, 1*s*. 6*d*. net; paper 1*s*. net) Sir WILLIAM CHANCE has had reprinted the texto f a Bill which passed through the House of Lords without opposition in 1906 for the reform of the building by-laws in rural districts, in the hope that the book may be the means of interesting persons concerned and of obtaining support for the British Constitution Association in its effort to get the Bill re-introduced into Parliament and passed into law. The Bill is accompanied by a revised code of building by-laws for rural districts, designed to be an improvement upon the existing rural code. The obtaining of the most practical code possible for rural districts, in which building was so long hampered by restrictions drafted to meet the requirements of urban districts, is a very important matter if any substantial progress is ever to be made in the provision of healthy dwellings for the rural working population, and the name alone of Sir William Chance in connexion with such a subject should secure the attention of all interested in it. The arrangement adopted enables easy comparison to be made between the proposed model by-laws and those of the existing code which are intended to be altered or omitted, and a paper on the whole subject read by Sir William Chance before the British Constitution Association is printed by way of introduction.——The Warburton Lectures of the Manchester University for 1914 consist of two *Lectures on Housing* (Manchester: At the University Press. 1914. Pp. 70) delivered respectively by Mr. B. SEEBOHM ROWNTREE and Professor A. C. PIGOU. Mr. Rowntree discusses the permanent causes of shortage, and suggests a survey of housing conditions, expansion of the minimum wage policy, the "decasualising" of labour, compulsory town planning with restriction of number of houses to the acre, increased transit facilities and improved powers for the acquisition of land, the free lending of money for building to public utility societies, the making compulsory of satisfactory housing in towns, and relief of the rates by the National Exchequer conditionally on the fulfilment by local authorities of the statutory duties. Professor Pigou holds it essential that some minimum standard of factory conditions, leisure, dwelling accommodation, education, medical treatment, and supply of wholesome food and clothing should be established, but varying in different communities as they are rich or poor, so that the lapse below this standard in any one of the conditions should call for intervention by the public authorities. The future erection of insanitary houses should be forbidden, and where such exist they should be amended or destroyed; overcrowding of rooms should be prevented by direct legislation, a statutory definition of minimum cubic space being allotted per head—he suggests 400 cubic feet, which he would reduce with reluctance to half in the case of children under ten. He cites the example of the late Miss Octavia Hill as regards the value of personal influence of landlord over tenant. He realises the difficulty of condemning unfit houses as one can prohibit the distribution of unfit food; the hardship of the latter is spread over the community, while that of the former falls exclusively on individuals. He discusses somewhat doubtfully the minimum wage, but urges State aid for the housing of the poor, a mode of bounty which should not depend directly on, or vary inversely with, the wages paid to the recipient—the bad feature of the Poor-law—but should vary directly with the quantity of the purchases.

Trials for murder often arouse intense excitement at the time among the large section of the public which revels in horrors; and however unwholesome this taste may be, the newspapers would be less than human if they failed to gratify it to the full, so long as the issue of life and death for the accused person remains in the balance. But every murder trial provides also an instructive study to the criminologist and the student of criminal law, and in almost all such cases there is something of permanent medical and scientific interest. These aspects may be overlaid at the moment by the more gruesome and sensational features, which alone appeal to the popular imagination; but in the long run they usually determine whether any given *cause célèbre* shall fade into forgetfulness as a nine days' horror or whether it shall be re-enacted some years later before the limited audience which supports the issue of some notable trial series. The trial of Frederick Henry Seddon and his wife for the murder by arsenic of Miss Barrow certainly possessed enough medico-legal and scientific interest to justify its inclusion in such a series. Nevertheless, the issue of Mr. FILSON YOUNG'S *Trial of the Seddons* (Edinburgh: William Hodge and Co. 1914. Pp. 420. Price 5*s*.) within two years of the Old Bailey proceedings, while the matter is still fresh in the public mind, rather suggests that a wider demand is expected for this volume than for some of its predecessors—an impression which is heightened by the editor's general treatment of his subject. Some of the medical and scientific evidence comes in for criticism of a not very authoritative kind, but this aspect of the trial was considered in a leading article in THE LANCET at the time, and no new light is now thrown upon it. Although he is clearly satisfied that Seddon was a repulsive creature quite capable of murder, Mr. Young seems dissatisfied with the severe methods of the prosecution and inclined to think that on the evidence a verdict should have been returned in favour of the male prisoner as well as of his wife. He maintains that there was room for reasonable doubt, and implies that Seddon should have been given the benefit of it. This view, which [illegible] shared by the Court of Criminal Appeal, colours th[illegible] and dramatic introduction and is seen here and there in footnotes.——In *Women and Crime* (London: T. Werner Laurie. 1914. Pp. 303. Price 6*s*.) Mr. HARGRAVE L. ADAM shows how in some human beings gifted with their full complement of senses the will to do evil gets the upper hand. He gives a somewhat sketchy account of notorious woman criminals, such as Maria Manning, Jeanne Daniloff (afterwards Weiss), Mrs. Goold, Gabrielle Bompard, Mrs. Dyer, the amazing Madame Humbert, and others. He is of opinion that secret poisoning by women is of far greater extent than is generally known, and says that he personally "knows several women who encompassed the deaths of their husbands against whom no steps were taken, because no steps could be taken." It is not clear whether Mr. Adam means that these ladies poisoned their husbands or removed them in some other way.

JOURNALS AND MAGAZINES.

The Journal of Physiology. Edited by J. N. LANGLEY, Sc.D., F.R.S. Vol. XLVIII., No. 1. March 31st, 1914. Cambridge University Press. Pp. 108. Price 6*s.* 6*d.*—Douglas Cow in an article on Diuresis points out that there is a certain discrepancy between the results recorded by different observers of the diuretic effects of water and saline solutions. Most observers have found that the intravenous injection of saline solutions is followed by an increase in diuresis, no matter whether the solutions were hypotonic, isotonic, or hypertonic. Other observers experimenting also on unanæsthetised dogs obtained different results. It is agreed, however, that water given by the mouth produces an increase in diuresis, but the result of subcutaneous or intravenous injections is not so certain. The author has continued his researches on this subject, using (1) unanæsthetised dogs, and (2) cats anæsthetised with urethane. For dogs (female) a catheter was used, and the 10 minutes' output of urine ascertained by weighing. In unanæsthetised animals the diuretic action of a substance may be masked by reflex or other causes. The mucous membrane of the stomach, duodenum, jejunum, and ileum contains a diuretic substance, that from the duodenum being the most active. This diuretic substance can be extracted in water or salt solution either at room temperature or boiling, and the extraction is independent of the presence of acid, but the most active preparations have been extracted in acidulated salt solution at room temperature. These extracts are not destroyed by boiling, but they lose their activity on keeping. Intravenous injections of small amounts of normal saline solutions produce an immediate increase in diuresis; this increase is but transient, and is very small in amount. Intravenous injection of small amounts of extracts of gastro-intestinal mucous membrane produce (*a*) an immediate increase in diuresis, similar to that produced by injections of saline; and (*b*) a delayed increase, which is considerable in amount and comparable to the increase produced by giving water by the mouth to normal animals. This delayed increase is not produced by intravenous injections of physiological amounts of saline. The author is of opinion that there is sufficient evidence that the physiological process of diuresis depends not only on the integrity of the kidneys and circulatory system and on the introduction of a certain quantity of fluid into the organism, but also on the presence of a specific substance contained in the gastro-intestinal mucous membrane, which substance is, presumably, taken up by water during the process of absorption from the gastro-intestinal tract.—On the Nature of the Fundamental Activity of the Nerve Centres, together with an Analysis of the Conditioning of Rhythmic Activity in Progression, and a Theory of the Evolution of Function in the Nervous System, by T. Graham Brown. This is an important contribution to which we have already alluded in THE LANCET (May 2nd, 1914, p. 1267). At the present time the "spinal reflex" is generally regarded as the "functional unit" of the nervous system. The author does not subscribe to this doctrine. He has studied more especially the progressive movements of the limbs shown by cats in a state of greater or less marked narcosis—i.e., under the influence of a general anæsthetic. The conclusion is arrived at that the experiments suggest also that the functional unit is the activity of the independent efferent neurone; they further suggest that the primitive activity of the nervous system is seen in such rhythmic acts as progression and respiration. The spinal reflex is "of the nature of a distorted 'beat'" of the rhythmic progression phenomenon.—Hyperpnœa as a Result of Pain and Ether in Man, by A. L. Meyer. Experiments on animals have shown that hyperpnœa incident to prolonged stimulation of sensory nerves is followed by apnœa, and in many cases the dogs died of cardiac failure. Henderson has shown experimentally that ether is capable of producing a hyperpnœa and a subsequent fatal apnœa. The same result may be brought about by excessive artificial respiration. The author experimented on himself, producing a condition of "pain hyperpnœa." A clamp was placed on the end of the little finger and screwed up so as to produce a blue nail in two or three instances and a pain such as might be caused by a severe paronychia. The clamp was kept on from one to three minutes. Under such conditions a hyperpnœa is produced that can easily be measured. The alveolar CO_2 is diminished, and the respiratory quotient increased. To determine the effect of the incipient stage of etherisation on man a mixture of approximately 5 per cent. of ether and air was inhaled. In man "ether hyperpnœa" is produced in one minute when a suitable low concentration of ether is used. The amount of hyperpnœa varies in different persons, and with higher concentrations the breathing is diminished.—The Relation between the Size of the Propagated Disturbances and the Rate of Conduction in Nerve, by E. D. Adrian. The nerve was narcotised with alcohol dissolved in Ringer's fluid. It was found that the rate of conduction did not depend on the distance travelled by the disturbance, although the disturbance suffered a considerable decrement as it passed down the nerve. The rate of conduction in the narcotised area does not vary as much as 3·5 per cent. when the strength of stimulus is increased to seven times its threshold value. The author confirms the conclusion of Koike that the rate of conduction does not depend on the size of the disturbance.—The Antagonism of Curari and Nicotine in Skeletal Muscle, by J. N. Langley. The muscle was fixed in the chamber in Ringer's fluid, the fluid run off, and curari or nicotine solution added. The rectus abdominis and sartorius muscles of the frog were used. The order of study was (1) the effect of curari given before nicotine on the contraction caused by nicotine in the neural region of the muscle; (2) the effect of curari given before nicotine on the contractions caused by nicotine in the general muscle substance; (3) the effect of curari given after nicotine; (4) the effect of mixtures of curari and nicotine; and (5) the region of action. As to (5) the question is—Do or do not nicotine and curari, pilocarpine and atropine, and certain other poisons, produce their effects by acting on the nerve endings—i.e., on the terminal branches of the nerve fibre? This question is best solved by experiments *on animals* in which the nerve endings have degenerated. Both in the fowl and frog nicotine and curari in minimal doses produce their effects after complete degeneration of the nerve endings, and this result the author regards as satisfactory evidence that these two poisons act on something peripheral to the nerve endings—i.e., they affect a constituent of the muscle.

Schmidts Jahrbücher der In- und Ausländischen Gesamten Medizin. Herausgegeben von Professor Dr. H. LEO. Bonn: A. Marcus and E. Weber. Price 36 marks per annum in Germany; 42 marks in other countries.—The April number contains three original articles. In the first Dr. Kadner, of Dresden, gives abstracts and analyses of 63 recent contributions to various journals on the subject of the physiology and pathology of the digestive organs. Upwards of 140 cases of resection of the stomach for ulcer or carcinoma are referred to, many of them terminating in recovery. In one of these contributions Dr. Hindhede supplies evidence to the effect that unpolished rice is dietetically far superior to polished rice, and that bread made from sifted rye flour is more wholesome than white bread. In the second Dr. Robert Salus, of Prague, reviews 79 recent memoirs on the subject of senile cataract. In the third Surgeon-General Professor Widenmann, of Berlin, publishes the introductory portion—equal in length to 15 or 20 pages of THE LANCET—of a paper on Medical Experiences in the Balkan Campaigns. The remaining portion of the April number consists of about 70 large pages containing extracts from 377 contributions to periodicals, the subjects being classified under 16 headings, of which the first eight are as follows: (1) Anatomy and Embryology; (2) Physiology; (3) Physiological and Pathological Chemistry; (4) Microbiology and Serology; (5) General Pathology and Pathological Anatomy; (6) Pharmacology and Toxicology; (7) Roentgenology and Radiology; and (8) Internal Medicine.

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See "BRITISH MEDICAL JOURNAL," February 4th, 1911, page 243.

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THE LANCET.

LONDON: SATURDAY, MAY 23, 1914.

Treatment by Radium.

IN a leading article in our issue of Jan. 17th last we referred to the ever-interesting question of radium and cancer. Our remarks then were prompted by the appearance in the lay press at that time of statements which we considered to be scarcely justified by known facts and not unlikely to cause grievous disappointment to many sufferers from malignant disease. The report of the Radium Institute for the year 1913, which we publish this week, is an interesting confirmation of the attitude we took up four months ago, and in our opinion provides the strongest possible argument for the necessity of observing extreme caution regarding the value of radium in the treatment of malignant disease. A careful study of the tables gives us many interesting points for consideration. During the year 972 cases were dealt with; of these, 112 were examined but not treated. Of the remainder there were about 490 cases of malignant disease, including 111 of rodent ulcer. Of these cases of malignant disease none are stated to be actually cured, although 50 are described as apparently cured and 183 as "improved." In a number of cases the results are not yet noted, whilst others received prophylactic treatment only. At first sight the figures may seem disappointing, especially to the whole-hearted radium enthusiast, but further consideration of the report reveals much that is encouraging.

In the first place it is the sound policy of the Radium Institute to decline to treat operable cases, and this is rigidly adhered to, except under most exceptional circumstances. Radium is thus used only as a last resort, and the fact that so many of these cases can be described as "apparently cured" is highly creditable to the work of the Institute. Time alone can show if any of these satisfactory results are permanent, and not until some years have passed without fresh manifestations of the disease could even the most favourable cases be described as "cured." A further reason for the necessity for patience in accurately estimating the results attained is furnished by the following statement taken from the report: "Little or no effect appears to be exerted in the prevention of metastatic deposits, though the treatment does not, at any rate, hasten their dissemination." The action of radium being thus a purely local one, its field of usefulness must be necessarily limited, and especially so in regard to the treatment of malignant disease. At the same time the improvements in methods and technique that have taken place are extending the useful applications of radium, some of them sufficiently remarkable to call for special comment. It has been observed, for instance, that some cases in which pleurisy depended upon carcinomatous invasion of the pleura have been greatly improved by radium, and after a preliminary paracentesis the further formation of fluid has been effectually prevented. In carcinoma of the uterus again most gratifying results are being obtained, and in inoperable cases these are far in advance of those obtained by any other known medical and surgical methods. Much inferior, however, are the results in cases affecting the moist mucous membranes, especially about the mouth and throat, but even here improved methods are holding out greater hopes of success. It is a curious fact, upon which we commented previously and which is borne out in this report, that cases apparently alike respond so very differently to radium treatment, and this applies also to the same variety of tumour affecting parts that are anatomically closely related. Cases affecting the uterus, bladder, and upper portion of the rectum do better than those situated nearer the sphincters. These and many other instances tend to show how many difficulties have to be overcome and how the technique of the applications has to be studied and modified to suit constantly varying conditions. All this means much work and time for proper elucidation and serves to prove that real advancement in radium therapeutics must necessarily be slow, and that the day when we can speak of radium as a *cure* for malignant disease is still a long way off. We venture to hope that the publication of this report will do much to steady opinion on this question, not only within the medical profession, but also among the public.

Turning to other aspects of this report, it is satisfactory to see that some progress has been made in dealing with mediastinal tumours. Naturally large quantities of radium are necessary, and thick filters and long applications are the order of the day, but the results are such as give promise of benefit. It is only when we come to the treatment of the non-malignant tumours that the medical superintendent of the Institute, Mr. HAYWARD PINCH, allows himself to make use of the word "cure" regarding the result of his treatment. The number of these conditions that are easily cured by radium is now very large, and the fact that it can be used effectively in places not favourable to operation constitutes one of its greatest triumphs. Another important feature of radium that seems now to be fairly well established is the anæsthetic effect exerted by it in certain superficial conditions attended with pain or irritation. Painful keloids, pruritus, and lichenification of the skin are among those which have done well under this treatment. With regard to the efficacy of the solution of the emanation, about which so many conflicting statements have been made, this report has not very much to say. Apparently, however, the indications are that in early cases of arthritis deformans, or in those in which the changes are periarticular, the administration of this solution yields favourable results, especially in patients under 40 years of age. Little or no improvement is to be looked for in cases in which the osseous and cartilaginous changes predominate, and the report distinctly states that much research work remains to be done before any accurate opinion can be formed as to the therapeutic value of radium emanation solution, or as to the manner in which these changes are brought about.

Sir WILLIAM RAMSAY, since the use of radium has become more general, has always recommended its application in the form of niton rather than as a salt of radium on the ground that in the latter case there is considerable risk of loss of the precious radium, while this method does not insure a continuous application, as, for example, through the night. As he points out in a paper which we publish this week, the production of niton from radium is continuous; it goes on night and day, and the radiating power of niton is 75 per cent. of that of the radium from which it is derived. Niton can be used at any moment when its "strength" is known accurately, and a curve can be sent to the user which will enable him to know exactly what he is doing when he applies the active material. Sir WILLIAM RAMSAY describes for this purpose the introduction of niton into appropriate forms of apparatus—e.g., tubes, bulbs, and hollow flat discs. The convenience and economy of the method are evident, and we agree that these practical suggestions are a further argument in favour of having a central institute where a large supply of radium is kept, and from which frequent "drawings" of niton can be made, rather than of parcelling it out in small quantities, and having to be contented either with weak doses or to wait long for a strong dose at considerable pecuniary sacrifice. In other words, the niton method of application provides for the supply of a standardised agent. Taken as a whole, the report of last year's work of the Radium Institute is a record that adds very much to accurate knowledge of the therapeutic value of radium; and the sober, judicial manner in which it is expressed will do much to inspire confidence in the future of radiotherapeutics.

The New Milk Legislation.

A NEW Milk and Dairies Bill was introduced into the House of Commons on May 12th by the President of the Local Government Board, Mr. HERBERT SAMUEL, whose speech was reported in our last issue. The text of the Bill is now available. Like its predecessors, its principal clauses are those requiring regulations to be made by the central department with regard to the inspection of cows, cowsheds, and milk-shops, the prevention of infection and contamination of milk, the mixing of milk with separated milk and other substances, and conditions of storage and transit. These regulations are to be based on an enlargement of the existing powers of local councils under the old Contagious Diseases of Animals Acts, but apparently they will in large measure be enforced by a new set of authorities—the county councils instead of the district councils—by means of a staff which, in addition to the medical officers of health, is to include veterinary officers and bacteriologists. One of the anomalies of the present position is the invasion of country districts by officers of the numerous urban authorities which have special powers under local Acts, enabling them to act at the country cowshed in the interests of the particular town which has the powers, but not to prevent the tuberculous or contaminated milk being distributed elsewhere. The Bill adopts a sound principle in making each authority responsible for the milk produced in its own area, but it also recognises the urban interest by enabling the authorities in the town to requisition action by the authorities in the country as a result of bacteriological or other sufficient evidence against the milk. Penalties are imposed on persons knowingly selling milk from diseased cows, and the medical officer of health will have powers to stop the supply of milk which is ascertained to be tuberculous. In practice it is evidently expected that the work of the local authorities under the Bill and the work under the orders relating to tuberculosis in cattle issued by the Board of Agriculture will be carried out together, and that the same veterinary officers who detect the tuberculous cows will be able to give the instructions necessary under the orders for the slaughter of the cows and for the payment of compensation, which is to be on a more liberal scale than hitherto. A clause in the Bill, which is developed in a schedule, will introduce a considerable change in the practice of dealing with adulterated milk. It has long been a disputed question whether milk should be standardised, for example, at a minimum of 3 or 3·25 per cent. of fat, if it is officially to be regarded as "genuine," or whether genuine milk may include any milk, however low in fat, provided it has not been tampered with after leaving the cow. The latter view is adopted in the Bill, and local authorities will be expected to accede to the request on the part of the milk seller to obtain samples of milk on delivery to him for comparison with the incriminated sample, and if necessary to go back to the farm. It is stated that this procedure has long been followed with success in some of the larger provincial towns, and that the trouble involved in tracing the real offender is justified by the results obtained.

The overwhelming case for national milk legislation needs no re-statement here; to readers of medical literature the occurrence of bovine tuberculosis in children and of outbreaks of infectious disease due to milk, and the relation of infantile illnesses to dirty or contaminated milk, are only too familiar, and it would be difficult to over-estimate the extent of essentially preventable disease which is thus habitually brought about. We are far from ignoring the comparative safety which may be obtained by the use of properly pasteurised milk suitably prepared and delivered, or of dried milk, or of sterilising processes such as the electric treatment to which Professor J. M. BEATTIE has recently drawn attention. The movement in favour of obtaining "certified" milk prepared with special precautions also deserves every encouragement, and the official regulation of "certified milk" might well be included in the new legislation. But none of these measures suffice to meet the main demand. The ordinary householder does not want to buy special varieties of milk, or care to be offered milk graded according to its degree of bacteriological purity. He expects that what is sold to him as milk should be a reasonably sound commodity which he can consume, without cause for serious apprehension, in the raw state in which he generally prefers it. Though this needs an effort, it is by no means an impracticable demand to meet. The proposals of the Government Bill for the purpose will depend for their success, partly on the nature of the regulations made, and still more on the administration of the authorities, both central and local, which have to carry out the new policy. The appointment of a considerable veterinary staff as whole-time officials acting with the local public health departments must obviously form part of the intended administration. These veterinary officers will be needed not only to detect bovine tuberculosis and pay compensation to the owner of the slaughtered animal, but to advise the dairy farmer how to remove the conditions which favour bovine infection, and to enforce regulations made with that object.

It is believed that Mr. SAMUEL, warned by the fate of previous Bills, has taken great care to ascertain the way in which different branches of the milk industry will be affected by the proposed legislation and has made substantial efforts to meet their suggestions and anticipate objections. On considering the Bill as a whole, those who have so long been pressing for reform from the side of public health may perhaps consider that concession has gone too far in this direction. But much may be sacrificed for the prospect of an administrative scheme which on its inception would receive the cordial support and assistance of the majority and the best of those engaged in the industry, and which, in the case of all but those whose record shows them undeserving of consideration, would bring about progress by coöperation rather than by coercion.

DINNER TO MR. WILLIAM LANG.—On Thursday, June 25th, Sir Henry Morris, Bart., will preside at a dinner given to Mr. William Lang on his retirement after 33 years of active duty on the honorary staff of the Middlesex Hospital. The dinner will be held at Pagani's Restaurant, Great Portland-street, W., and Mr. Lang will be entertained by his former house surgeons, clinical assistants, and colleagues on the honorary staff, to whom a circular has been sent. At the same time any old Middlesex student who would like to be present and to do honour to Mr. Lang on this occasion will be heartily welcome, and is requested to communicate with Mr. Arnold Lawson, 12, Harley-street, London, W., who will be pleased to answer any inquiries.

Annotations.

"Ne quid nimis."

RECENT PLAGUE IN CUBA.

SCARCELY two years ago a small localised outbreak of plague occurred at Havana, the capital and chief seaport of the island of Cuba, and although at the time an excessive mortality among rats was observed none of the animals that were bacteriologically examined yielded satisfactory evidence that they had died from plague. As a result of the very vigorous enforcement of anti-plague measures under the direction of Dr. Juan Guiteras, chief of the Cuban Health Department, the disease seemed to subside as suddenly as it had appeared. It was, however, never made quite clear from what source the plague infection had been derived. Simultaneously with the Cuban outbreak in 1912, a larger and more virulent epidemic occurred in the island of Porto Rico, which, like Cuba, is under the protection of the United States; here there was an undoubted epizootic of plague among rats. In this instance also the origin of the first cases was never cleared up. Nothing was heard of plague in rats or man at Havana from midsummer, 1912, until the beginning of March of the present year, when up to the end of April 12 cases came under observation, along with a few other suspected instances. Though this number is small, there are some circumstances which suggest the possibility that the situation might become more serious than is at first sight apparent. Unofficial statements have recently been published in the press to the effect that the disease is spreading in Havana, but no details are brought forward in support of the allegation. The disease has now appeared at Artemesia, a town 35 miles from Havana. So far as we can learn none of the reports have indicated the precise origin of this second outbreak, nor has any mention been made whether the local rats are or are not involved. Dr. Guiteras, however, is reported as having said that plague was brought to Cuba, not by rats, but by fleas conveyed in sacks of sugar, but it is quite possible that early this year a fresh importation of the plague infection from some affected port took place. In this connexion it may be pointed out that this year, up to the time of writing, there has been no reported occurrence of plague in any other of the West Indian islands. Last summer there were rumours in circulation that cases had been recognised in Haiti, but this was officially denied, with what truth it is not possible to say, as affairs in this negro republic are conducted in a different way from that of other governments. At the present moment plague is prevalent in some parts of Brazil, in the port of Bahia for example, and cases have recently occurred in Venezuela, at Caracas. At the end of 1913 the disease was present in some River Plate ports, as well as in some of the inland districts of the Argentine. Although the ports on the west coast of South America are situated at a considerable distance by sea from the West Indies, it would not be impossible for rats from one or other of the ports now suffering from epidemic plague in Chili, Peru, or Ecuador to be conveyed on shipboard and landed at Havana or any other West Indian port, either concealed in crates and packages or in some other way, unless very special precautions had previously been taken. If, however, the recent plague cases in Cuba were not due to a fresh importation of the disease but to a recrudescence in virulence of the 1912 infection, which has perhaps been maintaining itself in a mild form out of sight among the local rats, the situation would have to be regarded in a more serious light. It would obviously be difficult to get rid at once of an already established infection of which the precise extent and distribution are not known, and which would require much time and trouble to eradicate. Meanwhile there would be a danger of the disease being exported to some other ports in the Gulf of Mexico or along the Atlantic seaboard, from which the infection might perhaps spread up the great rivers into the populous districts in the interior of the United States. There was a time when such a prospect would have created consternation in the public mind; but nowadays confidence in the responsible authorities has gradually increased, and they are left to deal suitably with the emergency. So long as there is no concealment of the facts, and so long as the public officials concerned in the matter are kept informed of all the foci of the infection, plague can be effectually controlled by the application of those measures which are the outcome of the recent advances in our knowledge of the malady and its modes of spreading. As to Havana, Dr. Guiteras and his staff may be relied upon to take every needful step for suppressing the present outbreak and for preventing its extension to other places. There is, however, the possibility that before the existence of plague in Cuba was recognised this year some exportation of the infection may have taken place. This will probably entail upon those ports trading with Cuba a certain amount of increased care and vigilance with a view to searching out and dealing with the first evidences of plague discovered in rats or man, so that the disease may be promptly controlled and the infection destroyed.

THE SUPPLY OF COD-LIVER OIL.

WERE the question to be raised which is the most important fish from the medical point of view, the cod, no doubt, would take the first place. The unwavering popularity of cod-liver oil in diseases of nutrition is all the more remarkable in this age of substitutes, which, in spite of vigorous pushing, have failed to oust the remedy of our childhood. A more insidious danger to the good name of cod-liver oil has been the sale of oil taken from the liver of the shark and other fish as cod-liver oil. To what extent this practice has been followed in the past it is, of course, impossible to say, but it may safely be assumed that the cod-liver oil as sold to-day by the leading wholesale chemists is exactly what it calls itself. The demand for the genuine article being great, the consumer is naturally interested in the source of his supplies, particularly with reference to the adjustment of supply to demand. Much of the cod-liver oil on the market comes from the Lofoten fisheries on the west coast of Norway, where at certain seasons of the year the cod is caught in millions. The fish are said to be so crowded together that the weighted line may fail to reach the bottom, being intercepted by the intervening wall of fish. This statement, which savours suspiciously of fishing tales in general, suggests a boundless supply, and so it may be. But e Norwegian Government has not rested satisfied with such a vague estimate of one of its most important sources of wealth, and it has instituted a systematic research into the life-history of the cod. The Director of Fisheries, Dr. Johan Hjort, has lately given an account of these researches which have thrown considerable light on the migrations of the cod and on its rate of growth. In 1913, 2400 cod were caught, marked, and put back. Of these, 279 were caught again in the same season, a result which shows that the drain on the supply must be heavy. A cod which was marked on March 17th, 1913, at Henningsvaer was caught again on Feb. 12th, 1914, at Sörvaag. This shows that the cod returns to the Lofoten banks year by year, and, incidentally, that the method of marking adopted stands the test of time. The rate of growth of the cod is shown by the increase in length from 8·7 to 19·5 cm. observed in the case of a cod caught on May 26th, 1913, and again on Feb. 19th, 1914. It was also found that cod had travelled as many as 1700 kilometres during the few months which had elapsed between the marking and the second catch. Though the proportion of cod caught a second time is surprisingly great, its rapid growth and its wide range of excursion are reassuring features to the fisherman and the physician.

PARTIAL CONTINUED EPILEPSY.

THE above name has been given by Kojewnikow to a curious condition in which there may occur clonic spasms of certain groups of muscles similar in many ways to those of Jacksonian epilepsy, but which differ from them in that the spasmodic movements are maintained over long periods of time. In this latter feature it resembles myoclonus. Kojewnikow and Bruns in 1894 were the first to direct attention to the condition. Probably similar cases have been previously observed, but there is little doubt that they have been erroneously classed as myoclonus. The distinction, however, is afforded by the epileptic character of the onset of the spasmodic movements. A case of partial continued epilepsy has been carefully recorded recently[1] in a man, aged 34, the sufferer from paraplegia secondary to Pott's disease. Apart from this lesion, however, he began to suffer from clonic spasms of the right arm; later they involved the hand, and then the leg of the same side. Some days after there developed a flaccid paralysis of the right arm; no contractures followed. Then there occurred an epileptic crisis limited to the right arm, but which, instead of lapsing, has persisted in the form of clonic movements ever since, with occasional lapses. The Jacksonian crises in this case differ from the classic radiating form in several ways. The muscle groups concerned are variable at different times; now it is hand and face, without the arm; at other times it may be hand and right hypochondrium. The length of the crises is variable. Bromides can lessen the spasms for several hours. The form of the spasms may undergo abrupt changes: they may be rapid and of small amplitude and within a moment of time give place to slower and larger oscillations; sometimes a short pause intervenes. The interpretation of such a case is difficult. It is hard to understand why the lesion, which in this case is stated to be of tuberculous character and situated at the junction of the middle and inferior portions of the ascending frontal convolution, near the hand centre, should cause permanent clonus and not intermittent epileptiform crises. Clinically, it may be of importance to recognise these cases, as surgical intervention could be considered—a proceeding which would hardly be suggested for myoclonus.

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[1] Long-Landry et Quercy, Revue de Neurologie, 1913, vol. xv., p. 145.

THE USES OF EMETINE.

PERHAPS the most important therapeutic advance of recent years is the treatment of amœbic dysentery and hepatitis by hypodermic injection of emetine. We are indebted for it to Professor Leonard Rogers, of Calcutta.[1] He found that amœbæ were rendered inactive and apparently killed by a solution of emetine as weak as 1 in 100.000. The experience of many observers all over the world have shown the great value of this treatment which produces a veritable *sterilisatio magna*, although curiously the phrase has not been used here, but has been applied prematurely to a still more widely known new remedy. Some recent observations, principally French, show that emetine is useful in other diseases than dysentery. In a communication to the Académie de Médecine of Paris on April 14th M. L. E. Bertrand referred to the fact that Dr. Allen Hutchison, a medical missionary in China, had used emetine with most satisfactory results on patients infected with schistosomum japonicum and passing glairy and sanguineous stools. M. Tribondeau has treated three cases of dysentery in which the stools contained spirilla (without amœbæ). In two or three days the stools became normal and the spirilla disappeared. He also found the treatment beneficial in mucous colitis. Hæmoptysis and gastro-intestinal hæmorrhages are now treated in the French hospitals by emetine. Several communications on the uses of emetine have been made at the Société Médicale des Hôpitaux of Paris. At a meeting on Jan. 23rd, M. Louis Rénon referred to excellent results which had been obtained in hæmoptysis. He mentioned two cases of cancer of the lung under his own care in which the hæmoptysis disappeared under injections of emetine. He also referred to cases of intestinal hæmorrhage due to cancer of the lower part of the large intestine and to membranous colitis in which good results were obtained from subcutaneous injections of 4 centigrammes of emetine. M. Rénon himself had obtained rapid results in five cases of severe gastro-intestinal hæmorrhage—hæmatemesis and melæna. In two cases the hæmorrhage was due to hepatic cirrhosis. In one a woman had the gall-bladder removed for cholecystitis in November, 1912, too late to prevent gradual infection of the biliary passages and hypertrophic cirrhosis of the liver. While undergoing treatment at Carlsbad severe intestinal hæmorrhage occurred and did not yield to ordinary treatment. Duodenal ulcer was suspected and laparotomy was proposed. M. Rénon was summoned and thought that ruptured intestinal varices were a more probable cause than ulcer of the duodenum. He advised that operation should be postponed and emetine administered. The drug was not given and the patient's condition became desperate. When M. Rénon saw her again four days later she was pale as death and the pulse was uncountable. Under calcium chloride and the application of cold to the abdomen the hæmorrhage had diminished, but on the following day it became more abundant. He injected 6 centigrammes of emetine and 10 cubic centimetres of hæmostyl. The effect was most remarkable; the hæmorrhage permanently ceased and recovery ensued. In the three other cases of intestinal hæmorrhage, due respectively to tuberculous ulceration, uræmic ulceration, and ulcerative enterocolitis, emetine was used alone with equally good result. M. Rénon has obtained striking results from injections of 2 centigrammes of emetine once, twice, or thrice daily in desperate cases of bronchopneumonia in the aged. At the following meeting of the society M. O. Josué and M. F. Belloir reported excellent results from the treatment in intestinal hæmorrhage in typhoid and paratyphoid fever and alcoholic hepatitis. At the meeting of the society on March 13th M. Félix Ramond and M. Jacques Durand reported good results in acute and chronic bronchitis in consequence of the more fluid character of the expectoration after injection of emetine in daily doses of 4 to 8 centigrammes.

A STUDY OF TUBERCULOSIS CONTACTS.

THE May number of *Public Health* contains reports on syphilis and public health, by Dr. F. W. Mott, and studies in the epidemiology of pulmonary tuberculosis, by Dr. A. S. M. Macgregor, both of which are well worth attention from those concerned in practical hygiene. An editorial note draws attention to the contrast between syphilis and tuberculosis in the nature of the administrative measures needed to reduce the prevalence of the diseases; it is pointed out that in syphilis we are concerned mainly with the seed, whereas in the case of tuberculous disease we are increasingly learning how large a factor the soil is in determining the incidence of attack. With the knowledge gained in the last few years there is prospect of doing much by well-designed administration to reduce the mischief caused by syphilis; in the case of tuberculosis, where an elaborate machinery for dealing with individual cases has already come into being, the conditions to be combated are much more complex and the underlying principles of action are less easy of definition. These observations have special relation to the studies made by Dr. Macgregor on the incidence of phthisis on the population of Glasgow judged by notifications, deaths, and the social condition of the cases as evidenced by the number of rooms in the tenements which they occupy. Dr. Macgregor has given the results of following cases notified in 1910 into the present year. Among other interesting figures are those which suggest that in the case of Glasgow children of school age stated to suffer from pulmonary tuberculosis a fatal result, if it occurs, nearly always happens within two years, and that the survival of a phthisical child for two or three years after recognition of its disease establishes a strong probability of its eventual arrest. The facts as to contacts in the houses affected are also noteworthy. The incidence of tuberculosis was distinctly more marked among the contact population than in the general population, particularly in the one-roomed tenements, but there was less gradation than might have been expected in the incidence on the contact populations living in two, three, and four rooms respectively, and the figures once more raise the disputed question as to the real meaning of the occurrence of tuberculosis in the contact. It would be natural to assume, as is now customary in daily practical work elsewhere among such cases, that the excess of tuberculosis among the contacts resulted from their exposure to the known infection, but it still appears possible to explain a large part of the excess on the assumption that Dr. Macgregor was dealing with susceptible families, and that the contacts might not have fared better if the primary case in each family had not existed. The excessive incidence of tuberculosis on the occupants of the one-roomed tenements, again, may be due mainly to contact infection or may be explained by the hypothesis that there are more susceptible people among the poor than among those better off, and that under stress of poverty resulting from long illness in the family there is a special tendency for the tuberculous family to resort to the one-roomed tenement. These questions are of much importance, and it would seem that the only means by which they can be satisfactorily solved is by exact local inquiries into all the circumstances of notified tuberculosis cases, these being taken in sufficient numbers and over a long period of years. It may be hoped that investigations on the lines of those of Dr. Macgregor in Glasgow will be undertaken before long for other areas, and that local authorities, in their desire for "results," will not grudge the time needed for the continuance of such work. The importance of obtaining exact accounts, not only of possible exposure to infection, but also of conditions of environment and the racial and family characteristics of the cases in respect of tuberculosis, should be kept in mind by tuberculosis medical officers and others who are now securing records of the circumstances of tuberculosis cases and their home contacts at different periods.

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[1] THE LANCET, Oct. [illegible], [illegible], p. [illegible]

MEDICAL SOCIETY OF LONDON.

THE concluding meeting of the session was held in the rooms of the society on Monday, May 18th, Sir David Ferrier, the President, in the chair. The annual oration was delivered by Mr. Robert Jones on the Surgical Aspect of Poliomyelitis, and will be published in full in our next issue. A vote of thanks to the orator was proposed by Mr. C. A. Ballance, seconded by Mr. A. H. Tubby, and carried by acclamation. The Fothergillian medal was presented to Professor J. G. Adami, F.R.S., of Montreal, by the President, who briefly related the history of the medal and paid a warm tribute to the services which Professor Adami had rendered to medicine in the domain of pathology. Professor Adami, in reply, thanked the President and Fellows for the great honour they had done him, and through him the profession of the Dominion to which he belonged. Afterwards the customary annual conversazione was held. A very large number of Fellows and guests attended.

SPINAL SCIATICA.

AN important discovery was made in the pathology of sciatica when it was found by Dejerine and his co-workers that the modifications of sensibility in this condition occurred in most cases in regions corresponding to the segments of the spinal cord and not to the peripheral nerves. This neurologist believes that in such cases we are dealing with a process of intradural distribution, which gives rise to a patchy meningitis, and which is associated with a more or less marked lymphocytosis in the cerebro-spinal fluid. The absence of definite motor symptoms, he explains, is probably due to the posterior situation of the local meningitis. Syphilis is believed to be the commonest cause. In the *Revue Neurologique* (1913, Vol. XVII., p. 253) J. M. Raïmiste reports four cases of this spinal sciatica. All the cases presented the so-called classical symptoms of sciatica, but in addition there was exaggeration of the reflexes on the two sides. The sensory signs were variable, but there was some disturbance in all. In Case 1 there were hyperæsthesia, hypalgesia, and depression of temperature sense over definite regions in the limb; in Case 2, hyperæsthesia and hyperalgesia to pain and temperature; in Case 3, hyperæsthesia, hypalgesia, and lessened temperature sense; and in Case 4, depression of all forms of sensibility. On the motor side there was usually a slight degree of weakening. Of special interest in these cases was the result of lumbar puncture. In all there was within a few hours marked relief from the pain, and further, in three cases the recovery appeared to be lasting and complete.

RELAPSES IN ACUTE ARTICULAR RHEUMATISM.

ONE of the most characteristic and troublesome features of acute articular rheumatism is its tendency to relapse, uncontrolled by salicylate. One attack predisposes to another, with results that are most serious for the patient. It is generally agreed at the present time that acute rheumatism is an infectious disease caused by a living organism, and that it should be classed among the acute specific fevers. Relapse in these means re-infection, and in the case of acute rheumatism it is very commonly believed that the infecting agent "lies perdu" in the tonsils or naso-pharynx between the relapses, gaining access to the blood and giving rise to new arthritic manifestations as often as a relapse occurs. Good reasons have been given for believing that the throat is a common channel for infection here, but it is hardly likely that it is the only one. Professor J. M. Beattie has brought forward[1] experimental evidence to show that in rabbits, at any rate—animals in which the virus of acute rheumatism readily produces an arthritis with a tendency to relapse—the infecting organism can be recovered and cultivated from the synovial membranes of the larger joints in the intervals between the relapses. Even when no relapse occurred the organism—a streptococcus—could be recovered from the joints in many instances, in one as much as 12 months after the original infection had taken place. It is clear, therefore, that the virus of acute rheumatism may lie latent in the articular synovial membranes of the rabbit for long periods of time. Is the case the same with human beings? The question is answered in the affirmative by Professor Beattie and Dr. A. G. Yates. These authors endeavoured to obtain bacterial cultures from the synovial membranes of the knee-joints in 89 cases from the post-mortem room. Sixty were sterile, 12 contained putrefactive organisms or staphylococci. and 17 contained streptococci or diplococci. In 10 of the 17 cases the organism isolated was of the streptococcal type found in acute rheumatism, and 9 of the 10 were from cases with a definite rheumatic history or post-mortem evidence of rheumatism. Nine of these 10 organisms were inoculated into rabbits, and 6 of them produced the characteristic recoverable arthritis. while only one clearly failed to do so. It is pointed out that of the 79 cases that did not yield the streptococcus, only 4 could be regarded as possibly rheumatic. Professor Beattie concludes that the relapses of rheumatism are due to the persistence of the causal organism in the tissues of the joints. He suggests that treatment should be carried on in the apyrexial periods between the relapses in order to destroy the virus. Salicylates have often proved ineffective here, and the search for some more potent drug should be made. In addition, he suggests treatment with vaccines during the latent periods of the rheumatic infection. He is very sceptical of the value of vaccines in acute processes, but believes that for microbic conditions which are not particularly active their value is beyond question.

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[1] Liverpool Medico-Chirurgical Journal, 1913, p. 437.

COMPLEMENT FIXATION IN TUBERCULOSIS.

FEW better examples can be found of abstruse and seemingly trivial scientific observations which have ultimately proved to be of the greatest practical importance than the fixation or deviation of complement in the presence of an immune serum and the appropriate antigen. At the present time not only has the Wassermann reaction for syphilis become a matter of daily investigation, but in other diseases the same principle is being applied as a diagnostic procedure with conspicuous success. Such is the case in the diagnosis of glanders in horses, and in the sphere of human tuberculosis there are indications that a valuable test may be ultimately afforded when the phenomena have been adequately elucidated. Further investigations, in continuation of those already published in our own columns, have been made by Mr. Leonard Dudgeon, Dr. W. O. Meek, and Dr. H. B. Weir[1] which are of importance in this connexion. Some difficulty has hitherto existed in preparing a satisfactory antigen for this test, experiments having been made with various tuberculins and bacterial cultures. Dudgeon finds that an alcoholic extract of the bacilli is the most useful and trustworthy preparation. It is a matter for regret, however, that no details of the actual manufacture of the antigen are given. In human patients with tuberculosis of the lungs a positive reaction was obtained in 89·3 per cent., and this figure might have been increased if further examinations had been made in certain cases in which only one test was carried out. The serum often gave a positive reaction in dilutions of 1 : 100 or even 1 : 1000. The strength of the reaction and even its presence and absence may vary in the same patient from time to time in a curious manner which is not at present explicable. Thus no relationship could be traced between the condition or stage of the disease and the amount of immune body present in the serum, but on the whole the severe cases showed the presence of more immune body. The intercurrence of a febrile exacerbation similarly had no constant effect, the reaction appearing or disappearing, or becoming stronger or weaker, without any obvious reason. No prognostic significance could thus be attributed to the phenomenon, variations in both directions occurring irregularly in patients who were improving and in those going downhill. The actual diagnostic value of the test is not yet established, but it bids fair to form at least a useful supplement to the search for bacilli in the sputum in pulmonary cases. In surgical tuberculosis the percentage of positive reactions does not appear to be so high, and here a negative result would seem to be of little importance. In any case a single failure to react must not be taken to exclude tuberculosis, while frequent negative findings may at times occur in infected persons. A positive result appears to point with fair certainty to tuberculous infection, but no definite inference can be drawn as to its activity or quiescence. This week we publish the results of a further research on the Complement Fixation Test for Tuberculous Disease, by Dr. A. C. Inman, the superintendent of the Brompton Hospital Laboratories. He gives details of the manufacture of the antigen, and also supplies references to Professor Besredka's publications. The technique of the test is then fully explained. Dr. Inman gives an interesting account of his investigations and the conclusions at which he has arrived. The methods of previous observers left much to be desired, and the test proved so fallacious that little value could be attached to it. With improvement in technique, however, the reliability of the test has made a marked advance.

X RAYS IN THE DIAGNOSIS OF GALL-STONES.

UP to the past year the demonstration of gall-stones by the X rays has been regarded as so unusual as to constitute a curiosity. American workers have now so improved the technique that this method of examination has become important. In the *Boston Medical and Surgical Journal* of April 30th Dr. A. W. George and Dr. L. Gerber have described the present position of the problem. They began to find the shadows of gall-stones by accident during the course of bismuth examinations of the alimentary tract. Gradually the accidental findings became so frequent that they found it advisable to look for gall-stones in every case. They have now adopted the routine of examining the gall-bladder in every patient before giving the bismuth meal. Pure cholesterin stones do not interrupt the X rays to any appreciable degree, so that shadows of them cannot be distinguished. Fortunately such stones are not common, or at least do not cause many chronic disturbances. When the gall-bladder is chronically inflamed by repeated infection the stones deposited have the characteristic lamellæ of calcium and bile salts encrusted on the cholesterin core. It is only the calcium ingredient that is shown by the X rays, and the clearness of the demonstration on the plate depends on the amount of calcium present. As a rule in nearly every case of symptoms referable to gall-stones there is some calcium. Dr. George and Dr. Gerber think that it will soon be possible to state whether gall-stones containing calcium are present or not. Their technique for demonstrating gall-stones is very simple. The patient lies upon the table with his face down. The plate is placed under the right hypochondriac region. The maximum of definition is obtained with a very small diaphragm, 1½ inches in diameter, and a very small cylinder placed close to the back. It is preferable to use a fairly soft tube with a rapid exposure. It is better not to use intensifying screens, but the simple plates as in kidney work. The gall-stone shadows will vary according to their calcium content. Often there will be a central light area with a peripheral calcium shadow. Occasionally irregular deposits of calcium corresponding to the lamellated structure may be made out. As a rule the faceted outlines are clear, but a shadow suggesting a single mass may be due to closely packed gall-stones.

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[1] THE LANCET, Jan. 4th, 1913; Journal of Hygiene, April 27th, 1914.

Evidences of gall-bladder disease are usually shown at the subsequent bismuth examination in the form of signs of pericholecystitis. The commonest sources of error in the diagnosis of gall-stones are renal calculi, calcified mesenteric glands, and costo-chondral ossification. Gall-stones may be distinguished from renal calculi by taking plates with the patient lying first on his abdomen and then on his back. Gall-stones are nearer to the anterior abdominal wall; therefore the anterior plate will show the shadows small and sharp, whereas the posterior will show them large and blurred. The reverse holds in renal calculi. Calcified mesenteric glands will be found to occupy different positions in different plates on manipulating the abdomen between the exposures. A calcified costal cartilage will be continuous with a rib.

A GENERAL HOSPITAL AND A MUNICIPAL TUBERCULOSIS SCHEME.

THE rapidly growing perception on the part of Government departments and local authorities of the importance of tuberculosis problems is leading to displays of commendable energy, even if some of the measures set on foot have not been thought out as carefully and organised as intelligently as they might have been. Still, experience teaches, and those in charge of all varieties of local anti-tuberculous efforts may learn a great deal from the first report, just issued, of the municipal dispensaries scheme inaugurated last year by the borough of Lambeth in conjunction with St. Thomas's Hospital. It is not every borough in London which has a big general hospital within its borders; but a good many of them have, and their medical officers of health may well take note of the advantages which accrue from the coördination of the voluntary hospital expert and his hospital facilities with the tuberculosis medical officer. Hitherto the voluntary hospitals have, to all intents exclusively, treated disease as it affects the individual and not as it affects the community. In the control of tuberculosis there is especial need of concerted action between the curative and the preventive agencies; and in Lambeth this ideal is being ensued by the dispensaries scheme there adopted, which was the first endeavour to utilise a general hospital in conjunction with municipal organisation. As far as London is concerned, this scheme was the first to obtain approval from the Local Government Board and the Insurance Commissioners, and it has formed the basis upon which several such schemes have been developed in other districts. There are two municipal dispensaries in Lambeth, one of which is housed in a special part of the out-patient department at St. Thomas's Hospital. They are worked on the same lines, and each is managed by a tuberculosis medical officer, working under the medical officer of health. The patients are interchangeable between the two, and the resources of each are open to the patients of the other. This is of special value to the Effra-road dispensary, for in difficult cases the medical officer can obtain at St. Thomas's Hospital the benefit of all their modern appliances and special departments—pathological, chemical, laryngological, radiological. Moreover, the tuberculosis officer in charge of the St. Thomas's dispensary can requisition the services of members of the visiting medical staff of that institution, and has also at his disposal a special ward of ten beds for purposes of observation and tment. The working of this valuable scheme, as disclosed in the report now issued, thoroughly justifies the forethought expended upon it, and the report is a most useful contribution to the literature of the concerted attack on tuberculosis which the national conscience is beginning to demand.

DIAPHRAGMATIC PLEURISY SIMULATING GASTRIC ULCER.

TWO interesting papers have been recently published[1] drawing attention to the intimate resemblance in the symptoms due to inflammatory conditions of the diaphragmatic pleura and those of gastric or some abdominal conditions. The pain distribution in diaphragmatic pleurisy was shown by De Mussy in 1879 to be referred to two points—one over the phrenic nerve in the neck and the other in the hypochondrium. In 1911 Capps reported his ingenious observations upon what occurred when the diaphragm was irritated by means of a blunt wire introduced into the needle before fluid from the pleura was removed. He found that pain was elicited. If pressure was made upon the outer edge of the diaphragm there was pain in the abdomen; if made upon the central portion pain was referred along the ridge of the trapezius. There was often associated hyperalgesia of the skin. Dr. Dexter reports two cases, in both of which the urgent symptoms were abdominal. In one case there was pain in the left side of the abdomen; in the other it was in the right. In one case there was vomiting. In both, in addition to the abdominal pain, there was tenderness over the trapezius corresponding to the side in which the abdominal pain was felt. Hiccough was also present. In both cases there were found physical signs, slight in character, at the basal region of the lung. Still more striking were the eight cases of Dr. Mace. In all these cases the symptom-complex is stated to be due to adhesions between the diaphragm and basal pleura, and is caused not by acute inflammation, but rather by mechanical adhesions of tuberculous origin. The pain may thus arise whilst the patient feels quite well. There may be no lung symptoms, and the symptoms in the distribution of the pain simulate gastric ulcer. Thus, the pain may be worse after food; it goes through to the back and a tender spot can be found to the right of the lower dorsal vertebræ. "Wind" may be a very troublesome symptom. Hæmorrhage may even occur. Radiograms accompany the records of these cases, and in all there is definite evidence of diaphragmatic adhesions; there is also evidence of tuberculous infection of the lungs. In two cases operations had been performed for the relief of stomach symptoms, but without effect. In most of the cases the patients had undergone rigid dietetic treatment and were much emaciated. Following the radiographic records in these cases, which revealed the cause, treatment was directed primarily to the lung condition; tuberculin was given and liberal diet instituted, with satisfactory results in many instances.

THE President of the Board of Trade has appointed a committee of seven, with Sir William Collins, M.D., as its chairman, to inquire into the working of the Railway Employment (Prevention of Accidents) Act, 1900.

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[1] R. Dexter: Cleveland Medical Journal, 1914, vol. xiii., p. 102. L. S. Mace: Journal of the American Medical Association, 1914, vol. lxii., p. 674.

NITON AS A THERAPEUTIC AGENT.

By SIR WILLIAM RAMSAY, K.C.B., F.R.S.

THE application of niton ("radium emanation") as a therapeutic agent was tried in my laboratory at University College in 1904. A number of small bulbs, each containing a solution of radium bromide, were sealed to a Töpler pump; the water of the solution yields a mixture of oxygen and hydrogen gases, carrying with it the niton. That mixture was collected at convenient intervals, introduced into a small explosion burette, and by means of a spark the oxygen and hydrogen were made to unite. There is always an excess of hydrogen (due to the formation of hydrogen peroxide in the solution), and this hydrogen carries with it the niton. By introducing approximately half its volume of oxygen and again passing a spark the hydrogen is made nearly to disappear, and the niton remains in the explosion burette. The remaining trace of gas can be expelled into a small tube containing water, and the burette washed out with a trace of water. In this way a solution of the niton is obtained, and in the earlier experiments it was injected into the patient. The results have been summarised by Sir Lauder Brunton in the *British Medical Journal* of Jan 25th, 1913 (see also THE LANCET, Feb. 12th, 1910).

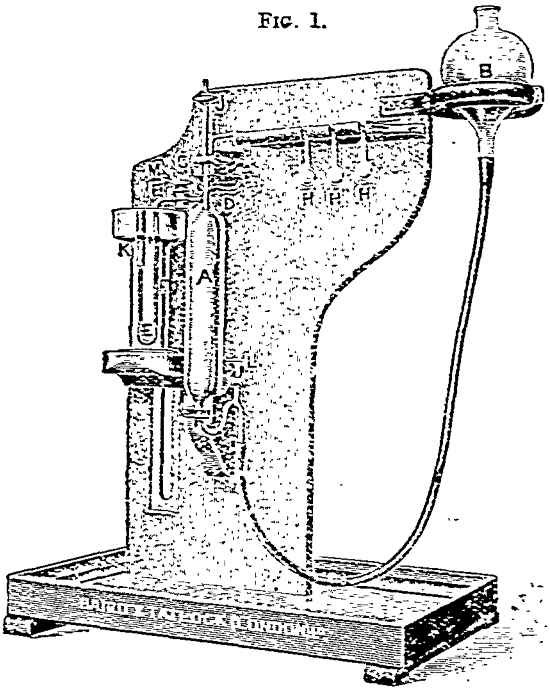
Since the use of radium has increased I have always recommended its application in the form of niton rather than as a salt of radium. The original method, as everyone knows, was to spread the radium salt on a plate or to enclose it in a thin glass tube; in the former case, it was protected by a layer of varnish; in the latter, the glass tube was enclosed in one of platinum or silver. Apart from the risk of loss of the precious radium, this plan has the disadvantage that the radium is not continuously in use; it is seldom applied during the night. But the production of niton from radium is continuous; it goes on night and day. And the radiating power of niton is 75 per cent. of that of the radium from which it is derived. It is true that the niton decays; but it can be used at any moment when its "strength" is known accurately; and a curve can be sent to the user, which will enable him to know exactly what he is doing when he applies the active material. For this purpose the niton must be introduced into appropriate forms of apparatus—tubes, bulbs, and hollow flat discs. These may conveniently be made of iron or of nickel; neither iron nor nickel is attacked by mercury, and nickel is preferable to iron, inasmuch as it is not liable to rust.

Description of Apparatus.

It has occurred to me that it might be useful were I to describe a simple form of apparatus by means of which niton can be enclosed in appropriate vessels. This apparatus does not include a pump; its manipulation is so simple that any workman can be entrusted with it after a few lessons. I have had a small form of such an apparatus in use for more than a year, and it functions admirably. I will describe it, however, as if it were to dispose of the niton generated by 500 mgm. of radium bromide; should less be in use, the size can be modified according to scale. It may be stated that the yield of mixed oxygen and hydrogen gases from 500 mgm. of radium bromide, amounts to approximately 25 c.c. in a week.

Fig. 1 gives a sketch of the apparatus. A is a reservoir of about 500 c.c. capacity; it is connected with a mercury reservoir, B, by flexible thick-walled rubber tubing. C is a trap, to make sure that no air enters A. At D platinum wires are sealed through the narrow neck of A. E is an inverted siphon, issuing in a mercury trough F. G is a two-way stopcock, connecting on the one hand with the radium bulbs H (it is advisable to have the tube of narrow bore); the bulbs may be more numerous, and may be kept in a *locked cupboard or safe*, through a hole in the side of which the connecting tube passes. I is a piece of thick-walled rubber tubing; J is a hollow plate to be fitted, or it may be a silver or nickel tube, or, indeed, any form of hollow applicator which it is required to fill with niton; and K is a test-tube containing pure oxygen.

FIG. 1.



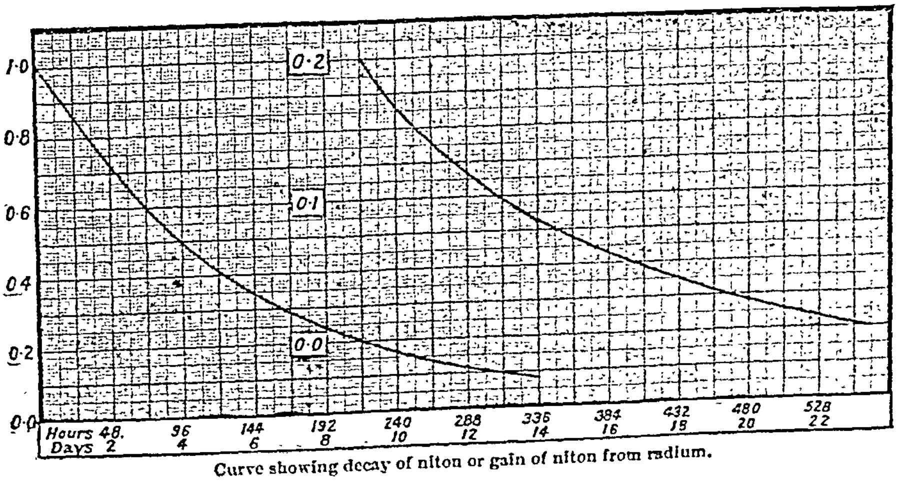
How the Apparatus is Employed.

This apparatus is used in the following manner. 1. In starting the whole work the radium bulbs must be cleared of air. The reservoir B is raised, and the stopcock M is opened and all air is expelled out of A, through the inverted syphon, the oxygen tube being removed temporarily. 2. The reservoir B is then lowered, M being closed, until the level of the mercury in A has sunk to L; A is now vacuous. 3. The stopcock G is now opened, so as to communicate with H; the air in H enters A; G is closed, and M is opened. On raising B this air is expelled through the inverted syphon. This operation is repeated four or five times; the radium bulbs are now practically free from air.

It is necessary here to put a supposititious case. If 500 mgm. of radium are in connexion with the pump, and it is required to fill a hollow plate with the equivalent of 500 mgm. of radium, then, referring to the drawing, B is lowered, so as to evacuate A, and the tap G is turned, so as to bring A in communication with J. The air in J enters A. G is closed, M is opened, and this air is expelled through the inverted syphon. B is again lowered, M being closed, and the mixed oxygen and hydrogen gases which have accumulated for 24 hours in the radium bulbs are drawn into A. As the total gas evolved from 500 mgm. of radium is about 25 c.c. in a week, there will be the seventh part in 24 hours, or 3·6 c.c. The space in the radium bulbs may be taken as negligible compared with the 500 c.c. capacity of A; if it amounts to 10 c.c. it will be a fiftieth part of the whole. B is then raised, and a spark is passed through the sealed-in wires at D; as a rule, about half a cubic centimetre of hydrogen will remain after explosion has taken place. By turning the stopcock G to communicate with J, that gas will enter J. Care must be taken that no mercury reaches I; that can be seen in the glass tube below I. If B is somewhat lowered, and gradually raised, the gas can be allowed to enter J slowly, and it is easy to stop when the mercury has risen to just below the rubber tube I. A convenient plan is to have the vertical tube from J of thin lead, such as is used for vaccine tubes, and to seal it by pinching with a pair of pliers. In order not to waste the small amount of gas remaining above the stopcock G, a vacuum may be again made in A by lowering B, and on closing the stopcock G almost all that "waste" gas is drawn back into A, ready for another operation.

The 3·6 c.c. being the amount in equilibrium with 500 mgm. of radium bromide after 24 hours, it will contain 0·15 of the total amount of niton in equilibrium with that quantity of radium bromide (see curve, Fig. 2); and assuming the "efficiency" of the niton to be 75 per cent. of that of the radium, it would be equal in "emanating power" to 0·11 × 500, or 55 mgm. of radium. The applicator, therefore, may be taken as practically equivalent to a plate covered with 50 mgm. of radium if used at once. If kept for 24 hours it would be equivalent to 0·85 of that "strength" or to 42·5 mgm.; if kept for 48 hours to 0·7 of that strength or to 35 mgm., and so on. The curve gives at any moment its "strength." If much more than 3 c.c. of gas have to be exploded it is advisable to lower the pressure somewhat by depressing the reservoir B before passing the spark. To produce a spark a cheap little coil, costing only a few shillings, suffices; a couple of dry cells will operate it.

FIG. 2.



Curve showing decay of niton or gain of niton from radium.

Tube-shaped Applicators.

The fitting of a tube-shaped applicator is carried in the same way. If the tube is required to be a very fine one, however, the amount of gas may be too large. I find a good plan to be the following. It is possible by lowering the reservoir B and opening the stopcock M very carefully to draw mercury, drop by drop, into A. By depressing the test tube K over the inverted syphon an amount of oxygen, equivalent to one, two, or more drops of mercury can be drawn into the inverted syphon; supposing two drops of mercury have fallen, then their volume of oxygen will remain in the inverted syphon. The oxygen tube is then raised and mercury allowed to enter by opening the tap M until the oxygen passes into A. With a little practice it is not difficult to introduce a small quantity of oxygen, half the volume of the hydrogen remaining after the first explosion. A second explosion is made, and the hydrogen nearly disappears; the niton is mixed with this very small residue. Instead of having a lead tube connected with the applicator, in this case a piece of glass quill-tubing, which has been drawn out to a wide capillary and closed at the end, as in Fig. 3, is slipped into the rubber tube at I. This tube before beginning the operation is emptied of air, as already described for the disc-shaped applicator. Then the niton is exploded and the residue again exploded with a trace of oxygen, as already described; and the infinitesimal residue is forced up into the capillary tube by raising the reservoir B, followed by mercury. By means of a fine mouth blowpipe flame the capillary tube can be fused at the constriction; and the niton now enclosed in the capillary can be introduced into a metal tube of the desired thickness.

FIG. 3.

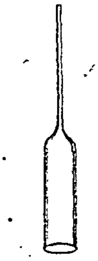
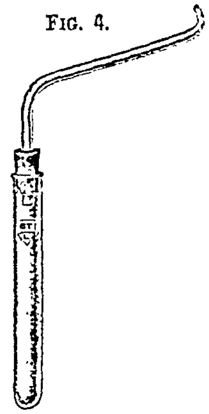


FIG. 4.



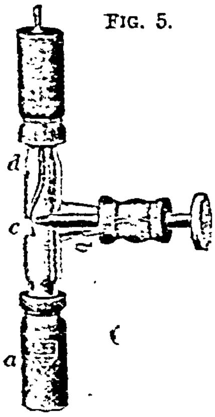
Filling the Oxygen Tube.

To fill the tube K with oxygen is very simple. A piece of tubing about 6 inches long and ¼ inch wide is closed at one end. Into it is placed some solid potassium permanganate so as to fill it to a depth of 2 inches. The upper part of the tube is then drawn off and bent as shown in Fig. 4. On warming the permanganate with a Bunsen burner a steady stream of oxygen comes off, which is allowed at first to bubble through the mercury in the trough F. After a fair quantity of oxygen has passed it can be taken for granted that the air in the permanganate tube has been displaced by oxygen. The bent end is then passed under the open end of the inverted test-tube, which is filled with oxygen. Such a permanganate tube will serve many times, for it stops giving oxygen as soon as it cools.

Recovery of Residual Niton.

After a tube has been used for applications it still contains niton, and it is desirable not to waste it. The amount can be calculated accurately from the quantity of radium bromide from which it has come, and its age; or it can be read off from the curve. Hence it may be re-used, mixed with more from the source—the radium bromide. To effect this a small glass apparatus, shown in Fig. 5, may be employed; *a* is the piece of rubber tube shown at I (Fig. 1); *b* is a piece of steel with a sharp-cutting edge at *c*; *d* is the lead tube of J, closed by nipping. This lead tube is pushed down so as to pass the edge of the stopcock *b*. This apparatus is emptied of air, as already described; the air is rejected through the inverted syphon as before. Then by manipulating *b* the lead tube is cut; the gas in J passes into the reservoir A, the mercury in which has been lowered by depressing B. In this way the residual niton in such applicators may be recovered. In the case of a glass capillary, as in Fig. 3, it may be introduced into the apparatus of Fig. 5, the upper end of which is closed with a glass plug. The thin-walled capillary is easily broken and its contents recovered, as described.

FIG. 5.



"Strength" of Niton Generated.

As a rough guide, it may be taken that every cubic centimetre of mixed oxygen and hydrogen gases corresponds to niton of equal "strength" to 10 mgm. of radium bromide. But it depends on its age. For example, if instead of drawing gas from 500 mgm. of radium bromide after 24 hours' standing it had been drawn after 12 hours, the amount obtained would, of course, have been the fourteenth part of 25, or 1·8 c.c. But this would contain the niton generated in 12 hours, and by referring to the curve it is seen to be 0·08 of the total—that is, it is the quantity in equilibrium with 500 × 0·08, or 40 mgm.: and to get at the "strength" in radium units, multiplying by 0·75, it is in actual "strength" at the time of drawing equal to 30 mgm. It is evident, therefore, that the oftener the niton is "drawn" the more advantageous; and this is an argument in favour of having a central "institute," where a large supply of radium is kept and from which frequent drawings of niton can be made, rather than to parcel it out in small quantities and have to be contented either with weak doses, or to have to wait long for a strong dose at considerable pecuniary sacrifice. The apparatus here described can be had from Messrs. Baird and Tatlock, 14, Cross-street, Hatton Garden, London, E.C.

MEDICINE AND THE LAW.

A Case of Unqualified Practice.

AT the Worcester county court on May 13th the Society of Apothecaries recovered a penalty of £20 against Charles Burden, herbalist, of Bridge-street, Worcester, for a breach of the Apothecaries Act, 1815, in that he had acted and practised as an apothecary or medical practitioner in attending and medically treating Mrs. Rosina Daniels, of Ombersley-road, Worcester, whose death in February last was the subject of an inquest conducted by the Worcester city coroner.[1] It appeared from the evidence that Mrs. Daniels had died from Bright's disease and that she had been visited and attended by the defendant and supplied by him with herbal medicines for some months previously to her death, the defendant having informed Miss Daniels, the daughter of deceased, that he believed she had an internal abscess and that the medicine he was giving her was bringing the poison out. The deputy judge in the course of his judgment said as to the definition of an apothecary he felt bound to accept that given by Mr. Justice Cresswell in the case of the Apothecaries Company *v.* Lotinga—viz., that an apothecary was a person who professed to judge internal disease by its symptoms and applied himself to cure it by medicine. The second question was, Did the defendant act and practise as an apothecary? On that the evidence was all one way. The evidence of Miss Daniels that the defendant treated her mother, felt her pulse, and supplied her with medicine was entirely borne out by defendant. Judgment with costs was accordingly given for the society, and a stay of execution granted for 21 days, money to be paid into court within 14 days.

Coroners' Inquests and the Insurance Act.

In opening an inquest recently in the City the coroner, Dr. F. J. Waldo, told the jury that he had received a circular letter from the Home Secretary inviting coroners to give notice to the Insurance Commissioners if they had reason to believe that at an inquest about to be held questions might be raised affecting the relations between an insured patient and a medical man on the panel, or otherwise connected with the Insurance Act. It was intimated that if opportunity was given the Insurance Commissioners might desire to be represented at the inquest. At the inquest in question the fact that the medical practitioner on whose list the deceased had been had not attended at once when summoned gave rise to discussion as to the scarcity of medical men in the City. The gentleman in question had not understood that the summons was an urgent one. He stated that he believed that he was the only member of the panel residing in the City, although others attended there in the day-time and lived elsewhere. Mr. Gilbert, representing the National Insurance Commissioners, pointed out that the question where a medical practitioner lived did not affect his obligations under his contract. He had to make arrangements whereby his patients could be attended at all times.

A Parent and Medical Treatment for his Child.

The St. Helens education authority recently summoned with success a brakesman, earning 35s. per week, for 1s. 6*d.* claimed from him for medical treatment of his child at the school clinic. The summons was under Section 13 of the Administrative Provisions Act, 1907, and Section 1 of the Local Authorities *Medical* Treatment Act, 1909, the first enabling the treatment of the child to be provided for, and the second authorising the recovery of the cost from the parents. The charge was in respect of the filling of two teeth, the necessity for which the father denied. It was pointed out that at the barest cost price for what had been done the defendant might have been charged at least 4*s*. 6*d*. The defendant denied that he had been told there would be a charge made, but he had signed the consent book in which the conditions were set out. It was also pointed out that he might have had the child treated privately, and that if he had refused to do this after refusing to have her treated in the school clinic he would have been liable to proceedings under the Children Act for causing her unnecessary suffering. The magistrates ordered the defendant to pay the 1s. 6*d*. claimed, with 8*s*. 6*d*. towards the costs. He was also informed that he might have been called upon to pay the whole of the costs, amounting probably to at least £5.

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[1] THE LANCET, Feb. 21st, 1914, p. 551.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

MEETING OF COMITIA.

A COMITIA was held on May 14th, Sir THOMAS BARLOW, Bart., K.C.V.O., the President, being in the chair.

The following Members who had been elected to the Fellowship at the last meeting were admitted as Fellows:—Dr. Cuthbert Henry Jones Lockyer, Dr. William Mitchell Stevens, Dr. Arthur Stanley Barnes, Dr. James George Taylor, Dr. Dudley William Carmalt-Jones, Dr. Samuel Alexander Kinnier Wilson, Dr. Hector Charles Cameron, Dr. John Foster Gaskell, Dr. Gordon Morgan Holmes, Dr. Frederick Gowland Hopkins, Sir Alfred Henry Keogh, and Sir William Boog Leishman, F.R.S.

Diplomas in Tropical Medicine and Hygiene were granted, in conjunction with the Royal College of Surgeons of England, to the following candidates:—Vivian St. John Croley, Gordon Gray Jolly (Captain, I.M.S.), Maharaj Krishna Kapur, and Andrew Murphy (Major, I.M.S.).

A sketch of the late Sir Samuel Wilks was presented to the College by Dr. F. G. D. Drewitt. The thanks of the College were returned to the donor.

The following communication was received: From an Interdepartmental Committee which is considering legislation consequent on the provisions of the International Opium Convention (1912), asking the opinion of the College concerning certain limitations to the sale of opium, morphine, heroine, cocaine, &c. The matter was referred to the Censors' Board.

Dr. NORMAN MOORE proposed, and Dr. FREDERICK TAYLOR seconded, that a committee should be formed to report upon recent alterations in anatomical nomenclature. The proposal was adopted, the nomination of the members of the committee being left to the President.

A report was received and adopted from the committee appointed to consider a letter from the Board of Control concerning grants to aid scientific research in the subject of mental disease. The report was as follows:—

> The committee is of opinion that these grants should be paid to a few thoroughly trained observers, and that these persons and the nature of their investigations should be selected and approved by a small competent advisory committee appointed by the Board of Control.
>
> The committee is strongly of opinion that no grant should be allocated to municipal bodies or county councils for the purpose of subsidising or of maintaining pathological laboratories, or of paying assistants to do routine work.
>
> The committee recommends that the grants should be devoted to the study of such fundamental problems concerning insanity and mental deficiency as require scientific investigation from the clinical, pathological, biological, and sociological aspects.

The PRESIDENT then dissolved the Comitia.

THE ROYAL SOCIETY CONVERSAZIONE.

THERE was a distinguished company present at the Royal Society conversazione, which was held at Burlington House on May 13th. Sir William Crookes, O.M., D.Sc., the President, received the visitors, who showed an evident interest in the variety of scientific exhibits chosen for the occasion. Physics and biology were more strongly represented, perhaps, than other departments of science, and there was a notable absence of electrical demonstrations which for so many recent years have provided a favourite topic.

There was little shown of direct medical interest, if we except the demonstrations for which Professor Leonard E. Hill, Professor A. F. Stanley Kent, and Mr. H. G. Plimmer were respectively responsible. Professor Leonard Hill, together with his assistant, Mr. O. W. Griffith, exhibited the caleometer, an instrument designed to measure the degree of comfort in a room or a public hall or factory in so far as that depends upon the rate of cooling of the human body. A "coil" made of a wire having a temperature coefficient forms one arm of a Wheatstone's bridge, the other arms of which are made of an alloy the electrical resistance of which does not vary with the temperature. The bridge is balanced when the temperature of the "coil" is approximately that of the human body, the current being supplied from accumulators or from the main circuit. Any tendency to a variation of this temperature is checked by an automatic rheostat worked by a relay, so as to diminish the current when the temperature rises and *vice versâ*. By means of an indicator the number of calories supplied per minute to the coil to keep its temperature constant is shown at any instant. Comfortable conditions are indicated by gentle oscillations of the pointer about a mean value of 30 calories per minute. A low steady reading denotes monotony and oppressiveness, while violent oscillations about a mean value are evidence of excessive cooling by an unpleasant draught. Professor Stanley Kent exhibited specimens showing the existence of muscular continuity between the right auricle and the right ventricle in the heart of man. The structures illustrated lie at the junction of the right auricle and right ventricle at the right lateral margin of the heart. The ventricular fibres concerned are derived from two systems: (*a*) fibres ascending vertically from the direction of the apex immediately under the endocardium; and (*b*) fibres running obliquely inwards from the middle layers of the ventricular wall. Both of these sets of fibres become connected with a rounded mass of auricular substance, which differs markedly in structure from auricular tissue, and resembles the tissue found in the sino-auricular and the auriculo-ventricular nodes. Mr. Plimmer showed an interesting collection of parasites which were either new or found in new hosts. Amongst these were toxoplasma in the blood of fossa, and also in the blood of the blue-tailed fruit pigeon; myxobolus from the gall-bladder of a giant toad; intestinal organisms in the blood of ambiona box-tortoise, showing parasitic adaptation; microscopic sarcosporidia in the muscles of a langur; mycosis from the lung of a Brazilian tortoise of aspergillar form; coccidia in intestinal epithelium of a dhole and babesia in the blood of another dhole (*Nagpur*).

Messrs. Chance Brothers and Co., of Oldbury, Birmingham, exhibited an interesting series of glasses designed for spectacles for the absorption of ultra-violet and infra-red rays and for the reduction of glare. The experimental results so far as they have gone were the subject of a recent paper read before the Royal Society by Sir William Crookes. Mr. W. A. Douglas Rudge showed an interesting experiment illustrating the phenomenon of electrification produced during the raising of a cloud of dust. It appears that considerable charges of electricity are produced. A charge of one sign is found upon the dust itself and another charge of opposite sign either upon the air or else upon fine particles of dust which remain suspended in the air. Generally dust of an acidic nature—*e.g.*, silica—gives a negative charge to the air, while metallic oxides and organic bases give positive charges. It would be interesting to learn whether this phenomenon is by any chance connected with the initiation of dust explosions in coal mines, flour mills, and so forth. Professor E. W. MacBride and Mr. H. G. Newth showed specimens of double tadpoles of the frog and also double sea urchins. According to these observers the duplicity in the frog larvæ is of varying degree and was produced experimentally. Fertilised eggs were inverted immediately upon the completion of the first cleavage furrow, and were kept inverted till gastrulation was complete. The apparatus and technique employed were included in the demonstration. The duplicity in the sea-urchin larvæ consists in the development of an urchin-rudiment on both sides or of pedicellariæ on both sides, whereas the normal larva has its rudiment on the left and its pedicellariæ on the right. The Meteorological Office authorities exhibited some aneroid and mercury barometers with centibar and millibar graduation. They also displayed a chart giving a hundred years' of rainfall in the London district. The rainfall for each month from Jan. 1st, 1813, to Dec. 31st, 1912, is thus recorded. The Hon. R. C. Parsons exhibited an ingenious apparatus for automatically mixing in definite proportions one liquid with another. The application of this "chemical ejector" to the purification or softening of water-supplies is giving remarkably uniform results.

During the evening demonstrations were given in the meeting room by Professor J. P. Hill, who delighted his hearers with an account of the Percy Sladen Expedition to Brazil, 1913, and by M. P. Schilowsky, who brought the subject up to date in regard to the application of the gyroscope to locomotion on land, on sea, and in air. The extraordinary stabilising property of the gyroscope was illustrated in a most interesting way.

SUGGESTED REFORM OF MEDICAL EDUCATION IN CHINA.

Dr. Wu Lien Teh, better known to English readers as Dr. G. L. Tuck, has recently presented, in his official capacity as medical officer to the Chinese Foreign Office at Harbin, an interesting memorandum on the present status of medical education in China[1] in which he urges thorough reform.

After a brief reference to his observations at the International Medical Congress in London and the International Congress of School Hygiene at Buffalo, U.S.A., which he attended on behalf of the Chinese Government, Dr. Wu Lien Teh lays down the principle that to improve and further the best interests of medical science and education so that the graduates of the Chinese medical colleges may have the same standard of efficiency and ideals as those of the West, it is essential that the institutions where medical education is given and the hospitals where the sick are cared for and the students learn their clinical work should be in the hands of men who themselves have worked in, and are thoroughly acquainted with the management of, the best medical schools and hospitals of the West.

The Present Status of Medicine in China.

As to the present status, he points out that, in spite of some excellent methods of treatment and a long list of useful drugs handed down in China by the ancients, nothing has been done by their successors to improve knowledge or to keep abreast of the times; consequently the majority of native trained physicians to-day are completely ignorant of the true causes of most diseases, especially epidemic diseases, of their diagnosis, rational treatment, and prevention; while many diseases, such as malaria and internal abscesses, blindness from cataract, regarded by the ancients as incurable, are still so regarded, though to Western-trained practitioners they yield to very simple methods. Typhus fever, relapsing fever, leprosy—the scourges of China—have almost been wiped out in Western lands, and even syphilis, in which the same drug (mercury) is used in both East and West, Western results are better because Western methods are more accurate and scientific.

The author further points out that owing to lack of sufficient training at home, men possessing medical qualifications of Government institutions in China have to undergo the ordinary students' course of five years' instruction before they can obtain a degree at a foreign medical school, the training in China counting for nothing in a Western country; and even in the matter of Chinese Government appointments—health and customs officers, railway surgeons, &c.—medical men of other countries enjoy a higher social standing and greater privileges than native ones.

Existing Facilities for Medical Education in China.

The existing facilities for medical education in China are of three kinds:

1. Government medical colleges—viz., the Peiyang Medical College, Tientsin, founded 20 years ago by the Viceroy Li Hung Chang; and the Army Medical College, also at Tientsin, founded ten years ago by the present President, Yuan Shih Kai. The Canton Army Medical College, established some years ago, was recently closed, being unsatisfactory in consequence of insufficient staff and equipment.

2. Missionary colleges, at which diplomas are granted after four or five years' training. The medical teaching of these colleges, in accordance with a decision of the Triennial Missionary Medical Conference in 1913, is now to be centralised in eight large cities—viz., Mukden, Peking, Tsinanfu, Chengfu, Hankow, Nanking (or Hangchow), Foochow, and Canton.

3. Institutions controlled by foreign governments or corporate bodies where Chinese students can obtain a medical training—viz., the German Schools in Shanghai (1908) and Tsingtau (1911), the Harvard Medical School, Shanghai (1912), the Japanese Medical School, Mukden (1912), and the Hong-Kong University (British, 1911), of which last the medical faculty pre-existing the university is the oldest and most important.

Suggested Coöperation of the Government with the Mission Colleges.

Inasmuch as the cost of establishing an up-to-date medical college with adequate staff and equipments is, in the present state of Chinese finances, out of the question, the author suggests that the Government should avail itself of the opportunities held out by the mission colleges.

At the Missionary Medical Conference above referred to resolutions were passed affirming that, as the sole object of these colleges was to aid the Chinese people by providing a thorough training for natives in medicine and surgery, there was no desire to retain them as permanently foreign institutions, but it was rather purposed to hand them over ultimately to the Chinese themselves. Consequently, it was desired to bring their teaching into line with the regulations of the Ministry of Education and to coöperate with the Government.

As the Union Medical College at Peking is situated at the seat of government, has its organisation almost complete, and has for years been subsidised with monetary grants, while its graduates have been recognised by the Board of Education of the Ching Dynasty, the author therefore suggests that the Government and this college should endeavour to arrive at a mutually advantageous scheme of coöperation as an experiment. If successful the Government could then coöperate with the medical institutions in other large centres which had proved themselves efficient.

A Central Medical Council.

The author also suggests the establishment of a central governing body, the Central Medical Council, to which the Board of Education should delegate its power in regard to medical education. This council should consist of an official of the Board of Education, with one representative from each of the medical schools in China approved by the Board, and perhaps power to coöpt one or more leading medical men who have contributed to the promotion of medical science in the country. The duties of this council would be to determine what language or languages shall be used for medical teaching, to fix a minimum standard of preliminary education and a minimum medical curriculum, to supervise examinations and perhaps act as a central examining body for the whole country, to recognise schools other than those already recognised by the Board of Education, as well as hospitals for clinical teaching, to draw up and enforce laws relating to the practice of medicine, to issue a medical register, and to adopt a general nomenclature of medical terms in Chinese.

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[1] Memorandum to the Board of Education (in Peking) on Medical Education in China. By Wu Lien Teh, M.A., M.D. Cantab. Reprint from the China Medical Journal, Shanghai, March, 1914.

Proposed Curriculum.

The scheme of education suited, in the author's opinion, to the needs of the country might be something as follows:—

A. Preliminary examination in general education, consisting of (1) classical Chinese; (2) a working knowledge of English, German, or French, with the outlines of history and geography of Europe and Asia, with special reference to China; and (3) mathemathics—arithmetic, geometry (Euclid I. to IV.), algebra, with easy quadratic equations. Such an education can be obtained at present at the higher Government and missionary colleges to be found in most of the large cities. These colleges might be enlisted in the propaganda for a medical career, and scholarships and prizes should be offered.

B. Medical education. This should consist of five years, each year having a three months' summer and a six months' winter session. In the first year there would be lectures and practical work in botany, zoology, chemistry, and physics, and lectures in elementary anatomy, with examinations at the end of each session. The second year would include practical anatomy with dissection of the whole body, and histology and anatomical demonstrations; lectures and practical work in physiology and practical chemical physiology, with an examination in anatomy and physiology at the end of the year. The third year would be occupied with morbid histology, pathology, and post-mortem work, bacteriology, materia medica, and therapeutics, out-patient surgical dressing, and clinical surgery, with an examination at the end of the year in pathology, bacteriology, and materia medica. The fourth year would include clinical surgery, medicine, and gynæcology, and attendance on midwifery cases during the summer holidays, with lectures on midwifery and gynæcology, medical jurisprudence, public health, and tropical medicine, and would close with an examination in midwifery, gynæcology, forensic medicine, and public health. The fifth (final) year would be devoted to infectious diseases, diseases of the eye, skin, ear, nose, and throat, and dispensary practice in the summer session; and in the winter to lectures and clinical work in medicine and surgery, vaccination, and dispensary practice. This would be followed by the final qualifying examination in medicine and surgery.

The importance of allowing dissections has to be emphasised by the author, because of the great objection thereto consequent on the ancestor worship of China. But, as he points out, the same objection was raised to the first railways in China, owing to their entailing the removal of graveyards, and opposition on this score has now been removed. Moreover, the Japanese, who hold similar religious beliefs to the Chinese, have allowed dissections and post-mortems since they adopted Western medicine, and their medical graduates are now equal to any in the world. Arrangements for post-graduate study and facilities for foreign study are also urged.

The Language of Medical Teaching.

On the question of the language to be used in teaching, inasmuch as foreign teachers will necessarily have to be employed for a long time yet to supplement the limited supply of Chinese Western graduates, and since a working knowledge of Chinese cannot be attained without years of preparation, the adoption of English is suggested on the grounds that "Western scientific workers are practically unanimous that during the coming years the greatest advances in medicine will be made in America," and also that English is more commonly used in China than any other foreign language.

The Hospitals and Medical Education.

In discussing the relation of the hospitals to medical education, some very sound observations are made. Simpler and less expensive buildings than those seen in America are considered sufficient. Hospitals associated with teaching schools form so integral a part of medical education that they must be considered as actual departments of such schools, being built to suit the needs of the various branches of medical science, and their senior physicians and surgeons being *ipso facto* heads of their respective departments in the University. The proper working of the hospital in regard to patients should be carried out entirely without the help of the student, whom it should serve simply as an institution for instruction. If the care of patients depends for efficiency in any degree on the student it will militate against its proper use as a means of instruction for him. The hospital must also assist the student to a conception of surgical cleanliness, carefulness and accuracy of observation, discipline, sympathy, and humaneness.

Western versus Oriental Medicine.

In concluding, the author points out the absurdity and expensiveness of maintaining two systems of medicine. "Either modern medical methods are superior to the old methods or the old methods are superior to the modern. If old methods are better they should be retained and the modern methods abolished. If, on the other hand, modern methods are better—and this has been proved in all up-to-date countries, including Japan, whose people used to have the same ideas as ours—they should be wholly adopted, and steps should be taken for a gradual merging of the old into the new one."

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF COUNCIL.

AN ordinary meeting of the Council was held on May 14th, Sir RICKMAN GODLEE, the President, being in the chair.

Surgeon-General Arthur William May, C.B., R.N., was introduced, and after signing the by-laws and making the required declaration, was admitted a Fellow of the College.

Mr. J. Howell Evans was introduced, and the PRESIDENT handed to him a cheque for the amount of the Jacksonian prize, together with a document declaratory of the award.

It was resolved to issue diplomas of Membership to 104 successful candidates. It was resolved to grant diplomas of the Licence in Dental Surgery to 41 successful candidates. It was resolved to grant, in conjunction with the Royal College of Physicians of London, diplomas in Tropical Medicine and Hygiene to four successful candidates.

Mr. C. A. Ballance was re-elected a member of the Court of Examiners.

A letter was read from Mrs. Bruce Clarke thanking the Council for their resolution of condolence on the death of her husband.

The PRESIDENT reported that he had accepted a pencil sketch of Thomas Wormald, President of the College in 1865, presented by his sister, Mrs. Leighton, through Sir Berkeley Moynihan, together with a plate of drawings by Sir Charles Bell from a very early case in which vaccination was performed. The best thanks of the Council were accorded to Mrs. Leighton for her gift. A letter was read from Mr. Clement Lucas resigning his seat on the Council. The resignation was accepted, and the Council expressed their regret that the state of his health should cause him to sever his official connexion with the College, and the PRESIDENT stated that the vacancy so occasioned would be filled up at the annual meeting of Fellows in July.

It was resolved, in accordance with a report from the Board of Examiners in Dental Surgery, that the First Professional Examination be held three times a year, commencing in the third or fourth week of January, April, and September, and that the Second Professional Examination be held three times a year, in February, towards the end of May or early in June, and in November.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the thirty-fourth meeting of the Royal Commission on Venereal Diseases evidence was given by Dr. M. H. Frances Ivens, honorary medical officer for diseases of women at the Liverpool Stanley Hospital, honorary surgeon to the Samaritan Hospital, and honorary medical officer to the Liverpool Maternity and Rescue Homes. Dr. Ivens said that her experience in Liverpool led her to the conclusion that gonorrhœa in women was extremely widespread in that town. Investigations which she had made in the years 1907 to 1909 respecting the incidence of gonorrhœa in gynæcological hospital practice showed that of 1052 consecutive out-patients 149, or 14 per cent., suffered from gonorrhœa, and of these 47, or 30 per cent., were sterile; of 153 in-patients 39 had gonorrhœa, or 1 in 4, and of these 13, or 33 per cent., were sterile.

Dr. Ivens said that the disease was difficult to cure completely and that relapses were frequent. Reinfection was also very common, and was the cause of much disappointment after prolonged treatment. This raised the important question whether in the case of a married woman the patient should be informed of the true nature of the disease from which she was suffering. At the present time it was the custom in the medical profession to conceal the nature of the disease from the wife in order to avoid causing mental worry in addition to physical illness. Dr. Ivens said that the question was a difficult one, but she doubted whether the present attitude in this matter was correct. It was manifestly unfair that a woman should be subjected to repeated reinfection without her consent, and if unaware of the nature of the disease she was unlikely to submit to efficient treatment. If any change were to be made by the medical profession in this matter it must be made by the profession as a whole.

At the thirty-fifth meeting evidence was given by Professor F. W. Andrewes, pathologist at St. Bartholomew's Hospital, and Miss Gregory, honorary secretary of the Home for Mothers and Babies, Woolwich. Professor Andrewes's evidence dealt mainly with the subject of the results of syphilis in the production of arterial disease. There were, he said, several diseases of the blood-vessels and the heart commonly fatal in their result, and by no means rare, which were not obviously syphilitic in nature, and did not figure as results of syphilis in death returns, but which were now recognised as late results of syphilis. The main object of his evidence was to draw attention to the commonness and gravity of these indirect and late results of syphilis.

Miss Gregory said that she was anxious to impress upon the Commission the necessity for every pupil midwife receiving a short course of lectures on venereal diseases and clinical instruction at a lock hospital. At the present time she thought midwives were absolutely ignorant in these matters. It would be impossible to include such a course of lectures in the present syllabus, and she would not advocate it unless the whole training were lengthened; at present the period allotted by the Central Midwives Board for training was the wholly inadequate one of three months.

APRIL AT HOME AND ABROAD.

At Home.

FOLLOWING the example of February and March, April continued to bring rain in great or small quantities nearly every day until about the 12th, when it suddenly changed its character and gave one of the brightest and driest spells that this country has experienced for a very long period. For about three weeks there was no rain whatever over a large portion of England, and in Scotland and Ireland the falls were extremely slight and few. The temperature, too, which had not been low during the unsettled opening of the month, rose very appreciably, and many parts of the kingdom recorded shade maxima as high as 70°, while most of the nights were fairly mild, and frost severe enough to injure the profuse blossom covering the fruit trees was very restricted in its area. Over the country generally the mean temperature for the month was 3° or 4° above the average, and the sunshine between two and three hours per day in excess, while in numerous localities the aggregate rainfall was less than half the normal. At Kew the mean maximum temperature was as high as 59°, or 5° above that of a normal April, and the mean minimum, 41°, exceeded the normal by 1°. The total number of hours of sunshine was a trifle above 220, and represented an excess of more than two hours per day, while the rainfall, 0·61 in., was as much as 0·85 in. below the average. Some other parts of the metropolitan area were, relative to their average, brighter than Kew. At Westminster the total number of hours of sunshine was 216, giving an excess on the average of nearly 3½ hours per day, while at Greenwich the aggregate was as high as 232 hours. Both Bath and Nottingham were slightly warmer than Kew during the daytime and a little colder at night, and at Bath the days were brighter, yielding the large aggregate of 241 hours of sunshine, an excess of three hours daily. Nottingham was also very bright, with 224 sunny hours, and at Birmingham the figure was nearly 210 hours. Along the coast to the south and west the duration of sunshine was, as it is generally, more liberal than elsewhere. About 230 hours was a common total along the south coast. At Torquay there was as much as 237 hours, and at Newquay and the Scilly Isles 20 hours more. Jersey, however, was hardly so bright, its total sunshine scarcely exceeding that at Nottingham. The most equable temperature was at Scilly, where the mean maximum was 56° and the mean minimum 46°, but the range between the warmth of the day and night was only 13° or 14° at Jersey, Newquay, and Torquay, against 18° in London and 21° in the Midlands. Over the country as a whole the brightest and warmest period of the month was a week or so from the 14th, when a cloud was a rarity, and the thermometer mounted to 70° or a little higher. Considered generally, last month was the finest April for many years. Probably none since 1893 has given so many bright, dry days.

Abroad.

All the adjacent countries of the continent shared in the fine weather. At Paris rain fell on only nine days, giving the small total of 0·9 in., while the sunshine was 252 hours, about an hour per day longer than at Kew, the mean maximum temperature was as high as 65°, and the mean minimum 44°. Berlin and Vienna were both less warm than Paris, their respective mean maximum temperatures being 60° and 62° and the mean minima 43° and 42°. Both cities were dry, having little or no rain after the 10th, although their total fall was much higher than in London, the figure being about 1·3 in. The Riviera had practically no rain until the 30th, and at Biarritz rain only fell on seven days. Southern France generally was rather warm for the time of year. At Nice the shaded thermometer rose to 70° or above on several occasions, and the mean maximum was as high as 67°, exceeding that at Biarritz by 3°. The mean minimum, however, 50°, was the same at both resorts, Biarritz thus living up to its character of being more equable than the resort on the Riviera. Throughout Italy the weather was almost continuously fine and dry, rain falling on very rare occasions, and the thermometer pointing to readings which would be considered seasonable in southern England during June. At Rome only four days brought slight rain, and the mean maximum temperature was no lower than 69°. The nights were relatively cool, giving a mean minimum temperature 2° lower than Nice and Biarritz, and only 2° above that at Scilly and Jersey.

The change to dry weather after more than two months of more or less rain nearly daily was due to barometric pressure assuming an anticyclonic distribution in this part of the world in place of the cyclonic condition that is the more usual. Ever since the latter part of January the Atlantic had passed on depression after depression to these islands or their immediate vicinity, but the system which threatened to give a rainy Easter was the last of the series, and during the next three weeks two large anticyclones, which also came from the Atlantic, ruled the weather as they moved in a leisurely manner across the British Isles and the North Sea to the continent. An anticyclone in spring usually gives colder easterly winds in the south of England than those of last month, and is too often accompanied by sharp frost at night. On this occasion the wind had but a moderate cutting capacity, and, considering the many cloudless nights, frost was uncommon.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 9245 births and 4905 deaths were registered during the week ended Saturday, May 16th. The annual rate of mortality in these towns, which had been 15·1, 14·2, and 14·1 per 1000 in the three preceding weeks, was again 14·1 per 1000 in the week under notice. During the first six weeks of the current quarter the mean annual death-rate in these towns averaged 14·6, against 15·8 per 1000 in London during the same period. Among the several towns the death-rate last week ranged from 2·8 in Eastbourne, 6·3 in Cambridge, 6·8 in East Ham, 7·4 in Ilford, and 7·5 in Southend-on-Sea, to 20·1 in Stoke-on-Trent, 20·4 in Tynemouth, 20·5 in Gateshead, 21·7 in Carlisle, and 23·1 in Dudley and in Middlesbrough.

The 4905 deaths from all causes were 9 in excess of the number in the previous week, and included 421 which were referred to the principal epidemic diseases, against 453 and 436 in the two preceding weeks. Of these 421 deaths, 143 resulted from whooping-cough, 138 from measles, 69 from infantile diarrhœal diseases, 33 from scarlet fever, 31 from diphtheria, and 7 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·2, against 1·3 per 1000 in each of the four preceding weeks. The deaths attributed to whooping-cough, which had been 166, 139, and 146 in the three preceding weeks, fell to 143 last week, and caused the highest annual death-rates of 1·3 in Sheffield, 1·4 in Warrington, 1·7 in Hastings and in Gateshead, 1·8 in Bury, and 2·2 in Walsall. The deaths referred to measles, which had been 140, 155, and 146 in the three preceding weeks, further declined to 138 last week; the highest death-rates from this cause were 1·3 in Salford and in Swansea, 1·4 in Smethwick, in Bootle, and in Burnley, 1·5 in Sheffield, 1·7 in Rochdale, and 2·0 in Dudley. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 66, 59, and 59 in the three preceding weeks, rose to 69 last week; of this number 18 were registered in London, 7 in Liverpool, 5 in Birmingham, and 3 each in Nottingham, Manchester, Leeds, and Middlesbrough. The deaths attributed to scarlet fever, which had been 23, 35, and 27 in the three preceding weeks, rose to 33 last week, and included 8 in London, 4 in Liverpool, 4 in Sheffield, and 2 each in Birmingham, Manchester, Oldham, and Newcastle-on-Tyne. The deaths referred to diphtheria, which had been 40, 50, and 44 in the three preceding weeks, further fell to 31 last week; 5 deaths occurred in London, 3 in Birmingham, 3 in Manchester, and 2 each in Bristol, Bolton, and Rotherham. The fatal cases of enteric fever, which had been 10, 15, and 13 in the three preceding weeks, fell to 7 last week, of which 2 were recorded in London.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 2886, 2876, and 2901 at the end of the three preceding weeks, had declined to 2862 on Saturday last; 349 new cases were admitted during the week, against 305, 377, and 398 in the three preceding weeks. These hospitals also contained on Saturday last 1129 cases of diphtheria, 356 of whooping-cough, 110 of measles, and 44 of enteric fever, but not one of small-pox. The 1157 deaths from all causes in London were 39 fewer than the number in the previous week, and corresponded to an annual death-rate of 13·4 per 1000. The deaths referred to diseases of the respiratory system, which had been 258, 185, and 221 in the preceding three weeks, declined to 191 last week, and were 19 below the number registered in the corresponding week of last year.

Of the 4905 deaths from all causes in the 97 towns, 174 resulted from different forms of violence, and 381 were the subject of coroners' inquests, while 1429 occurred in public institutions. The causes of 39, or 0·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and in its 14 suburban districts, in Leeds, Bristol, Bradford, Hull, Newcastle-on-Tyne, and in 56 other smaller towns. Of the 39 uncertified causes of death, 6 were registered in Birmingham, 3 in Stoke-on-Trent, 3 in Liverpool, 3 in Sunderland, and 2 each in Gillingham, Southend-on-Sea, Coventry, Bootle, Preston, Sheffield, and Tynemouth.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1230 births and 673 deaths were registered during the week ended Saturday, May 16th. The annual rate of mortality in these towns, which had been 16·9, 15·2, and 16·2 per 1000 in the three preceding weeks, declined to 15·3 per 1000 in the week under notice. During the first six weeks of the current quarter the mean annual death-rate in these towns averaged 16·0, against a corresponding rate of 14·6 per 1000 in the 97 large English towns. Among the several towns the death-rate last week ranged from 7·6 in Motherwell, 10·9 in Paisley, and 12·1 in Dundee, to 18·2 in Coatbridge, 22·0 in Ayr, and 23·4 in Clydebank,

The 673 deaths from all causes were 40 fewer than the number in the previous week, and included 56 which were referred to the principal epidemic diseases, against 61 and 64 in the two preceding weeks. Of these 56 deaths, 20 resulted from measles, 18 from whooping-cough, 6 from infantile diarrhœal diseases, 5 from diphtheria, 4 from scarlet fever, and 3 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·3, against 1·2 per 1000 in the 97 large English towns. The deaths attributed to measles, which had been 29, 19, and 31 in the three preceding weeks, fell to 20 last week, of which 13 occurred in Glasgow, 2 in Edinburgh, and 2 in Dundee. The deaths referred to whooping-cough, which had been 9, 13, and 17 in the three preceding weeks, were 18 last week, and included 9 in Glasgow, 3 in Coatbridge, and 2 in Falkirk. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 18, 17, and 4 in the three preceding weeks, rose to 6 last week, and included 2 in Glasgow and 2 in Dundee. The deaths attributed to diphtheria, which had been 9, 8, and 7 in the three preceding weeks, further fell to 5 last week, but showed no excess in any town. The 4 deaths referred to scarlet fever, of which 3 occurred in Glasgow and 1 in Kirkcaldy, were slightly below the average in the earlier weeks of the quarter. Of the 3 fatal cases of enteric fever, 2 were registered in Glasgow and 1 in Kilmarnock.

The deaths referred to diseases of the respiratory system, which had been 130, 90, and 116 in the three preceding weeks, declined to 104 in the week under notice; and 23 deaths resulted from various forms of violence, against numbers declining from 31 to 16 in the three preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 677 births and 421 deaths were registered during the week ended Saturday, May 16th. The annual rate of mortality in these towns, which had been 25·3, 20·6, and 18·6 per 1000 in the three preceding weeks, further fell to 18·2 per 1000 in the week under review. During the first six weeks of the current quarter the mean annual death-rate in these towns averaged 20·9 per 1000; in the 97 large English towns the corresponding rate did not exceed 14·6, while in the 16 Scotch towns it was equal to 16·0 per 1000. The annual death-rate last week was equal to 19·5 in Dublin (against 13·4 in London and 16·7 in Glasgow), 17·6 in Belfast, 21·1 in Cork, 12·7 in Londonderry, 10·8 in Limerick, and 19·0 in Waterford, while in the 21 smaller towns the mean rate was 18·1 per 1000.

The 421 deaths from all causes were 10 fewer than the number in the previous week, and included 43 which were referred to the principal epidemic diseases, against numbers steadily declining from 75 to 47 in the four preceding weeks. Of these 43 deaths, 21 resulted from measles, 9 from infantile diarrhœal diseases, 8 from whooping-cough, 2 from scarlet fever, 2 from diphtheria, and 1 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·9, against corresponding rates of 1·2 and 1·3 per 1000 in the English and Scotch towns respectively. The deaths attributed to measles, which had been 37, 45, and 30 in the three preceding weeks, further declined to 21 last week, of which 17 occurred in Dublin and 3 in Belfast. The deaths of infants (under 2 years) referred to diarrhœa and enteritis, which had declined from 10 to 3 in the four preceding weeks, rose to 9 last week, and included 5 in Dublin and 3 in Belfast. The fatal cases of whooping-cough, which had fallen from 14 to 9 in the four preceding weeks, were 8 last week, of which 5 were recorded in Belfast. The 2 deaths from scarlet fever were recorded in Belfast, and were 2 below the average in the earlier weeks of the quarter. The fatal cases of diphtheria occurred in Lisburn and Kilkenny, and that of enteric fever in Dublin.

The deaths referred to diseases of the respiratory system, which had declined from 115 to 74 in the four preceding weeks, rose to 86 in the week under notice. Of the 421 deaths from all causes, 132, or 31 per cent., occurred in public institutions and 12 resulted from various forms of violence. The causes of 16, or 3·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes did not exceed 0·8 per cent.

ASYLUM WORKERS' ASSOCIATION.—At the annual meeting of this association, which was held on May 20th, at the Medical Society's House, Chandos-street, W., under the presidency of Sir John Jardine, K.C.I.E., M.P., it was stated in the annual report that there had been a falling off in membership. Reference was made to the Mental Deficiency Act, 1913, and the hope expressed that many of the workers employed under the new Act would realise the advantage of protecting their interests by joining the association. The society exists for the purpose of raising the status of asylum nurses and attendants and of promoting their general welfare. The address of the secretary is 8, Lancaster-place, Hampstead, N.W.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Staff-Surgeon John Neil Robertson has been promoted, for conspicuous professional merit, to the rank of Fleet-Surgeon in His Majesty's Fleet (dated May 15th, 1914). Surgeon James Leslie Barford has been promoted to the rank of Staff-Surgeon in His Majesty's Fleet (dated May 19th, 1914), and Surgeon Richard Connell has been promoted to the rank of Staff Surgeon in His Majesty's Fleet (dated May 14th, 1914).

ROYAL NAVAL VOLUNTEER RESERVE.

The undermentioned has been appointed Surgeon: Stanley Henry Scott (dated May 15th, 1914).

ARMY MEDICAL SERVICE.

Surgeon-General Sir A. T. Sloggett, C.B., C.M.G., has been granted leave of absence until June 1st, when he will take over the duties of Director-General of the Army Medical Services from Sir William Launcelotte Gubbins, K.C.B., M.V.O., who will be retired.

ROYAL ARMY MEDICAL CORPS.

Colonel J. Maher has been appointed Deputy Director of Medical Services to the Gibraltar Command. Brevet-Colonel S. Hickson has taken up duty as Inspector of Medical Services on the Headquarters Staff at the Horse Guards.

Lieuteant-Colonel C. A. Young has been transferred from Shrewsbury to the Chatham District. Lieutenant-Colonel R. H. Hall has been appointed to the Southern Command. Lieutenant-Colonel D. M. O'Callaghan has been appointed to hold charge of the Military Hospital at Dover. Lieutenant-Colonel F. R. Newland has been appointed to hold charge of the Military Hospital at Colchester. Lieutenant-Colonel M. P. C. Holt, D.S.O., has arrived home from India. Lieutenant-Colonel B. J. Inniss has been appointed to hold charge of the Military Hospital at Delhi Cantonment. Lieutenant-Colonel N. Faichnie has been appointed Senior Medical Officer at Preston. Lieutenant-Colonel G. A. T. Bray has been appointed Senior Medical Officer in charge of the Royal Hospital, Chelsea. Lieutenant-Colonel C. W. H. Whitestone has arrived home for duty from Lahore. Lieutenant-Colonel S. G. Moores has taken over charge of the Military Hospital at Warley.

Major G. J. A. Ormsby has arrived home from India. Major J. C. B. Statham has been appointed to the London District. Major A. H. Safford has been appointed to the Eastern Command. Major W. L. Baker has been appointed to the Medical Recruiting Staff in the London District. Major W. M. B. Sparkes has taken up duty in the Sierra Leone Protectorate. Major W. L. Bennett has been transferred from Pontefract to Halifax. Major T. B. Unwin has arrived home from the Sierra Leone Protectorate. Major J. G. Gill has been appointed to the Southern Command. Major F. E. Gunter has arrived home from Meerut Cantonment. Major J. C. Kennedy has been appointed to the Military Hospital at Lucknow Cantonment. Major R. L. Popham has embarked for India. Major L. Addams-Williams has been transferred from Tidworth to Karachi Cantonment. Major H. P. W. Barrow has been appointed to the London District. Major W. J. Taylor has been appointed to officiate as Senior Medical Officer to the Sierra Leone Protectorate during the absence on leave of Lieutenant-Colonel J. J. Gerrard. Major V. G. Crawford has arrived home for duty from Mauritius. Major C. E. W. S. Fawcett has been transferred from the Military Hospital at Queenstown to the Indian Establishment. Major H. C. Winckworth has relinquished charge at Woolwich. Major S. O. Hall has been appointed to the Military Hospital at Rangoon.

Captain W. Mitchell has been appointed to the Western Command. Captain B. A. Odlum has been transferred from Simonstown to Bloemfontein. Captain D. McGrigor has joined at Agra. Captain J. Startin has been granted six months' leave of absence home from India. Captain J. J. H. Beckton has been appointed to the Military Hospital at Sialkot Cantonment. Captain J. M. M. Crawford has taken up duty at Ipswich as Adjutant to the Royal Army Medical Corps School of Instruction. Captains E. B. Booth and G. Ormrod have embarked for a tour of service in the Sierra Leone Protectorate. Captain A. H. Heslop has been appointed to the Aldershot Command. Captain A. G. Wells has arrived home from India. Captain W. J. E. Bell has taken up duty in the London District. Captain M. Keane has embarked for India. Captain D. De C. O'Grady has arrived home from India. Captain A. M. Bennett has been appointed to hold charge of the Military Hospital at Newport. Captain P. Davidson, D.S.O., has taken up duty in Aldershot as Adjutant to the Royal Army Medical Corps Depôt. Captain P. S. Stewart has arrived home from Malta. Captain J. A. Bennett has been appointed to the Military Hospital at Cork. Captain F. W. M. Cunningham has been appointed Staff-Surgeon to Headquarters at Sialkot Cantonment. Captain D. M. Corbett has been appointed to the Military Hospital at Ambala Cantonment. Captain A. W. Gater has joined the Military Hospital at Winchester. Captain W. F. M. Loughnan has arrived home from India. Captain G. A. D. Harvey has been appointed Specialist in Physical Training to the Staff of the Royal Army Medical College. Captain T. E. Harty has been appointed to hold charge of the Military Hospital at Wonkufu, West Africa. Captain E. T. Gaunt has joined at Malta. Captain A. C. Amy has arrived home from Agra Cantonment. The following captains have been placed under orders to join the Royal Army Medical College for the next session for promotion to the rank of Major:—A. E. G. Frazer, A. M. Pollard, W. B. Purdon, G. F. Rudkin, O. C. P. Cooke, J. du P. Langrishe, and W. I. Thompson. Captain M. J. Cromie has taken up duty in the Sierra Leone Protectorate. Captain E. Gibbon has joined the Egyptian Army. Captain J. R. Foster has arrived home from the Military Hospital at Neemuch Cantonment. Captain H. J. Crossley has been appointed to the Military Hospital at Bareilly Cantonment. Captain T. H. Gibbon has been appointed Pathologist to the Military Hospital at Dublin. Captain A. Hendry has taken up duty at Colaba, Bombay. Captain A. G. Cummins has been appointed to the Egyptian Army. Captain J. H. Gurley has been appointed Specialist in Ophthalmology to the Royal Victoria Military Hospital at Netley. Captain R. C. Hallowes has joined at Holywood. Captain G. F. Dawson has been appointed to the Military Hospital at Bareilly Cantonment. Captain N. E. J. Harding has been appointed to hold medical charge at the Tower of London. Captain W. D. Kelly has taken up duty at Pretoria as Specialist in Advanced Operative Surgery. Captain G. A. Kempthorne has been placed in medical charge at Tregantle. Captain C. R. Millar has joined at Ballincollig. Captain C. H. Denyer has been appointed to the Military Hospital at Agra Cantonment. Captain F. T. Dowling has been appointed to hold charge of the Cantonment General Hospital at Nowshera. Captain S. W. Kyle has joined at Jubbulpore.

Lieutenant T. A. Weston has been selected for appointment as Specialist in Advanced Operative Surgery to the Eighth (Lucknow) Division of the Northern Army in India. Lieutenant T. C. R. Archer has taken up duty at Hong-Kong. Lieutenant T. H. Balfour has been appointed to hold charge of the Military Hospital at Inverness. Lieutenant S. J. Higgins has joined at Lucknow. Lieutenant W. O. W. Ball has been appointed to the Military Hospital at Longmoor Camp. Lieutenant A. Hood has taken up duty at the Military Hospital, Rawal Pindi Cantonment. Lieutenant S. D. Large has been appointed to hold charge of the Reception Hospital at Aldershot. Lieutenant S. P. Sykes has been appointed to the Military Hospital at Jutogh Cantonment.

INDIAN MEDICAL SERVICE.

The King has approved the promotion of the following officers:—Lieutenant-Colonel to be Colonel: Thomas Edward Dyson (dated Jan. 10th, 1914). Captains to be Majors (dated Jan. 26th, 1914): James McPherson, George Denne Franklin, Charles Aikman Gourlay, Robert Archer Lloyd, John Conrad Gie Kunhardt, Ernest Alexander Walker, Lewis Cook, Leonard Bodley Scott, Gerard Irvine Davys, William Leigh Trafford, Howard Crossle, Edward Charles Cecil Maunsell, John Warwick Illius, and John Philip Cameron.

The promotion of James Jackson Robb and Shaik Abdur Ruzzak to their present rank of Major is antedated from Jan. 29th, 1913, to July 29th, 1912.

The King has approved the retirement of the undermentioned officers: Colonel Robert Bradley Roe (dated May 15th, 1914), Lieutenant-Colonel Joseph Rosamond Adie (dated March 22nd, 1914), and Lieutenant-Colonel Herbert Wilson Pilgrim (dated May 11th, 1914).

Surgeon-General W. Babtie, V.C., C.B., C.M.G., British Service, has been appointed Director, Medical Services, vice Surgeon-General Sir A. T. Sloggett, C.B., C.M.G., British Service (dated March 22nd, 1914).

Colonel R. Robinson has taken up duty as Assistant Director of Medical Services to the Kohat Brigade.

Lieutenant-Colonel F. J. Drury has been appointed Inspector-General of Civil Hospitals in Behar and Orissa. Lieutenant-Colonel T. W. Irvine has been appointed to hold civil medical charge at Peshawar. Lieutenant-Colonel J. G. Hojel has arrived home on leave of absence from India. Lieutenant-Colonel W. D. Sutherland has been appointed for special duty as Serologist at Calcutta. Lieutenant-Colonel J. L. Macrae has been appointed Civil Surgeon at Coorg. Lieutenant-Colonel L. F. Childe has been granted three months' extension of leave of absence home from India on medical certificate. Lieutenant-Colonel W. E. Jennings has been appointed to officiate as Assistant Director of Medical Services to the Bombay Brigade. Lieutenant-Colonel P. Carr-White has joined for duty in Nepal.

Lieutenant-Colonel J. Morwood has been appointed to Shahjahanpur.

Major W. H. Leonard has arrived home on combined leave of absence from India. Major H. B. Steen has been placed in civil medical charge at Murshidabad. Major W. W. Clemesha, Sanitary Commissioner to the Presidency of Bengal, has been allowed combined leave of absence home from India for two years. Major V. B. Bennett has been appointed to Hyderabad, Sind, as Civil Surgeon and Superintendent of the Lunatic Asylum. Major F. D. S. Fayrer has been granted two months' extension of leave of absence home from India. Major R. F. Baird has been appointed to Gonda on transfer from the Central Research Institute at Kasauli Cantonment. Major I. M. Wooley has taken up duty at Dacca as Superintendent of the Central Jail.

Captain C. A. F. Hingston has been appointed to officiate as Professor of Midwifery at the Government Medical College, Madras, and Superintendent of the Maternity Hospital. Captain F. N. White has been appointed to officiate as Assistant to the Director-General. Captain C. J. Brierley has been placed on general duty in the Peshawar District. Captain O. Berkeley Hill has been transferred from Lahore to Bombay. Captain C. A. Gourlay has been appointed to officiate as Civil Surgeon at Chittagong. Captain T. C. McCombie Young has taken up duty in Assam as Deputy Sanitary Commissioner. Captain R. A. Lloyd, medical officer of the 21st Punjabis, has been appointed to officiate as Civil Surgeon and Superintendent of the Jail at Belaspur. Captain J. Forrest has been appointed District Medical and Sanitary Officer at Kistna. Captain H. M. H. Melhuish, plague medical officer in the Punjab, has been granted six months' leave of absence home from India. Captain W. J. Collinson has taken up duty as Plague Medical Officer at Meerut.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Lieutenant William R. Gardner to be Captain (dated May 18th, 1914). Cadet James O'Brien, from the Royal College of Surgeons in Ireland Contingent, Officers Training Corps, to be Lieutenant, on probation (dated March 26th, 1914). Cadet Sergeant Alexander Caulfield Jebb, from the Glasgow University Contingent, Officers Training Corps, to be Lieutenant, on probation (dated April 24th, 1914). Cadet Sergeant James Couper Brash, from the Leeds University Contingent, Officers Training Corps, to be Lieutenant, on probation (dated April 17th, 1914). Cadet (late Cadet Colour-Sergeant) Francis George Macnaughton, from the Edinburgh University Contingent, Officers Training Corps, to be Lieutenant, on probation (dated April 29th, 1914).

The undermentioned officers resign their commissions (dated April 3rd, 1914): Captain Clarence E. Greeson, Lieutenant Gerald M. Graham, and Lieutenant Henry B. Parker.

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd South-Western Mounted Brigade Field Ambulance, Royal Army Medical Corps: Henry Norman Barnett to be Captain (dated May 16th, 1914). John Munro Dupont to be Captain (dated May 16th, 1914).

3rd South Midland Field Ambulance, Royal Army Medical Corps: Captain Bertram M. H. Rogers to be Major (dated May 16th, 1914).

2nd London Sanitary Company, Royal Army Medical Corps: Lieutenant William A. Berry resigns his commission (dated May 20th, 1914).

For Attachment to Units other than Medical Units.—John Douglas Staley to be Lieutenant (dated Jan. 22nd, 1914). Lieutenant Charles L. Fraser resigns his commission, and is granted permission to retain his rank and wear the prescribed uniform (dated May 16th, 1914).

Attached to Units other than Medical Units.—Lieutenant Owen J. Parry-Edwards resigns his commission (dated May 20th, 1914).

ROYAL NAVY MEDICAL CLUB.

The annual dinner of the Royal Navy Medical Club was held at Prince's Restaurant, Piccadilly, on May 15th, when Surgeon-General Christopher Pearson presided. The guests of the club included Admiral H.S.H. Prince Louis of Battenberg, Vice-Admiral Sir John R. Jellicoe, Sir W. Watson Cheyne, Sir Dyce Duckworth, and Sir John Tweedy. The following members were present:—Surgeons-General: A. W. May, C.B. (Director-General Medical Department), Sir J. Porter, K.C.B. (late Director-General Medical Department), A. J. J. Johnston, J. J. Dennis, W. H. Norman, J. L. Barrington, and W. M. Craig, C.B. Inspector-General: B. Ninnis, C.V.O. Deputy Surgeons-General: G. Welch (Deputy Director-General Medical Department), P. B. Handyside, H. W. G. Doyne, G. A. Dreaper, C. J. Mansfield, M.V.O., and V. G. Thorpe. Deputy Inspector-General: F. A. Jeans. Fleet-Surgeons: P. W. Bassett-Smith, C.B., A. F. Harper, H. B. Beatty, J. Moore, D. J. P. McNabb, C. Strickland, G. T. Broatch, J. D. Hughes, G. A. Waters, J. Shand, W. A. Whitelegge, E. H. Hodnet de Courtmacsherry, R. Hill, C.V.O., F. W. Parker, R. C. Munday, A. Gaskell, E. J. Finch, M. L. F. Rodd, C. L. W. Bunton, P. H. Boyden, E. T. P. Eames, M. P. Jones, W. S. H. Sequeira, W. L. Martin, D. W. Hewitt, F. H. Nimmo, E. Sutton, G. E. Kennedy (retired), F. D. Lumley (retired), J. W. O. Underhill (retired), and J. E. Cook. Staff-Surgeons: R. W. G. Stewart, P. D. Ramsay, L. Warren, E. Cox, J. H. Rooney, H. B. Shewell, A. F. Fleming, A. K. Smith Shand, J. S. Dudding, B. Pick, and A. D. Cowburn, R.N.V.R. Surgeons: A. G. Malcolm, G. M. Levick, G. F. Syms, K. H. Hole, T. R. Lloyd Jones, H. C. Devas, H. F. Briggs, A. T. Rivers, G. A. Jackson, J. Barrett, M. P. Fitzgerald, H. W. Nicholls, Campbell Ross, F. L. Smith, E. D. Macnamara (retired), W. N. Pickles, R.N.V.R., W. F. Fedden, R.N.V.R., and P. D. Pickles, R.N.V.R.

BRITISH SCIENCE GUILD.—The annual meeting of the British Science Guild will be held at the Mansion House to-day (Friday, May 22nd), at 4 P.M., the Lord Mayor presiding. Sir Ronald Ross will deliver an address, and other speakers will include the President of the Guild, the Right Hon. Sir William Mather. The annual dinner will be held at 7 P.M. at the Trocadero Restaurant.

EDINBURGH UNIVERSITY CLUB OF LONDON.—The jubilee dinner of this club was held on May 13th in the Grand Hall of the Hotel Cecil under the chairmanship of Lord Balfour of Burleigh. There was a large company, which included many members of the medical profession. Among those who supported the chairman were Sir William Turner, M.D. (Principal of the University of Edinburgh), Sir Archibald Geikie (late President of the Royal Society), Sir Dyce Duckworth, Sir Lauder Brunton, Surgeon-General Sir Launcelot Gubbins, Sir Robert Finlay, K.C., Sir W. Watson Cheyne, Sir StClair Thomson, Sir Henry Craik, Dr. Graham Brown (President of the Royal College of Physicians of Edinburgh), Professor F. M. Caird (President of the Royal College of Surgeons of Edinburgh), Surgeon-General A. W. May (Medical Director of the Navy), Dr. Robert Farquharson, P.C., Mr. Harold Stiles, Dr. Byrom Bramwell, and Dr. J. T. C. Laing and Dr. L. F. Knuthsen (honorary secretaries of the club). The Chairman, in submitting the toast of the Edinburgh University Club of London, spoke of the loss which it had suffered through the recent death of the Duke of Argyll. Referring to the services rendered by the club to the University, he pointed out that in commemoration of its jubilee the club, which now had a membership of 600, had decided to make a contribution of £500 towards the Lister Memorial Institute of Science now being established in Edinburgh. A better tribute to one of the noblest men who had ever adorned the great profession so largely represented at that dinner could not be devised or carried out. Lord Balfour coupled with the toast the name of Sir Dyce Duckworth, the only surviving original member of the club. Sir Dyce Duckworth, in response, recalled that the club had its origin in 1854 in a group of friends who met at 77, Manchester-street. He hoped the club would always preserve the spirit of loyalty to the *alma mater*. The influence of hard work in the atmosphere of Edinburgh raised the ordinary man and left its mark on him for the rest of his days. The toast of "The Guests" was proposed in graceful terms by Sir Robert Blair, chief education officer to the London County Council. The response was entrusted to Sir William Turner, who was very warmly received. He was that night, he said, in the position of representing their academic parents, and as such he offered the club felicitations upon reaching its fiftieth year. Referring to the contribution to the Edinburgh Lister Memorial, Sir William Turner paid an eloquent tribute to the memory of Lister, whom they honoured not only as a great leader but for his personal character, for no man had a more simple, more beautiful nature: he had taken his place among the immortals. The toast was also responded to by Mr. Edmund Gosse and Mr. G. A. S. Gordon. The health of the chairman was proposed in an amusing speech by Dr. George Ogilvie, who dwelt on the varied abilities of Lord Balfour and his distinguished public services, and in particular on the advantage which it had been to him to hail from the ancient kingdom of Fife. The proceedings concluded with the chairman's reply.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(Continued from p. 1415.)

XLVI.—COLCHESTER.

COLCHESTER is a quiet town with many fine old houses and some ruins that testify to its antiquity. It is an old-fashioned country town, and a military and social rather than an industrial centre. But there are some industries. There are, for instance, engineering and cloth works, and in connexion with the latter some difficulty is presented from the health point of view, as the number of home workers is large. A considerable portion of the work is in the making of "shoddy" clothes, given out for many miles round to cottagers. The cloth is converted into clothes in these private, unwatched, and uncontrolled dwellings. Will the well-known abuses associated with the home and piecework systems be better controlled and checked now that many of these home workers, being employed persons, are under the Insurance Act? Certain it is that already numerous cases of latent illness have been brought to the front and there is now medical treatment where formerly there was nothing but neglect.

Colchester has a population of 43,500; therefore it has not an Insurance Committee of its own, but depends on the Essex Insurance Committee. This body, as mentioned when dealing with Southend, meets in London, and the getting backwards and forwards to London for this and other committees constitutes a serious administrative difficulty. There is a local insurance area, which corresponds roughly with the North-East Essex Division of the British Medical Association, and in 1912 the practitioners in this area fought against the proposed insurance legislation. Many well-attended meetings were held, and out of about 60 members of the profession from 30 to 40 were generally present, which was creditable considering the great distances some of them had to travel in a county where railways are scarce. They discussed not merely the financial and professional aspects of the proposals, but especially whether its effects would be good or bad for the public. In regard to the financial question, great difference of opinion prevailed. Some practitioners said that it would pay very well to have the extension of contract practice, and others thought that there would be serious loss on the whole, but at least 90 per cent. of the profession were convinced that the proposed law would degrade medical science, and consequently be to the public detriment. With the one or two exceptions of practitioners entirely dependent on club patients, the money side of the question did not disturb these Essex doctors. Several among them expressed their readiness to lose all their club patients, though these in more than one case exceeded 1000 in number. Nevertheless, they were willing to put up with a considerable financial loss rather than lose their independence by observing the Act. Thus, when the Representative Meeting of the British Medical Association met in London in December, 1912, the Colchester delegate went up with full instructions to vote against working the Act. Most of his co-delegates from all parts of the country had similar instructions. Speaking to me, the Colchester representative described the extraordinary enthusiasm which prevailed when the Representative Body voted that the Act was derogatory to the profession. He returned to Colchester profoundly impressed that the Act was shattered and would never come into force.

How Colchester Capitulated.

There was, however, an early awakening from such illusions. Almost immediately after the representative meeting, and in spite of its brave decision, it was found that many were shaky in their alliance. Medical men in outlying country districts were reported as desirous of going on the panel, and rumour, assisted by advertisement, reported huge rushes of medical men on to the panels in various parts of the country. These newspaper reports greatly perturbed the profession. The country doctors who were in the strongest position, for they had no cause to fear that doctors would be imported to take their place, were to some extent won over by the permission, the very necessary permission, to dispense, so that they would receive the entire sum set aside for medical benefit. But in the countryside, if importations were not feared, yet every local practitioner was bound to be influenced by what his neighbours might do. All the men in the Colchester area protested their willingness to hold out, if no one in the neighbouring areas gave way. The rural doctors were the first to give way, and this because of the overlapping of practices established in districts outside the Colchester area. It was, therefore, from the circumference to the centre that defeat spread. Some country doctors were absolutely consistent in their opposition, while the town doctors stood out till well into January, 1913. Early in that month a meeting of the town practitioners was held, and here again it was decided unanimously not to go on the panel. Though this decision would mean the absolute ruin of one or two practitioners, still all were quite firm in the determination to resist. Then came the celebrated message, which has become an historical event, received by Dr. Leigh Day from Mr. Worthington Evans, M.P. The latter telephoned, inquiring what the Colchester doctors were going to do, and received the prompt reply that they were going to fight. Mr. Worthington Evans thereupon expressed his doubts as to the wisdom of this course, and explained that the Government was going to make an example of certain towns of moderate size. The result was that Mr. Worthington Evans came down to Colchester on the next day to tell what he knew about the proposed Government action. Another meeting of practitioners was held which sat for three hours. It was then seen that resistance was useless, but in revoking their former decision it was urged that the best way to mitigate the evils of the Act was for everyone to go on to the panel. As this resolution was adopted on a Saturday afternoon motor cars were sent round all Sunday to warn those who had not been able to attend the meeting. The profession proved as united in accepting the Act as they had been in resisting the Act, and this is in itself a matter of congratulation for them. They yielded when they could hardly do otherwise, and they so yielded as to leave little material for internal recrimination.

The Financial Results of the Act.

There can be no doubt that the fight has done an enormous amount of good in bringing the members of the profession together. Never before had they experienced such trying times, they were not all of one mind even when loyalty made them espouse a common cause, and to-day no bitterness of feeling or resentment prevails. It must be confessed that the financial results, by creating an agreeable surprise to many of them, have conduced to harmony. Only two doctors in the town and one in the outside or rural part for the Colchester insurance area have not gone on the panel. The probability is that they have experienced some loss, as some of their patients have been compelled to insure under the Act. The great majority of practitioners are satisfied with the financial results. Those who had many club patients have not found that these patients profited by the freedom of choice to leave their old club doctors. The club doctors have not lost patients, but are much better paid by these patients and have got others who were not members of clubs. Therefore their financial position has improved.

I will take a firm of three doctors as a concrete example of financial results. They had not many club patients. One of the three partners had no club patients and no contract work whatsoever. He now has a list of 450 insured patients, and about 200 of these were formerly private patients. His partners did have club patients, about 300 to 400, and they now have instead some 600 to 700 insured persons each, but many of these used to pay fees for advice. Altogether the three partners received under the Act for the first year £700. This is an increase of £350 over their former takings from the same sources, but 1912 was, as it happened, a bad year and 1913 an exceptionally good one, so they do not reckon on a permanent average increase of more than about £100. If this is not much when divided by three partners, nevertheless they can safely say that not only have they lost nothing, but they can rely apparently on at least a small improvement. This is a typical example of the all-round experience. The feeling is that it does pay to have a list of insured persons, and everybody at Colchester is satisfied with the financial aspect of the Act; but many practitioners still hate the sort of work they have to do, though some admit that in this direction the working of the Act is not as bad as they had anticipated.

The Medical Committee and the Commissioners.

The Act, it seems, if I may trust some of the opinions expressed here, is good enough, but the administration is very bad. One of my informants, speaking as a practitioner, expressed himself as quite satisfied; but as chairman of the Local Medical Service Subcommittee and as chairman of the Panel Committee he was very dissatisfied. The work they had to do after communication with the Commissioners was unsatisfactory through no fault of theirs, he considered. The replies they received came too late, and had on occasion been contradictory—complaints which have been made to me elsewhere. Colchester claims that it was the first town in Essex to form a Local Medical Committee. Very soon after its formation a scheme for the re-election was, in keeping with the requirements, duly drawn up. This was forwarded to the Commissioners 15 months ago, who did not reply.

As there are only three practitioners in the Colchester area who are not on the panel, it will be seen that practically the election of the Medical Committee and the Panel Committee depends on the vote of the same persons. Local opinion was opposed to duplication, and wanted the elections for the two committees to take place at the same time, resulting probably in the return of the same candidates for the two committees and the assimilation of their work. The Medical Committee of course was elected and at work long before there was any question of a Panel Committee, and the Medical Committee did its work so well that medical benefit was working better in Essex than in most places, yet there seemed to be an antagonism on the part of the Commissioners towards the Medical Committee. So much so that though, as a matter of form, questions were sent by this committee to the Commissioners, the committee had given up expecting favourable replies, said my informant. Moreover, it has not been admitted that the members of the Medical Committee have any right to claim their railway expenses. These amounted to £40, which if divided amongst the 484 practitioners of the Essex panels would not amount to 2*s.* each. Laymen who are on the Essex Insurance Committee are paid their expenses; medical men who are elected members of the Essex Medical Committee, formed in accordance with the Act, have to pay all their expenses out of their own pockets. Yet both are administrative expenses.

Administrative Difficulties.

Then there is a financial difficulty at Colchester, which may have arisen elsewhere, but which I have not before come across that I remember. The secretary of the Medical Committee is a medical practitioner and a member of that committee. Out of a voluntary levy he was paid a certain sum a year for his work as secretary. Now, and as both committees consist of the same persons, he is secretary of the Panel Committee. The Panel Committee, being an administrative committee, has a right to claim payment for its expenses out of the insurance funds. Thus it was hoped that the ½*d.* to be taken from the floating sixpence would go to pay the secretary's salary. But the Commissioners have replied that no member of a committee is to receive a salary. The secretary must retire from the committee if he is to be the paid secretary of the committee. He would therefore not be able to bring forward urgency motions or take any initiative in the work which he has been managing since the Act came into force. There is far too much work for any panel doctor to act as secretary for the Panel Committee unless he is remunerated. In a word, the Act is no longer attacked or criticised; it is the administration, especially that which is carried out centrally by the Commissioners, which is the object of most of the fault-finding.

(To be continued.)

THE INTERNATIONAL SURGICAL ASSOCIATION.

(FROM OUR OWN CORRESPONDENT.)

(Concluded from p. 1345.)

Gastric and Duodenal Ulcers.

A DISCUSSION on the production and treatment of gastric and duodenal ulcers was opened on Tuesday, April 14th, by Dr. A. LAMBOTTE (Brussels), who said that it had been clearly established that pyloric exclusion constituted an important supplementary procedure to gastro-enterostomy. Of all the methods devised to effect this exclusion the simplest was by ligature of the pylorus. He described the procedure and said that its great advantage was its extreme simplicity, only taking a few seconds. As for peptic ulcers, Dr. Lambotte believed that it was necessary to seek their origin in the operative technique which had been followed rather than in the pathological disposition of the patient. In addition to those whose remarks are summarised, Dr. Block (Copenhagen), Dr. Kümmel (Hamburg), Dr. Ullmann (Vienna), Dr. Manniger (Budapest), Dr. Zahradincky and Dr. Keynski (Russia) took part in a most valuable discussion.

Dr. Charles L. Gibson (New York), who spoke in French, cited statistics collected by Dr. D. R. Turnure from the Hudson Street, Roosevelt, and St. Luke's Hospitals, regarding the outcome of operations on patients suffering from gastric and duodenal ulcers during the past 18 months.

Dr. Sonnenburg (Berlin), referring to the diagnosis of gastric or duodenal ulcer, said that this was by no means an easy matter. The speaker commenting on the value of radioscopy said that, according to Max Cohn, contraction and too rapid emptying of the stomach were in no sense pathognomonic but only accompanying symptoms of gastric and duodenal ulcer, but that retention of bismuth in the duodenum was significant. Abnormal gas formation in the duodenum was of special import, especially gas bubbles in the first portion of the duodenum. In his personal experience the bismuth test had not been absolutely reliable. The majority of medical men in Berlin agreed that the diagnosis of duodenal ulcer remained a probable rather than an absolute diagnosis. With regard to the relative frequency of gastic and duodenal ulcer their experience was at variance with that of American surgeons. In his series of cases there were 13 duodenal and 67 gastric ulcers. The information given by Moynihan and American surgeons had assisted him in making a diagnosis in many instances.

Dr. Brüning (Giessen) said that the symptom-complex described by Moynihan occurred in many cases of ulcer of the stomach, but was absent in others. There was no way in which one could be absolutely certain as to the situation of the ulcer. The von Eiselsberg Ausschaltung method of operation was undoubtedly the best.

Dr. Arthur D. Bevan (professor of surgery at the University of Chicago) referred to the experiments of his colleague, Dr. Edward C. Rosenow, with regard to the origin of gastric and duodenal ulcers and the transmutation of certain bacteria under certain conditions. These experiments in producing artificial ulcers in animals were based upon an earlier series of experiments. Dr. Rosenow had taken certain strains of bacteria and injected them intravenously into animals and produced endocarditis. He then took the same bacteria and cultivated them in a different medium, and the strain so produced, when injected into animals intravenously, invariably brought about inflammatory infectious lesions of the joints. The conclusion was that each strain possessed a selective action for some distinctive type of tissue. Proceeding on this principle, he isolated bacteria from the exudate of gastric and duodenal ulcers, cultivated them in other media, and by injecting them intravenously into animals set up gastric and duodenal ulcers. Dr. Bevan remarked that the result of Dr. Rosenow's investigations were extremely suggestive.

Dr. John B. Murphy (Chicago) corroborated Dr. Bevan's account of Dr. Rosenow's investigations. Rosenow, he said, appeared to have shown that a single strain of streptococcus will by change of environment alter its character and will, when injected into animals under suitable conditions, bring about endocarditis, inflammatory infectious lesions of the joints, and acute gastric and duodenal ulcers and probably other diseases. Dr. Murphy gave it as his opinion that gastric ulcers were caused by infection in other parts of the body, and pointed out that such ulcers were more prevalent at that period of the year when infections of the respiratory tract were rife. Commenting upon the button which goes by his name, Dr. Murphy said that he still used it; not, however, the round button, but an oblong button which he introduced ten years ago.

Dr. Howard Lilienthal (New York) said that when conditions were favourable he excised ulcer-bearing areas at once. When, however, there was a large indurated mass near the pylorus a large operation was necessary to remove it. In such a case he first did a gastro-enterostomy near the pylorus and close to the median line, and afterwards, when the patient had recovered strength, he performed a pylorectomy. In ulcer of the stomach with indurated deposits he therefore performed a two-stage operation.

Dr. A. Gerster (New York) drew attention to the danger of infection resulting from the use of sutures, and emphasised the fact that medical treatment of gastric and duodenal ulcers was as important as surgical measures.

Dr. Albert Ochsner (Chicago) said that gastric and duodenal ulcers were due in the large majority of cases to the habitual abuse of normal feeding which gave rise to the long-continued irritation of hyperacidity. Dietetic and medical treatment would often effect a cure.

Dr. Rodman (Philadelphia) considered that while patients suffering from gastric or duodenal ulcers made a recovery after operation, in many instances they were not cured. Even more radical treatment was indicated. It was difficult to diagnose correctly between ulcer and cancer of the stomach. He thought the reason why medical men did not perform pylorectomy or excision of ulcers of the gastro-intestinal tract more frequently was the exaggerated idea of the gravity of these operations. From statistics he had collected he was more than ever convinced that the operations were less dangerous by far than was generally supposed. He agreed with Lilienthal that if a two-stage operation were more commonly practised the mortality could be considerably decreased. His experience had taught him that ulcers at the pylorus most often became malignant, but that such an occurrence in other parts of the stomach was rare. On the whole, he considered that pylorectomy was the most effective operation.

Dr. William J. Mayo (Rochester, Minn.) preferred a one-stage operation. Speaking of Dr. Rosenow's findings, he said that investigations in the same direction were going on at St. Mary's Hospital, Rochester, but he wished to point out that although Rosenow had produced acute ulcers in animals he had not produced chronic ulcers. Acute gastric and duodenal ulcers seldom became chronic, and as carcinoma never developed at the bases it must be grafted on.

On Wednesday, April 15th, a discussion was opened on

Grafts and Transplantation.

The plastic art of surgery is not so highly developed in America as in France and in some other parts of Europe, and to many present the papers read were a revelation. Especially was the audience impressed by the paper and illustrations of Dr. Lexer (Jena), who is well known as a pioneer in this branch of surgery. Dr. Lexer told of successful joint transplantations done by him, and pointed out that substitution of half a joint can be as easily accomplished as that of an entire joint, and said that the possibility of organic incorporation of a transplanted joint taken freshly from man had been proved. He held that his mission consisted in establishing the practical value of grafting on the basis of his own personal work and experience. His conclusions were as follows:—

> The value of the various tissues employed for grafting was differently appreciated by practitioners and by pathologists. An excellent clinical result might be obtained not only if the graft, in taking, preserved its entire structure, but also if it disappeared slowly giving place to substitution tissues or was completely surrounded by adhesions. The circumstances of clinical failures must be taken into account. The graft might be expelled by a violent reaction or disappear in a slowly progressive suppuration, or small blood-clots might prevent the nourishment of the transplanted part from becoming established. The conditions necessary for obtaining a good implantation were vitality, nutrition, powers of acclimatisation, and the condition of the wound on which the implantation was made. Scrupulous asepsis must be observed. Dr. Lexer pointed out as new the simple transplantation of the skin without epidermis, and considered in detail the clinical results of the transplantations of mucous membranes, muscular, nerve, and vascular tissues, tendons, aponeurosis, periosteum, peritoneum, bone, cartilage, and joints.

Dr. H. Morestin (Paris) began by showing that graftings and transplantations of tissues had considerably enlarged the limits of reparatory surgery. For the proof of this it sufficed to glance over the actual treatment of the principal injuries and deformities for which plastic operations were employed, to note the changes made in the results by cutaneous, epidermic, cartilaginous, and fatty grafts. Free cutaneous grafting succeeded fairly well under determined conditions—a small fragment taken from a soft thin skin and deprived of its pannicule applied on a living surface strictly aseptic. But these indications remained very limited, especially in reparatory surgery of the face, on account of the trophic disturbances of the graft and the yellowish or whitish colouration which it preserved indefinitely. The Italian method of cutaneous transplantation at two distinct periods, notwithstanding the difficulties attendant, was the most satisfactory. But he thought that it must remain an exceptional method even for rhinoplasty and blepharoplasty, operations for which it was specially recommended. Its triumph was the reconstitution of the lobule and the septum of the nose by the skin from the palmar surface of the hand. Dermo-epidermic graftings had innumerable indications in the treatment of superficial wounds, and especially of those whose extent prevented true methods of autoplasty, such as in great loss of substance following on burns, traumatism, or removal of tumours. These grafts alone secured the healing of wounds resulting from the tearing off or complete destruction of the scalp. They were particularly recommended in cutaneous malignant disease in old people, but in lupus and deformities caused by scars they constituted a last resource. Grafting of hairy parts was attainable either by free transplantation or by means of a fragment, this last method being much more preferable. By this means the eyebrow and even the moustache might be restored. The transplantations of cartilage constituted one of the most remarkable innovations in reparatory surgery. It was thanks to this that the question of total rhinoplasty had been solved. For centuries the difficulty of establishing a framework had been the stumbling-block. This difficulty overcome, all became attainable. For, in spite of various attempts, nothing of any worth could be attained when no use could be made of the cartilaginous prothesis. From this moment truly dated the rhinoplasty worthy of the name. Cartilage showed great power of absorption, and preserved its life during an indefinite period. This unique stability and its adaptability for modelling rendered it very valuable for the construction of nasal frameworks. Besides total or subtotal rhinoplasty, and the correction of nasal malformations, other restorations might doubtless benefit by cartilaginous grafting. In incorporating fragments of cartilage with cutaneous pieces surgeons were able, for instance, under given conditions to fill up certain gaps in the jaws and in the soft parts surrounding which hitherto they had no means of doing. Adipose graftings were excellent for filling up bony hollows, for effacing the depressions of soft parts, and therefore rendered great service in the repairing of cranial gaps and facial deformities. Fatty tissue with few blood-vessels was easily transplanted, provided that it was placed in a rigorously aseptic surrounding. After a more or less short struggle it succumbed, but it was replaced progressively by tissues of new formation to which it served as a sort of protection. Thus its rôle was transitory, which did not prevent its result from being stable. Adipose grafting was a very valuable acquisition to æsthetic and reparatory surgery.

Dr. JOHN B. MURPHY (Chicago) in the course of his remarks said that for the restoration of a joint it was necessary that there should not only be non-union, but a sliding joint and functional restoration. In the reconstruction of the knee and hip it was necessary in addition that the joint should be able to support pressure. These requirements were met by reconstructing the bones on the plan of their original conformation by means of transplants and by the interposition of fascia covered by fat. He had succeeded in reconstructing an ankylosed knee by the detached fat fascia, but he had not done this in the case of the hip.

Professor A. DEPAGE communicated the results of some experiments made by his assistant, Dr. Danis, leading to the restoration of the biliary canal in dogs by means of a segment of the jugular vein.

Grafting of Blood-vessels.

Dr. E. VILLARD (Lyons) read a paper on this subject and said that there existed two large categories of vascular graftings—extemporaneous grafting and grafting of preserved vessels. Arterial graftings were distinguished from venous graftings by the nature of the graft. A grafting was auto-, homo-, or heteroplastic according as the graft was taken from the subject under treatment himself, from a subject of the same sort, or from a subject of a different sort. In extemporaneous grafting arterial autoplastic grafting healed without modification; the segment grafted acquired new life in its new surroundings with the histological structure that characterised it. Arterial homoplastic grafting gave macroscopically good results, but was not so satisfactory. Arterial heteroplastic grafting was possible, but it appeared that the graft served only as a protection to a process of reparation on the part of the animal undergoing the grafting. Venous grafting was difficult to effect. In the grafting of preserved vessels some vascular fragments might be grafted with success, due regard being had to asepsis and temperature. Surgery might benefit by the use of vascular grafting in three cases: (1) in the course of vascular traumatism; (2) in the extirpation of a tumour adherent to the large vessels; and (3) in the cure of aneurysms.

Dr. E. ULLMANN (Vienna) said that the hopes raised 15 years ago on the future of transplantations of tissues and organs had only been partially realised. Heteroplasty seemed to meet with anaphylaxis as the principal obstacle, whilst homoplasty encountered the biochemical properties of the individual. Autoplastic transplantations alone gave good results, while heteroplastic transplantations, with the exception of bony tissue, always gave bad results. The results of homoplastic transplantations were variable; given an identical quantity of sanguineous serum from the cellular protoplasm of two subjects in the same condition, homoplasty might probably give as satisfactory results as autoplasty. More research was wanted in this direction.

Dr. ALEXIS CARREL said that during the last few years it had been definitely established that autoplastic transplantations of organs were practically always successful; that homoplastic transplantations, although the immediate results might be excellent, were nearly always ultimately unsuccessful, and that heteroplastic transplantations were always unsuccessful. Although the technical part of the problem of the transplantation of organs had been completely solved long ago, this operation could not yet be applied to human surgery. Homoplastic grafts alone would be of use; but before being practicable homoplastic transplantations must be rendered as safe as autoplastic transplantations. The present aspect of the problem was to find out the causes of the reaction of an organism against a new organ and to discover by what means this reaction could be prevented and the organ made to become adapted to its new owner. Dr. Carrel described a series of experiments in this direction which had been made recently by James B. Murphy of the Rockefeller Institute, and said that a very important point had been gained by the discovery that the power of the organism to eliminate foreign tissues was due to organs such as the spleen or bone marrow and that when the function of these organs was less active a foreign substance could develop rapidly. It was not possible to foresee whether or not the present experiments of Dr. Murphy would lead directly to the practical solution of any of the problems, but it was certain that he had contributed very important work.

Conclusion of the Meeting.

The meeting, which was a scientific and social success, terminated on the afternoon of April 16th with the election of Dr. W. W. Keen, of Philadelphia, as the next president. The other officers of the society were re-elected, with the exception of the secretary for the next meeting. The election of this officer will be made later. Paris was chosen as the place of meeting in 1917.

During the meeting clinics were held at the principal hospitals. Among the entertainments and functions provided were a dinner given on April 13th by the American Surgical Association to the members of the International Society of Surgery and the ladies accompanying them. On April 14th a luncheon was given to the ladies by Mrs. W. J. Mayo at the Hotel Biltmore. On the same day a matinée performance of *Peter Pan* was given for the ladies, and in the evening a special performance was given at the Metropolitan Opera House, at the instance of the American Surgical Association, to all the members and the ladies accompanying them. On April 15th the President's reception was held.

Dr. Mayer, in the course of reading the general secretary's report, pointed out that 114 new members proposed by the National Committees had been elected by the International Committee—namely, six Germans, one Austrian, one Belgian, two Canadians, 74 Americans, 14 Danish, one English, two Italians, one Norwegian, four Dutch, one Roumanian, four Russians, one Swiss, and two Hungarian candidates.

A very excellent and full display of surgical instruments was given in rooms near the hall in which the meetings were held. A feature of the exhibition was supplied by Messrs. Allen and Hanburys (London), who sent specimens of the instruments designed and used by Sir Arbuthnot Lane in his fracture-plating operations.

To the courtesy, tact, and ability of the two secretaries, Professor L. Mayer, of Brussels, and Dr. J. P. Hoguet, of New York, the smoothness of all the arrangements was mainly due, and your representative wishes to express his personal thanks to both of these gentlemen for their ready and valuable help.

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

SCOTLAND.

Annual Report of Medical Officer to the Scottish Education Department.

Dr. Lewis D. Cruickshank, in his report for the year ending July 31st, 1913, emphasises the fact that medical treatment of school children is inefficient, though the organisation for medical inspection is satisfactory. The reports of the medical inspectors show that there is a great amount of malnutrition among Scottish children. These reports make it clear that the malnutrition is in most cases the result not of deliberate neglect, but of ignorance of the parents as to the nature and amount of foodstuffs most suitable for children, and the importance of adequate sleep and fresh air. Therefore, the more nearly medical inspection touches the home the greater will be the measure of success. The medical officer for the mainland division of Inverness reports that the substitution of tea and bread for porridge and milk has not appreciably invaded his district, to which he attributes the comparative absence of malnutrition among the school children, but the medical officer for Sutherland finds a considerable percentage of cases of malnutrition which he attributes to the tea and bread habit. A careful study of the figures makes it clear that there must be a considerable difference in the standards adopted by the various inspectors. In Aberdeen the number that suffered from "poor nutrition" was 19·4 per cent.; in the Glasgow board schools "bad nutrition" amounted to 4·13 per cent., and in Govan to 1·5 per cent. In Greenock the cases returned as "below average" amounted to 21 per cent. In the counties the differences are even more marked. A great improvement is reported in the conditions of personal cleanliness, though some larger school boards systematically neglect their legal powers in regard to the parents of verminous children. There would appear to be about 10 per cent. of school children suffering from defects of sight requiring treatment. The problem of conservation of sight is therefore a very pressing one. The majority of medical officers are emphatic that dental treatment is one of the most pressing problems. The medical officer for the Govan board states that out of 10,915 children examined, at least 9676 had one or more teeth requiring attention. About 1489 new cases of tuberculosis were discovered during the year under review. Approximately 576 were cases of pulmonary disease, 204 diseases of bones and joints, 333 of gland disease, and 376 unclassified. There are in all 41 separate schemes of medical inspection in Scotland. Of these, 30 are schemes prepared and administered by the County Secondary Education Committees, and 11 are schemes administered by burgh school boards. The number of school medical officers is 110, and the total number of whole-time nurses employed is 52. The total number of children examined during the year was 350,831, out of a total average number of scholars of 809,995.

Kincardineshire Medical Officer's Annual Report.

The death-rate of children under 1 year, as stated in the twenty-third annual report of the medical officer of Kincardineshire, is 102 for every 1000 children. Last year the death-rate was 77 per 1000. For 1913 the zymotic death-rate was 1·061 per 1000. Deaths from all tuberculous diseases caused 7 per cent. of the total deaths. Deaths from malignant disease were 19, equal to a death-rate of 0·916 per 1000. In 1912 there were 23 deaths, equal to 1·1 per 1000. It is noted in the report that, as in former years, almost half the cases of consumption were notified from the St. Cyrus district, and that two out of every three deaths from consumption took place within that district.

Aberdeenshire Panel Practitioners.

A meeting of Aberdeenshire panel practitioners was held on May 15th, when the question of the 20 per cent. deduction from the quarterly cheques of the practitioners, and the position of chemists with regard to the drug fund, were discussed. The meeting was very largely attended. The question of Postcard 547, issued by the Insurance Commissioners, first came up, and it was unanimously agreed that no notice be taken of the postcards, as they were calculated to create strife between the chemists and the panel practitioners. In the course of the discussion it was pointed out that the wording of the postcards was so ambiguous that it was impossible for an answer to be given definite enough to be of any value. The drug fund was discussed and the opinion of the meeting was that the fund for Scotland should be pooled, and that an auditor paid by the Insurance Committee should be appointed to check the chemists' accounts. It was resolved, with regard to Circular 545, to express no opinion upon the purely commercial matter of drug prices; but the meeting found that there was no reason to doubt the statements made by the chemists with regard to the alleged inadequate remuneration which they were receiving for dispensing where skilled compounding was required, and the meeting expressed its sympathy with them in their demand for better terms. With regard to the 20 per cent. reduction from the practitioners' cheques, it was decided that legal opinion be taken as to the legality of the procedure. It was also resolved that the County Panel

Committee should combine with the Burgh Panel Committee in any action taken to protect practitioners' interests, and that meantime the facts of the case be laid before the Scottish Committee of the British Medical Association to secure an immediate protest being made to the Commissioners. The meeting further resolved that, as the present unsatisfactory state of affairs was largely due to the carelessness and inefficiency of Approved Societies over index slips, the Commissioners be requested to take immediate steps to deal with the societies concerned.

May 19th.

IRELAND.

The Public and the National Insurance Act.

THERE are signs that public hostility toward the working of the sickness benefit of the National Insurance Act is gradually growing. Members of Approved Societies are beginning to learn that their only hope of obtaining fair treatment is by reliance being placed on the certificates of their own medical attendants. From all parts of the country the complaint comes that benefit is refused to members unfit to work by reason of sickness. Most of these people present certificates of incapacity signed by their own medical attendants, but these are cast aside in favour of the opinion of the "medical adviser." In many cases the sick member, on refusal of benefit, has to seek help from the rates, either in the form of out-door relief or of treatment in the workhouse infirmary. The County Westmeath board of the Ancient Order of Hibernians—the largest Approved Society in Ireland—by a unanimous resolution last week called attention to the grave injustice suffered by insured members under the present system of certification by "medical advisers."

The Local Government Board and the Insurance Commissioners.

One of the drawbacks of Irish administration is that where the activities of various Government departments overlap there seems to be little attempt at harmonious action. In matters affecting the public health we have had unfortunate overlapping between the Local Government Board and the Department of Agriculture. Only a few years ago the manager of a model farm of the department was prosecuted because the sanitary condition of the farm-yard did not satisfy the regulations approved by the Local Government Board. Since the passing of the National Insurance Act there has been the additional confusion caused by the overlapping between the functions of the Insurance Commissioners and those of the Local Government Board. No attempt seems to have been made to arrive at any agreement between these two bodies on points of public policy. Both are concerned in advising and controlling the tuberculosis campaign, and it not infrequently happens that the Local Government Board gives one kind of advice and the Insurance Commissioners the opposite.

The late Dr. Henry O'Neill, J.P.

The city of Belfast, the medical profession, and the cause of public health are all the poorer by e death of Dr. H. O'Neill in his 61st year, which curred at his country residence near Belfast on May 16th, after an illness that began as pneumonia on last Christmas Eve. From this attack he recovered, so that for a time he resumed work, but a few months ago he was obliged to take to his bed with cardiac complications, and was never out again. Dr. O'Neill, who claimed to be a lineal descendant of the great Hugh O'Neill of Dungannon, was born at Crossnacreevy, co. Down. In 1868, while still young, he entered the establishment of a well-known firm of chemists in Belfast, but his ambition was to become a doctor, and he studied at Queen's College, Belfast, and in 1877 graduated M.D. and M.Ch. of the Royal University of Ireland, obtaining the M.A.O. in 1900. In the year 1877 he became a house surgeon at the old Belfast Royal Hospital. Two years later he became assistant surgeon, in 1882 full surgeon, in 1884 pathologist, and in 1900, when he retired, consulting surgeon to the Belfast Royal Hospital (now the Royal Victoria Hospital). Beginning practice in 1879 in Belfast he rose rapidly, and for many years had an immense working class *clientèle*, his consulting rooms in the afternoon and evening being crowded. Turning his attention to public health, he established the *Belfast Health Journal*, and on this platform he entered the city corporation, where he spent over 20 years of public life, at the time of his death being chairman of the market committee. In 1905 he was High-Sheriff of the city. Dr. O'Neill was also a barrister-at-law of both the Irish and English bars. He was curator of the Museum of Sanitary Science at Queen's College, Belfast, and an ex-president of the Ulster Medical Society and of the North of Ireland Branch of the British Medical Association. The health schemes, for which he will always be remembered, will be the inspection of meat, the building of the new Belfast city abattoir at a cost of £52,000, as well as the alterations and improvements which he had carried out at the Belfast city court-house, by which the scandalous sanitary condition of that place was put right and proper accommodation was provided for the Bar, jurors, litigants, and witnesses. Dr. O'Neill was a many-sided man whose memory will long be cherished in Belfast for his health reforms, his private benevolences, his medical skill and his cheery optimism; but to his patients he will always be remembered as one of the kindliest of men.

Derry Water-supply.

The Irish Local Government Board have suddenly reversed their previous decision,[1] and have now written that they have decided, with some misgivings, to grant a provisional order sanctioning an auxiliary water-supply to Derry. This complete change of front on the part of the Local Government Board has been due to the growing volume of protest raised by their previous action, and especially to a resolution passed unanimously by the Derry Chamber of Commerce requesting them to reconsider their decision, and pointing out that any shortage in the water-supply would be disastrous to the trade of the city. The Chamber of Commerce at the same time urged upon the corporation "the necessity of proceeding without avoidable delay with a larger scheme for a full and satisfactory water-supply." It is a great pity that the Local Government Board did not more thoroughly take every aspect of the question into consideration before committing themselves so definitely to a decision which is no sooner given than it is reversed.

May 19th.

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[1] THE LANCET, May 16th, 1914, p. 1422.

PARIS.

Antityphoid Vaccination of Hospital Staffs.

Two years ago the Assistance Publique of Paris decided that all male and female nurses and attendants of the Paris hospitals must undergo antityphoid vaccination with either the Chantemesse or the Vincent vaccine now in use in France. This measure was especially necessary since the personnel, including medical students employed in the hospitals, had yearly furnished some deaths from typhoid contracted while caring for typhoid patients. Up to the present this regulation has worked without friction, but last week the hospital employees held a meeting at which they refused henceforth to submit to such vaccinations. They alleged that two nurses had died, one at the Beaujon, the other at the Necker, after it; that many more had been rendered seriously ill; and finally that one, having been wounded by broken glass during the incubation period of the vaccination, had sustained such serious accidents that it would be necessary to amputate her arm. The syndicate of nurses contended that under these circumstances it would be better to suspend the inoculations, as had already been done in the army, for two months. This event has caused considerable public excitement. M. Chantemesse and M. Vincent have asserted that their respective vaccines, which have now been used in hundreds of thousands of cases without any accident, could not be held responsible. It is true that the Vincent vaccine, prepared by either sterilisation of cultures, necessitates four injections at eight days' intervals, and that during this period, which is characterised by a negative phase, the subject is in a state of great receptivity. It must be added also that after the inoculation the subject should be allowed to remain strictly at rest, and should avoid overfeeding, which can hardly be fully carried out with the personnel, male and female, of the hospitals, devoted as they are to their work and regardless of danger. The director of the Assistance Publique has replied to the allegations by stating that 1055 inoculations had been made up to date without any accident occurring, and that only 40 employees had broken the series of four injections considered necessary for immunisation. It was in these circumstances that one of the nurses succumbed. The other had not been submitted to preventive vaccination, but having contracted typhoid had been treated during the course of the disease with vaccine, but without success, as is frequently the case. As to the nurse who was wounded in the arm, the arm had not been amputated, but there had been a phlegmon consecutive to a wound, but entirely without relation to the antityphoid inoculation, which had been all over several days before. The director added that the vaccination is not enforced in the case of those already employed, but only with the newly appointed. At a later meeting the syndicate of hospital employees passed a resolution disclaiming any hostility to the vaccination, but demanding that precautions should be taken henceforth to ensure that the necessary rest is taken after the vaccination, and especially that a selection of cases is made before vaccinating, because it was alleged that very many were in a state of bad health, and a third of them were tuberculous. The important question is thus arising as to the right of the executive of any administrative body to impose vaccination of any kind upon its personnel. Particularly since the new Workmen's Compensation Act, which imposes fresh pecuniary liabilities on employers, it is to their interest to accept only those who by vaccination present the smallest chance of developing occupational diseases. Amongst the excavators on the Metro to-day antitetanic vaccination is required, but no law demands it, and it might very well happen that a workman should bring an action against his employers for having imposed it. It will be interesting to know what the law will have to say on this novel question.

The Feeding of Infants.

According to the views expressed by M. Wallich and M. Denesse in a paper at the Société de Médecine Publique et de Génie Sanitaire as to the causes that compel poor mothers to desist from suckling their children, 70 per cent. are driven thereto by the necessity of continuing their work to obtain means of subsistence. Of the children thus put out to nurse the mortality is 50 per cent., and this produces one of the most serious causes of the depopulation of the great towns. Although masked by the continual immigration, this depopulation becomes evident each year that the census is taken. Undertakings have, however, been established in large numbers, both by the authorities and by private initiative, to remedy this state of things. In many factories crèches have been established where mothers can leave their children while they are at work. But such are as yet too few in number, and apply only to the women workers in factories and not to women clerks, shop assistants, and the like. The Assistance aux Mères Nourrices, by furnishing them with work that can be done at home, is of service under limited conditions, but it only results in a miserable wage. The society was driven to the conclusion that in this matter lay one of the most serious social problems of the day. An inquiry has been recently undertaken by Dr. Variot into the matter. It showed that bottle-feeding was giving, in regard to the development of the infant in weight and health, results almost equal at the end of a year to those obtained by breast-feeding; but it was mixed feeding—that is to say, partly the mother's breast and partly the bottle—which in the working class gave far the best results, doubtless because of the inferior quality of the mother's milk in these cases.

May 18th.

UNITED STATES OF AMERICA.

Annual Convention of the American Surgical Association.

THE annual meeting of the American Surgical Association was held at the Hotel Astor, New York, from April 9th to 12th. The attendance was large, among those present being 40 or more surgeons from Europe who had come for the meeting of the International Surgical Association, whose meetings have been reported in THE LANCET of May 2nd (p. 1269) and subsequently. A feature of the meeting was the papers and discussion on cancer and its treatment. Dr. W. J. Mayo, of Rochester, Minn., made cancer the subject for his presidential address, and among other points emphasised the fact that the radiologist had been able in 100 consecutive cases of cancer of the stomach to make a definite diagnosis in 87 per cent. The best that had been accomplished by other means was 67 per cent. Dr. Mayo was of the opinion that this method of diagnosing malignant disease of the stomach was entitled to the first place, and he would be inclined to place it second in value in diagnosing obstructions of the duodenum. He thought that food was to blame for the prevalence of precancerous conditions in the gastric regions among civilised peoples. The quantity eaten in civilised communities brought about chronic gastric irritation which in some instances resulted in cancer.

Radium in the Treatment of Malignant Growths.

Dr. Richard Sparmann, of Vienna, a member of the clinic of Dr. Anton von Eiselsberg, read a paper on the treatment of malignant growths by means of radium. Dr. Sparmann said that 42 cases of malignant tumour had been treated by radium at the Eiselsberg clinic; of this number 17 had died, 5 from causes other than tumours; 6 had been benefited; 5 cases had shown no effects; while 14 cases had been positively aggravated. According to Dr. Sparmann the experiments in Vienna had demonstrated the fact that radium was effective only in superficial cases of malignant tumour, and even then was effective in no marked degree. Radium had actually made worse many bad tumours by destroying healthy tissue around them, so that there was nothing left to check the spread of the tumour. There had been no specific change in tissue effected by the use of radium, and it did not appear that it would ever replace operation in the treatment of cancer. The hopes that had been placed in radium had not been realised. Dr. Robert Abbe, of New York, said that in his experience radium had exerted marked beneficial action on certain forms of malignant growths, and while he would say nothing about radium curing cancer, it did, he thought, act specifically, and from this point of view it should be studied. The majority of the audience, however, appeared to agree with the conclusions of Dr. Sparmann. The statement made by Dr. Mayo that early diagnosis and prompt surgical treatment were the sole effective measures at present known for cancer met with the approval of most of those present.

Clinics at the Polyclinic Hospital and Medical School, New York.

During the week in which the International Society of Surgery met in New York a series of clinics and lectures were held at the Polyclinic Hospital and Medical School. The first of these was on April 14th on internal photography as an aid to diagnosis, by Dr. Alfred C. Jordan, of London. On April 15th Dr. Eugene Hertoghe, of Antwerp, gave a lecture and demonstration on hypothyroidism. On April 16th Dr. Benjamin Merrill Rickette, of Cincinnati, Ohio, gave a lecture and demonstration on the surgery of the heart and lungs. On April 17th Dr. John Wyeth discussed the treatment of burns, Dr. John A. Bodine operated for the radical cure of hernia, Dr. Alexander Lyle demonstrated the treatment of fractures, and Dr. William Seaman Bainbridge, professor of surgery at the Polyclinic Hospital, discussed cancer and its treatment, and exhibited patients on whom he had operated for this disease.

Complimentary Dinner.

On the evening of April 13th Dr. William Seaman Bainbridge gave a dinner at the Hotel Biltmore, New York, in honour of Dr. Eugene Hertoghe, of Antwerp, Dr. Alfred C. Jordan, of London, Dr. Benjamin Merrill Rickette, of Cincinnati, and other representatives of the uropean and American medical profession. About medical men were present.

New York University and Bellevue Hospital Medical School.

Dr. William Hallock Park, professor of bacteriology and hygiene in the New York University and Bellevue Hospital Medical College, has been elected dean of the college in the place of Dr. Egbert Le Fevre, who died recently.

The New Professor of Medicine at Johns Hopkins University.

Dr. Theodore C. Janeway, Bard professor of medicine at Columbia University and director of the medical department of the Presbyterian Hospital, New York, has accepted the chair of Medicine at the Johns Hopkins University, Baltimore, in succession to Dr. Lewellys F. Barker. Under the new scheme adopted recently at the University, professors will devote their whole time to teaching, the professors of surgery, Dr. W. S. Halstead, and pædiatrics, Dr. John Howland, having accepted the new conditions.

Cross of the Legion of Honour for Dr. Flexner.

The President of the French Republic has conferred the Cross of the Chevalier of the Legion of Honour on Dr. Simon Flexner, of the Rockefeller Institute.

Gold Medals for Surgeon-General Gorgas.

On April 22nd the National Academy of Sciences presented at Washington to Surgeon-General Gorgas its gold medal "for eminence in the application of science to the public welfare," and on April 27th the American Museum of Safety presented to him in New York its Dr. Louis Livingston Seaman medal. Both these awards were in recognition of his great achievements in the Canal Zone, Panama.

May 12th.

SOUTH AFRICA.

Proposed Registration and Medical Inspection of Domestic Servants and Children's Nurses.

IN connexion with an Ordinance before the Provincial Council to amend the general municipal law of the Cape Province the Administrator tabled a remarkable amendment. Under the existing law the council of a municipality may make regulations, *inter alia*, "for preventing the possible spread of infectious, contagious, or loathsome diseases by the carrying on of any trade, business, or occupation." The amendment provided that the following words should be added to the section—namely, "and providing for the registration and medical inspection of domestic servants and children's nurses in any area where the Administrator is of the opinion that such registration is necessary in order to prevent the spread of any contagious or loathsome disease." The proposal caused some outcry to be raised in Cape Town, but it was felt generally that very serious facts must have been brought to the notice of Sir Frederic de Waal to cause him to bring forward the proposal, and such proved to be the case when the Administrator dealt with the amendment in the Provincial Council. He stated that during the year he had made a long tour through Bechuanaland and Griqualand West, and that in the course of this tour the prevalence of syphilis was brought very forcibly to his notice not only by local authorities but by district surgeons, medical practitioners, and others. He was informed that the disease was very rife indeed amongst natives, and that it was spreading to the European section of the community. He stated that the disease differed considerably from syphilis as met with in other countries, and more particularly in its method of spread. While much of the disease was of hereditary origin, in acquired cases it seemed to be spread commensally and mainly by other means than by sexual intercourse. Apart from its method of spread and the absence of the earlier symptoms associated with syphilis, the disease resembled syphilis in every other respect, and the general opinion amongst medical men in the area was that the disease was syphilis modified by racial and climatic conditions. Sir Frederic de Waal then quoted from the annual reports of Dr. A. J. Gregory, the late medical officer of health, showing that from 1903 onwards up to the date of Union the medical officer drew repeated attention to this serious problem, and that these reports contained details of numbers of cases in which European children had been infected by native servants. He then quoted evidence issued since Union showing that the number of European families reported as having become infected in this manner was increasing. The disease in its earlier stages is usually mild but extremely contagious, and many of these people are infected without being aware of it. He finally stated that he had deliberately placed the motion on the order paper to direct attention to and to cause a discussion on a very grave state of affairs with a view of rousing and educating public opinion on a national danger. After an able and instructive speech the Administrator formally proposed the motion, indicating that after it had been discussed he intended to ask leave to withdraw it in order that he might consult the Medical Congress which is meeting in Kimberley in June next. From the debate which ensued there is little doubt but that the Administrator convinced the House, and that the motion would have been carried had he not withdrawn it. Indeed, he was only allowed to do so on the understanding that legislation would be introduced next year after the Medical Congress had been consulted.

Legislation for Infectious Diseases.

The Public Health Acts of the Cape Province are defective in several respects. Amongst other defects they do not provide local authorities with sufficient powers to remove patients suffering from infectious diseases to hospitals set apart for that purpose. Thus a person suffering from a proclaimed infectious disease can only be removed compulsorily if he is without proper accommodation, or is lodged in a room occupied by more than one family, or is on board a vessel, or is not under medical treatment, or is found homeless in a public place. The Cape Provincial Council has now empowered municipal councils to frame regulations "providing for the compulsory removal to and detention in hospital of persons suffering or believed by the health officer to be suffering from an infectious disease of any nature, provided that, except in the case of plague, cholera, or small-pox, no such regulations shall authorise such removal or detention if the medical practitioner, if any, in attendance shall notify the health officer that in his opinion there is no necessity for such removal or detention." This is a distinct advance on the existing law, but it would have been preferable perhaps if the section had been restricted to deal with diseases proclaimed as infectious or contagious diseases under the Health Acts and if the proviso had been omitted.

The Bloemfontein Hospital.

The old board of the National Hospital, Bloemfontein, ceased to exist on March 31st last, and up to the end of April the new board had not been constituted according to the terms of the Hospitals and Charitable Institutions Ordinance of the Province. The resident medical officer, matron, and secretary severed their connexion with the hospital on March 31st, but on representations being made by the outgoing board the two former consented to remain until May 31st, so as to enable the new board to advertise the posts early in April, when it should have come into being. The fault lies apparently in the administration department, and throughout April there has been no constituted authority in charge of the hospital, no official responsible for its financial administration, and no steps taken to fill the vacancies.

April 30th.

INDIA.

Health Officer of Karachi.

AT present the posts of health officer of the port of Karachi and chemical analyst of Sind are held by one officer. Owing to the altered conditions and growing importance of the port of Karachi the present arrangement is found to be inconvenient, and it is therefore proposed to separate the two appointments.

A Surgeon-General for Bengal.

The question of converting the post of Inspector-General of Civil Hospitals in Bengal into a surgeonship has been under consideration for some time, and a despatch on the subject has been sent home for the approval of the Secretary of State.

Tuberculosis Institute for Madras.

The Government of Madras have sanctioned a provincial contribution of Rs.2,18,527 in aid of the King Edward Memorial Fund for the establishment and maintenance of a tuberculosis institute in the presidency town, and invited the views of the memorial committee in regard to the location, construction, and management of the institute.

Colonel Henry Smith, I.M.S.

The War Department of the United States has recently asked Colonel Henry Smith, civil surgeon at Amritsar, for a signed photograph of himself. This they desire to add to their gallery of distinguished modern medical celebrities in the Army Medical Museum and Library at Washington.

Antimalarial Campaign in Southern India.

Dr. Milton, the officer in charge of the Southern India Planters' Association, has elaborated a comprehensive antimalarial scheme, the particulars of which are now before the Madras Government.

Bombay Medical Union.

The annual report of the Bombay Medical Union gives a record of excellent progress, and there are now over 180 members on the roll. Papers on numerous important subjects, including malaria prevention, have been read by distinguished members of the union. In reply to a letter from the Government of India with regard to bogus degrees and diplomas, an important resolution was passed to the effect that "the union approves of the proposed legislation by the Government of India regarding the use of bogus medical degrees, and respectfully begs to suggest that any institution granting titles, degrees, diplomas, or licences entitling to practise medicine under the guise of some system of medicine or other, but practically imparting only a crude and imperfect imitation of the Western system of medical science should also be brought within the purview of the proposed legislation." Other resolutions included the decision to draw up a representation concerning the medical services and submit this to the Royal Commission on Public Services in India. The finances of the union show a satisfactory balance in hand.

Plague in the Punjab.

Though the plague epidemic in the Punjab is not reaching the proportions of a bad year it is decidedly severe in one or two districts. There is, for instance, a sharp outbreak in the Hafizabad tahsil of the Gujranwala district. As Gujranwala is a district that has been infected pretty steadily since the early days of plague, the outbreak there this year does not seem to point to any large degree of immunity having been reached by the people. Experiments are being made by the plague staff in the Punjab in rat destruction by means of slow-burning squibs containing potassium nitrate and sulphur. The squib is wrapped in paper soaked in mustard oil. The experiments have so far given promising results, for the fumes have been proved to kill rat-fleas coming in contact with them in less than 30 seconds. As the rat-run is the breeding-place of the rat-flea—where it leaves its eggs and the larvæ are hatched out—it is hoped that the flea-population may be very greatly reduced, provided these experiments can be reproduced with similar results on a wholesale scale. The weak point about all smoking processes is that they are ineffective against rats lodged in rafters in the roofs of houses. So far it has been found impossible to discover a method of dislodging such rats.

The Strike at the Lahore Medical College.

The original cause of the strike of Lahore Medical College students was the alleged proceedings of a meeting of students connected with the London Hospital, and the refusal of Lieutenant-Colonel Sutherland to preside at the meeting of protest which the students in Lahore proposed to hold. The report was published in a Punjab newspaper. When Colonel Sutherland's attention was called to the matter he pointed out that there was nothing to show that the report was accurate, and he told the students' representatives that he would write to the dean of the hospital and ask for an authorised version of the proceedings. The students were, however, too indignant to wait; they held their meeting and decided to strike forthwith. The reply to Colonel Sutherland's letter has now been received, and is published as a press *communiqué* by the Punjab Government. The dean's letter completely justifies Colonel Sutherland's caution and his advice to the students. The original account of the meeting was garbled to such an extent that it can only be described as a malicious misrepresentation of perfectly innocent facts. The persons alleged to have proposed, seconded, and supported the resolution were not even present; the resolution actually passed bore no resemblance whatever to the resolution quoted by the correspondent of the Punjab newspaper. The statement that a resolution was passed by 462 votes to 21 condemning the admission of Asiatics to the London Hospital and the English medical profession was totally false. No such resolution was passed, and the only resolution proposed was accepted on a show of hands in a meeting at which about 150 persons were present. The dean further reports that Mr. Mallet, of the India Office, who was present, spoke warmly on behalf of Indian students, and that in general a distinction was frequently drawn between Indian and Egyptian students to the advantage of the former. The dean added a personal testimony to the general good conduct of Indian students and to the sympathy that is felt for them. Whatever may be the outcome of the inquiry about to be held into alleged grievances, it is now demonstrated that the strike in its origin was unjustified by any substantial cause.

April 23rd.

Correspondence.

"Audi alteram partem."

THE PLEA FOR IMMEDIATE OPERATION IN APPENDICITIS.

To the Editor of THE LANCET.

SIR,—There is one point in connexion with the question of immediate operation in cases of acute appendicitis raised by Mr. Battle and yourself in the issue of THE LANCET for May 16th which does not appear to me to have received the attention that it deserves. No clear distinction is drawn between "immediate" and "early," nor between the onset of the attack and the onset of the acute symptoms. An operation is spoken of as "early" because only a few hours have passed since the outbreak of the symptoms that caused alarm, while as a matter of fact the attack has perhaps been going on for two or three days. Acute symptoms, instead of marking the beginning of the disease, in only too many instances mean that the disease has suddenly changed its character and become acute.

I have operated within eight hours of the onset of the acute symptoms and found the whole of the appendix gangrenous. It was difficult to believe that such a change could have taken place within that time. More careful inquiry elicited the fact that there had been discomfort with a feeling of nausea for 48 hours before, only the patient thought nothing of it and went into the city as usual. The operation was really performed upon the third day, not upon the first. It was immediate, but not early. No one watching a mild case of appendicitis would hesitate about immediate operation if the symptoms suddenly became acute. The rule should be the same when the attack apparently begins with acute symptoms. Nearly always it will be found on inquiry in these cases that there has been "biliousness" or "stomach-ache" or a feeling of nausea for two or three days before. The patient will say nothing about it unless he is asked directly. Previous attacks of a similar character have often occurred before and have passed off. But on this occasion the attack means that the appendix is involved, and the beginning of the inflammation must be dated, not from the time the symptoms suddenly changed their character and became acute, but from the time when they first appeared. Immediate operation is as necessary in the one case as in the other, for the conditions are the same. But the operation cannot be called "early."

I am, Sir, yours faithfully,
C. MANSELL MOULLIN.

Wimpole street, W., May 17th, 1914.

ANKYLOSTOMIASIS.

To the Editor of THE LANCET.

SIR,—I am directed to inform you that the enclosed dispatch from H.M. Consul at San Juan, Porto Rico, has been sent by the Lord President of the Privy Council to the President of the General Medical Council for the information of the medical men in this country, and that it was accompanied by a pamphlet on Uncinariasis or Hookworm Disease, a copy of which is in the possession of the Medical Council.

I am, Sir, yours faithfully,
NORMAN C. KING,
Registrar.
Oxford-street, W., May 15th, 1914.

H.B.M. Consulate, San Juan, Porto Rico,
February 14th, 1914.

SIR,—In view of the increasing attention which is being given to the disease known as "uncinariasis" or hookworm disease, more commonly known as "anæmia," and which has been made a special study on this island, I have procured from Dr. C. R. Gill two copies of a technical record of 316 cases cured by him at Porto Rico during the period from April to September, 1912, which I have the honour to transmit, enclosed herewith, and trust may prove of interest to the British medical faculty.

The importance attached by the U.S.A. authorities to this branch of medical research is clearly demonstrated by the fact that during the fiscal year ended June 30th, 1912, no less than 43 stations were established for the treatment of sufferers from the disease in question. Of the 20,851 patients attended by the staff of the Bureau of Transmissible Diseases 24 per cent. were cured, leaving 61 per cent. under treatment. It has to be mentioned, however, that 13 per cent. who presented themselves at stations for treatment, and are included in the aggregate of attendance, failed to return.

Dr. C. R. Gill, who lectured before the Royal College of Surgeons, at the Liverpool School of Tropical Diseases, and to other medical corporations in England on his return from U.S.A. army medical work in the Philippine Islands, has very kindly expressed to me his willingness to answer any queries addressed to him by his British medical colleagues arising from matter treated in the pamphlet sent herewith.

I have the honour, &c.,
(Signed) G. AMBROSE POGSON,
H.B.M. Consul.

The Right Hon. Sir Edward Grey, K.G., &c.,
H.M. Secretary of State for Foreign
Affairs, Foreign Office, S.W.

THE MEDICAL INSURANCE AGENCY.

To the Editor of THE LANCET.

SIR,—I am glad to see Dr. G. E. Haslip's letter in THE LANCET of May 16th, and as a member of the committee of the Medical Insurance Agency I should like to say that I fully endorse everything it contains. There are two forms of insurance which should, I think, receive the early and earnest consideration of every member of the profession. The first of these is simple life assurance, which should be effected as soon as possible after qualifying, thus obviating the risk of having to pay a higher premium in later years owing to impaired health or other causes. The second is endowment insurance, which is particularly applicable when the education of children has to be provided for out of professional savings.

First, let me say a word as to simple life assurance. The assertion is often made that there is no need for a bachelor to insure his life, but it seems to me that the sooner this fallacy is dispelled the better. In the first place, the regular payment even of a small annual premium encourages thrift. Secondly, the views held by most people as to the advantages and disadvantages of matrimony are notoriously liable to modification as time passes. And thirdly, even if the idea of marriage be finally abandoned the life assurance which has been effected will always be a valuable asset, seeing that the surrender value of the policy may at any time be realised, either to meet an unexpected financial strain or to purchase an annuity on retirement from practice. The second form of insurance is one which it is generally advisable to effect as soon as the returns from practice are sufficient. It should ever be borne in mind by the practitioner with a young family that the high-water mark in educational expenditure often coincides with the low-water mark of practice. Failing health, advancing years, inexorable competition—these are the contingencies that a careful man should do his utmost to insure against. I know of nothing more distressing than for a man who has had, and still has, modest ambitions for his children suddenly to find himself in middle age unable to carry out his plans, and perhaps his promises. However pressed a young married man may be, it is certainly his duty carefully to consider the best and most economical way of insuring his life.

As Dr. Haslip has stated, all medical men who insure through the Medical Insurance Agency are able to effect a material saving in commissions, whether the insurance relate to life, accident, fire, burglary, motor-car, or employer's liability. But there is an additional inducement which I feel sure will appeal to all your readers. It is that the medical man who thus insures not only benefits himself but many charities closely connected with his own profession. As Dr. Haslip has stated, our committee is able (thanks to the support the agency has already received, and to the energy of our agent and secretary) to disburse from our profits considerable sums each year to such charities.

I am, Sir, yours faithfully,
FREDERIC HEWITT.
Queen Anne-street, W., May 18th, 1914.

DIATHERMY IN VESICAL HÆMORRHAGE.

To the Editor of THE LANCET.

SIR,—I was interested to read the letter of Dr. C. E. Iredell and Mr. Ralph Thompson on this subject in your last issue, for it surprised me a little to find that Mr. R. H. Jocelyn Swan made no reference to diathermy in his paper on Tumours of the Bladder.

The application of diathermy through the cystoscope to villous tumours of the bladder was devised by Beer, of New York, two years ago, and has since been used with uniform success in some hundreds of cases. I have been employing it for a long time, and published what I believe to be the first English paper on the subject in the *Clinical Journal* of April 15th, 1914. The results are so satisfactory that I do not believe the bladder need ever be opened in the future for simple tumours of the bladder. I find that three or four treatments are usually quite sufficient to destroy a papilloma completely. No anæsthetic is required and the patient need not remain away from work for more than a day for each treatment.

I think it most important that knowledge of this treatment should become widely disseminated amongst the medical profession. Personally I hope never to open a bladder again for simple villous tumours, as I am convinced that such tumours can all be cured by diathermy applied [illegible] aid of the cystoscope.

I am, Sir, yours faithfully,
FRANK KIDD.
[illegible] ...th, 1914.

Library
Medical College

MASSIVE COLLAPSE OF THE LUNGS.

To the Editor of THE LANCET.

SIR,—The interesting paper of Dr. T. R. Elliott and Dr. L. A. Dingley in THE LANCET of May 9th on post-operative massive collapse of the lungs was only this week brought to my notice. I have been working for some time on this interesting subject, experimentally and by making clinical observation, and as my conclusions do not agree with those of the authors I venture to write this letter.

Massive collapse of the lung is by no means limited to those who have undergone operations, but symptoms such as those described in the paper are generally only found in patients who have had an anæsthetic. It is well known to infirmary medical officers that the lower lobes of the lung are, on post-mortem examination, found more or less completely collapsed in patients who have been bedridden for some time and without any symptoms of such lesions being present during life. I have two specimens taken from patients who were completely paraplegic, from lesions in the upper dorsal region of the spinal cord, showing complete collapse of the lower lobes, thus indicating that the condition occurs when the diaphragm is the sole muscle of respiration. Further, many patients who have been lying supine—e.g., under treatment for fracture of the femur or other conditions—exhibit the physical signs of massive collapse of the lower lobes. In all the cases I have investigated there has been loss of tone of the abdominal muscles on the side affected or on both sides when both the lower lobes are collapsed. When one side only is affected, that side will be found by measurement to be larger than normal—a point which is against the theory of spasm of muscles. I do not propose to enter upon a discussion as to the part played by the abdominal muscles in respiration, but I am led to the conclusion that massive collapse of the lower lobes is a natural sequence of prolonged quiet breathing in the supine position in such people as do not then use the abdominal muscles to fix their chests. The mechanism of this collapse is evidently closely connected with that of the production of œdema of the lungs, the distribution of the two conditions corresponding fairly closely. Sometimes after laparotomy the action of certain of the abdominal muscles is completely inhibited and collapse may follow even though the patient is not in the supine position. To some extent the form of the chest plays an important rôle. The greater the comparative transverse diameter of the chest at its lower part, the greater is the liability to collapse. It is easy to demonstrate that marked differences in the measurements of the chest and position of the diaphragm occur when changing from the upright to the supine position. By means of X ray examination it can be demonstrated that in quiet breathing the movement of the diaphragm may be so slight as to be practically negligible, and this fact must be taken into account when concluding that there is no movement of the muscle in pathological conditions.

The results of the experiments recorded are in agreement with my own, but it must be remembered that the chest of an animal, such as the rabbit, is very different from that of the average man. My experiments show that section of one phrenic nerve produces but little effect, but that effect is distributed over both lungs. I agree also with the treatment suggested, which is very similar to that which I laid down in an article on this subject in the "Practitioner's Encyclopedia of Medicine and Surgery," second edition.

I am, Sir, yours faithfully,

J. CHARLTON BRISCOE.

Harley-street, W., May 19th, 1914.

SOUTH AFRICAN CIVIL SURGEONS' DINNER.

To the Editor of THE LANCET.

SIR,—The above dinner (now held triennially) will take place on Wednesday, July 8th, at the Criterion Restaurant, at 7.45 P.M. Dr. Howard Tooth will take the chair. Tickets, price 10*s.* 6*d.*, should be paid for at the dinner.

It is hoped that those who wish to attend will communicate with one of the undersigned *as soon as possible*, in order that the necessary arrangements for the dinner may be carried out.

We are, Sir, yours faithfully,

F. E. FREMANTLE,
County Medical Office, Hertford.
C. GORDON WATSON,
82, Harley-street, W.

May 19th, 1914.

FUCHSIN IN SOFT CHANCRE.

To the Editor of THE LANCET.

SIR,—I do not know whether fuchsin (aniline red) has ever before been used in the treatment of soft chancres. Perhaps some of your numerous readers may enlighten me on the subject and give me references.

Fuchsin in a 5 per cent. ointment with vaseline has been found of some benefit in the treatment of carbuncles, and that led me to try it in soft chancres. During the last month I have treated nine cases of undoubted soft chancre with so much benefit that I am convinced that there is no other drug which is so useful. Under ordinary treatment soft sores take about six weeks to heal up, while with fuchsin I have been able to heal them in less than two weeks. All my nine cases were of multiple chancres (from two to four), and the average duration of treatment works out at eight days. The longest is ten and the least is four days.

Two of my cases deserve special notice. One of them was complicated with an enlarged bubo in the left groin as large as a small orange. The chancre was about 1 in. by ¼ in., with a foul base. With fuchsin ointment this healed up in six days, and the bubo, which had threatened to suppurate, at once subsided, especially as the source of infection was brought under control in two days. The second case had been going on for a little over three weeks, with one large and three small ulcers. Caustics had already been applied twice by another doctor, without much benefit. So he came to me. Under fuchsin treatment I was able to heal them in 10 days. I usually prescribe a 5 per cent. ointment in vaseline of fuchsin (aniline red) to be applied to the chancre, after first washing and then drying it. If the prepuce can be brought over the glans penis no other dressing is required, although it must be noted that it stains the linen red, which is its only drawback. I ask the patient to clean the parts and apply the ointment twice a day, simply because it is difficult to get poor people to learn the benefits of keeping them clean. Otherwise, in my opinion, a single application in 24 hours will quite suffice. The ointment, when it is not freshly made, is of a beautiful red colour, but when freshly made does not look nice.

At first I applied caustics, like nitric acid, to destroy the superficial bacteria and infected tissues. But I have found that it is not at all necessary. The ointment when applied even to the most foul ulcers clears up everything, and within 48 hours I have always seen granulations springing up. The necessity of caustics, the pain, and the mental agony of the patients, are thus relieved. The effect of fuchsin seems to correspond in some respects to that of scarlet red—viz., rapid epidermisation; but over and above this the antiseptic effect which I have noticed in fuchsin is not found in scarlet red, though I must confess I have not given the latter a fair trial in such cases. Fuchsin ointment in a greater strength than 5 per cent. may irritate the parts.

It is of no benefit in hard chancres. I tried it in two cases. Both, according to their statements, were the worse for it. On inspection I found the chancres ulcerating and discharging pus.

I am, Sir, yours faithfully,
CHHAGAN H. KANTAWALA, M.R.C.S. Eng.,
Bombay, April 25th, 1914. L.R.C.P. Lond.

⁂ Fuchsin is known to have an antiseptic action, and it has been employed to a slight extent in the treatment of trypanosomiasis and occasionally for chronic ulcers, but so far as we are aware it has not hitherto been used for soft chancres. The beneficial action described by our correspondent is doubtless due to its antiseptic power and not to stimulation of the epidermis, for scarlet red, which causes much greater stimulation of the epidermis, has no antiseptic power.—ED. L.

THEORIES OF HYSTERIA.

To the Editor of THE LANCET.

SIR,—The interesting fact reveals itself from a consideration of Dr. J. A. Ormerod's lecture in THE LANCET of May 9th on the Freudian Theory of Hysteria, and from other similar writings recently published, that criticism against Freudian psychology is becoming a good deal less confident and emphatic than formerly. Any criticism in Dr. Ormerod's article beyond simple exposition of the subject under consideration was markedly tentative and vigilantly non-committal. It will be instructive to observe if this is the mark of a changed attitude on the subject.—I am, Sir, yours faithfully,

FREDERICK DILLON, M.B., Ch.B. Edin.
Leicester Borough Mental Hospital, May 14th, 1914.

THE FATALITY OF MEASLES.

To the Editor of THE LANCET.

SIR,—It seems to me that the question of the fatality of measles, referred to by Dr. J. Gordon Sharp in THE LANCET of May 9th, can only be solved when the cause of the disease has been settled. Experience of malaria, Malta fever, plague, yellow fever, sleeping sickness, and the other successfully combated affections seems to show that until we have a complete knowledge of their natural history they cannot be prevented.

Two years ago I described cell-inclusions in the blood of acute measles cases similar to those I have described in syphilis and in scarlet fever. And although I have suggested that these "bodies" are parasites and that they may be amenable to salvarsan and mercury, and have published these suggestions, little or no attempt has been made to give this method of prevention an organised trial. If these cell-inclusions are protozoal parasites and really resemble those found in human and animal syphilis, their treatment with these drugs, if continued, like quinine in malaria, until convalescence is established in all cases, should considerably lower the incidence of measles.

These cell-inclusions can be found in the peripheral blood cells of acute measles so long as the fever lasts; then they are present in the nasal and aural pus, as well as in the abscess pus for long periods. I have found them thus in every case examined up to the present time. Therefore I think the method of preventive treatment is worth a trial. I proposed giving an initial dose of 0·1 to 0·2 grm. of salvarsan intravenously, or for small children a small dose of a weak alkaline solution hypodermically; and this repeated a week later. Then each case should be given either mercury or arsenic in amounts according to practice and similar to that employed in congenital syphilis, until all peeling or purulent discharges have ceased. If, as I believe, these bodies are parasites, they should possess an extracellular phase, and then the drug should affect them, as quinine does in malaria. Such treatment is harmless, for children take arsenic well, and in the absence of any other method of prevention it may be productive of good results. I have tried it in a few cases which Dr. F. F. Caiger put at my disposal; but it must be given an organised trial on a large scale before we can judge justly of its effects. The idea is to bring about an immediate reduction of parasites and to prevent their further spread.

I am, Sir, yours faithfully,
E. HALFORD ROSS.
The Lister Institute of Preventive Medicine,
Chelsea-gardens, S.W., May 11th, 1914.

AN IMPORTANT CORRECTION.

To the Editor of THE LANCET.

SIR,—Will you kindly allow me to correct an unfortunate error in the "Annual Reports" of the Royal Dental Hospital of London, School of Dental Surgery, for 1913, just issued. Mr. Frank V. Richardson, whose name was included in the Obituary Notice, is, I am glad to say, still alive and well. I am, Sir, yours faithfully,

May 14th, 1914. THE EDITOR OF THE REPORTS.

DONATIONS AND BEQUESTS.—Under the will of the late Mr. Henry James Casey, of Tunbridge Wells, the testator left £6000 to the Walthamstow, Leyton, and Wanstead Children's and General Hospital for the endowment of six beds to bear his name and that of his wife.—The late Mr. Henry Griffith has left £500 to the Brompton Cancer Hospital.—The late Mr. J. Richardson, of Bath, has bequeathed £500 each to the Royal United Hospital, Bath; the Royal Infirmary, Liverpool; and St. Mary's Hospital, Paddington.—The late Miss Jane Whipp, of Merlewood, Prestwich, Lancs., left by will £300 to the Bury Dispensary Hospital.—Failing issue to the legatee the late Mrs. Edna Howarth, of Langdale Chase, Windermere, Westmorland, left by will certain sums to provide a wing in the Manchester Children's Hospital, Pendlebury.—By her will the late Mrs. Mary Ann Wingrove, of Southampton, left the residue of her estate, amounting to some £17,000, to be equally divided among eight charities, including Dr. Barnardo's Homes, the Devon and Exeter Hospital, Exeter, the Royal South Hants and Southampton Hospital, Southampton, and the Cancer Hospital, Brompton.—The late Mrs. Mary Elizabeth Booth, of Redhill, Surrey, left £400 each to the London Hospital, the University College or North London Hospital, the Children's Hospital, Paddington Green, and St. Mary's Hospital, Paddington.—The late Miss Sarah Anne Adams, of Coventry, Warwickshire, has left £1000 each to the Walsall Cottage Hospital, the Birmingham General Hospital, and the Coventry and Warwickshire Hospital.

THE NATIONAL INSURANCE ACT.

THE DRUG FUNDS IN SCOTLAND.

THE Scottish Insurance Commissioners have addressed a circular letter to panel practitioners in Scotland asking them for their views on the proposal made by the pharmacists that the fees for dispensing medicines for insured persons should be raised. The present fee for dispensing liquid preparations is 2*d.* for those up to and including 8 oz., and 3*d.* for more than 8 oz., with an extra fee of 2*d.* if the medicine contains an emulsion. The proposed new fee is 4*d.* for all liquid preparations of any kind and size. Similarly it is proposed to alter the dispensing fees for powders, pills, ointments, &c. The reason why the Commissioners are consulting panel doctors is because of the possibility that the proposed new fees might in some districts cause an encroachment on the "floating sixpence." The number of prescription forms used by doctors during the first medical year was equivalent in burghs to 1·92 in respect of every insured person, and in counties to 1·58. The new fees would increase the cost of each prescription by about 1¾*d.*, making the average fee in burghs 3·36*d.* and in counties 2·76*d.* An examination of the returns from all districts in Scotland shows that in 27 areas the increased rates could probably be allowed without trenching on the "floating sixpence," but that in 16 areas they would probably entail some encroachment, and in 15 districts in which the charge of 1*s.* 6*d.* per insured person was last year not sufficient to meet the drug bills the new fees would entail a further encroachment on the "floating sixpence." Scottish panel chemists base their claims for dispensing fees higher than those in the English tariffs on various grounds. They claim that in England the amount of medicine consumed per patient is greater than in Scotland; that in England the period for which mixtures are prescribed to last is shorter, leading to more frequent "repeats," and consequent dispensing fees. Scottish chemists also point out that whereas in England the Insurance Act had the effect of directing an increased volume of trade into the chemists' hands, in Scotland it merely changed a large proportion of the chemists' private clients into insured clients.

EXETER INSURANCE COMMITTEE.

At a meeting of the Exeter Insurance Committee the Medical Benefit Subcommittee reported negotiations which had taken place with regard to the allocation of insured persons who had not chosen their medical attendants. The subcommittee had had interviews with representatives of the medical men on the panel and with the panel subcommittee, and it recommended that a joint committee should consider the matter. This was adopted. Notice was given of a motion by a member of the committee:—

> That the panel doctors be informed that the agreement entered into with them on July 1st, 1913, as to the division of the funds accumulated in respect of insured persons who have not selected a doctor expired on Oct. 12th, 1913, and this committee considers itself free to deal with such accumulations in such manner as it thinks desirable.

SHEFFIELD INSURANCE COMMITTEE.

The Medical Benefit Subcommittee at Sheffield presented a report upon a charge against a member of the panel who had admitted that he had given certificates of incapacity to a man who during the time covered by some of them was to his knowledge in prison. The certificates were given after the patient's discharge, when for one week he remained unfit for work, and the defence of the medical practitioner was that the man was in fact in a condition of illness which rendered him incapable of work during the period of his imprisonment. It was pointed out that each certificate stated that the patient had been examined on the date on which the certificate was given, and in accordance with the report of the subcommittee the Insurance Committee censured severely the medical man reported upon, the chairman observing that the subcommittee's recommendation erred on the side of leniency.

PHARMACISTS AND THE DEFICIENCY IN THE DRUG FUNDS.

At the May meeting of the Council of the Pharmaceutical Society a report from the association's executive committee was received and adopted, which stated that the committee had resolved "that the secretary should take immediate steps to secure a complete report of the facts in all the deficiency areas in England and Wales as a preliminary necessary to initiating effective national action." A committee of pharmacists has been appointed to meet a similar committee of the British Medical Association in connexion with the revision of the drug tariff and collateral matters.

PRESENTATIONS TO MEDICAL MEN.—A numerous and representative gathering of Llandudno residents took place in the town hall on May 13th to witness a public presentation to Dr. Thomas Dalton, on his retirement from practice, in recognition of his services to the town during almost half a century as a medical practitioner and as a public man. Lord Mostyn presided, and Lady Mostyn, on behalf of the subscribers, presented Dr. Dalton with a valuable service of silver plate. A letter was read from the secretary of the Queen of Roumania expressing Her Majesty's feelings of esteem and gratitude for Dr. Dalton, and associating herself whole-heartedly with the homage which his numerous friends wish to offer to him at the close of his professional career. Later in the evening Dr. Dalton was entertained at a complimentary banquet at the Imperial Hotel, Colonel Lloyd Mostyn presiding, and among the guests were most of the medical practitioners of the town and district.—Mr. W. Percy Blumer, F.R.C.S. Edin., of Sunderland, who has resigned the appointment of honorary surgeon at the Sunderland Royal Infirmary on leaving for London, has been presented with two framed photographs of himself, in recognition of his valuable services to the infirmary. One of the photographs will remain in the infirmary.—Mr. C. J. W. Pinching and Dr. C. Firth were presented at the monthly meeting of the committee of management of the Gravesend Hospital held on May 18th (the birthday of both recipients) with silver inkstands bearing the following inscriptions:—"To Charles John William Pinching, Esq., M.R.C.S. Eng., M.S.A., by the President, Vice-Presidents, Trustees, Hon. Auditors, Committee of Management, and his colleagues on the Medical Staff, in appreciation of thirty-six years' service as Honorary Surgeon to the Gravesend Hospital. May 18th, 1914." "To Charles Firth, Esq., M.D. Lond., F.R.C.S. Eng., by the President, Vice-Presidents, Trustees, Hon. Auditors, Committee of Management, and his colleagues on the Medical Staff, in appreciation of thirty-one years' service as Honorary Surgeon to the Gravesend Hospital. May 18th, 1914." The presentations were made by Lord Darnley, who, in thanking Mr. Pinching and Dr. Firth for their work for the hospital, said it had been his lot to hear a certain number of hard things said about the doctors in connexion with their work among the poorer classes, but it was his very firm belief that there was no class of the whole community who gave so much voluntary help, both in their private practice and in their services to the hospitals, as the doctor.

Medical News.

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At a meeting of Comitia of the Royal College of Physicians on April 30th, and of the Council of the Royal College of Surgeons on May 14th, diplomas of L.R.C.P. and M.R.C.S. were respectively conferred by each College on the following 105 candidates, who have passed the Final Examination in Medicine, Surgery, and Midwifery of the Conjoint Examining Board:—

Francis Dighton Annesley, Guy's Hospital; David Charles Gordon Ballingall, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Irene Bastow, Royal Free Hospital; Stanley Samuel Beare, L.D.S. Eng. Middlesex Hospital; Howard Alexander Bell, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Sadashiv Vaman Bhat, L.M. & S. Bombay, Bombay University and Middlesex Hospital; Henry Cecil Billings, London Hospital; Sydney Guy Billington, M.B., B.S. Lond., Birmingham University; Auguste Rene Bourgault-Ducondray, University College and London Hospital; Ernest Cordley Bradford, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; John Ebenezer Kelly Brown, M.B., Ch.B. New Zealand, University of New Zealand and London Hospital; William Burt, St. Thomas's Hospital; George Maclean Campbell, Bristol University; Samuel Caplan, St. Mary's Hospital; Francis Laird Cassidi, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Arthur Chance, M.B. Dub., Dublin University; Harold Garrett Chaplin, St. Thomas's Hospital; Francis Howard Cleveland, St. Bartholomew's Hospital; Gerald Cock, Charing Cross Hospital; Gideon Robert Ernest Colquhoun, Cambridge University and St. George's Hospital; Edward Worthington Connolly, M.D., Kingston University and University College Hospital; Geoffrey Moore Cowper, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Thomas Hungerford Cresswell, L.M.S.S.A., Middlesex Hospital; Christopher Dean, B.A. Oxon., Oxford University and Guy's Hospital; Arthur Wesley Dennis, B.A. Oxon., Oxford University and St. Thomas's Hospital; Ismail Fahmy Diay, Cairo Medical School and Guy's Hospital; Mary Agatha Doherty, M.B. Toronto, Toronto University and Royal Free Hospital; Eric Donaldson, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Robert Ellis, Birmingham University and St. Bartholomew's Hospital; George Cranston Fairchild, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Septimus Alexander Forbes, London Hospital; Sourendra Mohon Ghosh, L.M. & S. Calcutta, Calcutta University; Frank Brayshaw Gilhespy, University College Hospital; Charles Leonard Gimblett, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Charles Hart Medlicott Gimlette, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Samuel Sowray Greaves, Leeds University; James Herbert Hadaway, Middlesex Hospital; Moustafa Hammouda, Cairo Medical School and University College Hospital; Mohammed Zaky Hanafy, Guy's Hospital; Thomas Watson Hancock, London Hospital; Arthur Geoffrey Patteson Hardwick, London Hospital; Arthur Dodsworth Haydon, B.A. Cantab., Cambridge University and St. Thomas's Hospital; John Higgins, St. Mary's Hospital; Norman Hodgson, M.B., B.S. Durham, Durham University; James Dennistoun Jones, B.A. Cantab., Cambridge University and London Hospital; John Herbert Jordan, B.A. Cantab., Cambridge University and Middlesex Hospital; Mildred Archer Jukes, Royal Free Hospital; Rustam Murwan Kharegat, B.A. Bombay, Bombay University and University College Hospital; Harold Dunmore Lane, London Hospital; Frank Winter Lawson, Guy's Hospital; David Llewellyn Lewis, London Hospital; Harry Audley Lucas, Cambridge University and Middlesex Hospital; Charles Virgil Nunuz Lyne, King's College Hospital; Arthur Griffith Maitland-Jones, London Hospital; Edward Graeme Martin, B.A. Cantab., Cambridge University and Guy's Hospital; Owen David Baker Mawson, London Hospital; Tottakat Krishna Menon, Madras Medical College and Charing Cross Hospital; Vivian Mercer Metivier, St. Bartholomew's Hospital; Henry Felix Mullan, London Hospital; Frank Andrew Miller Nelson, London Hospital; Harold Parker, Leeds University; Gwilym Rhys Pennant, University College of South Wales, Cardiff and London Hospital; Mahamarakelegey Gregory Perera, Ceylon Medical College and London Hospital; Frederick Stanley Lawrence Piggott, Cambridge University and St. Thomas's Hospital; Alexander Frederic Potter, St. Thomas's Hospital; Edna Mary Powell, Royal Free Hospital; Ibrahim Ibrahim Abdel Rahman, Cairo Medical School and University College Hospital; John Beaufoy Randall, B.Sc. Lond., University College and St. Bartholomew's Hospitals; Pierre Joseph François Louis Rathier du Verge, Guy's Hospital; John Rawlings Rees, B.A. Cantab., Cambridge University and London Hospital; Geoffrey Bower Richardson, St. Bartholomew's Hospital; James Wilson Richardson, M.D., C.M. McGill, McGill University and London Hospital; Cecil Arthur Robinson, St. Mary's Hospital; Arthur Norman Rushworth, Cambridge University and St. Bartholomew's Hospital; Ahmed Sabri, Cairo Medical School and St. Thomas's Hospital; Alexander Elder Saunderson, Liverpool University; Philip Savage, Guy's Hospital and Durham University; Claude Justin Scholtz, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Allan Seddon, M.B., Ch.B. Liverpool, Liverpool University and London Hospital; Gerard Prideaux Selby, B.A. Oxon., Oxford University and St. Bartholomew's Hospital; Bager Zainulabedin Shah, Bombay University and St. Bartholomew's Hospital; Mohammad Sharaf, Cairo Medical School and St. George's Hospital; John Edward Sharp, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Herbert Sharpe, B.A. Cantab., Cambridge University and Guy's Hospital; Lewis Wilton Shelley, B.A. Cantab., Cambridge University and St. Thomas's Hospital; George Holmes Smith, L.D.S. Eng., St. Mary's Hospital; Leslie Muir Smith, Guy's Hospital; Thomas Victor Somerville, London Hospital; Edward Benjamin Sunderland, University College Hospital; William Edmund Taylor, Bristol University; Thomas Harold Thomas, London Hospital; Alexander Wilmot Uloth, Cambridge University and St. George's Hospital; Sadanvala Bashiam Venugopal, L.M. & S. Madras, Madras Medical College and Guy's Hospital; Vernon Charles Whitby Vickers, Cambridge University and St. Mary's Hospital; Robert Allez Rotherham Wallace, M.B., Ch.M. Sydney, Sydney University and St. Bartholomew's Hospital; Francis Clark Watson, Oxford University, St. Thomas's, and St. George's Hospitals; George William Watson, Leeds University; Leslie Gordon White, Leeds University; Henry Parks Whitworth, Guy's Hospital; Hugh Lawrence Widdowson, M.B., Ch.B. New Zealand, University of New Zealand; Stanley Murray Wilcox, Cambridge University and St. George's Hospital; Sydney Arthur Wilkinson, St. Thomas's Hospital; Richard Williams, London Hospital; Alfred Wills, Guy's Hospital; Arthur Graham Winter, London Hospital; and Kenneth John Yeo, Cambridge University and London Hospital.

Diplomas in Tropical Medicine and Hygiene were granted to the following four candidates:—

Vivian St. John Croley, L.R.C.P. & S. Edin., and L.F.P. & S. Glasgow, Edinburgh University and London School of Tropical Medicine; Gordon Gray Jolly, Capt. I.M.S., M.B., Ch.B. Edin., Edinburgh University and London School of Tropical Medicine; Maharaj Krishna Kapur, L.M. & S. Punjab, Lahore Medical College; and Andrew Murphy, Major I.M.S., M.B., Ch.B., Royal University of Ireland, Cork and London School of Tropical Medicine.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the First Professional Examination in Anatomy and Physiology for the diploma of Fellow of the above College, held on May 6th, 7th, 12th, 13th, 14th, and 15th, 122 candidates presented themselves for examination, of whom 40 passed and 82 were rejected. The following is a list of the successful candidates:—

Arthur Wilfrid Adams, Bristol University and London Hospital; Lalit Mohan Banerji, M.S. Calcutta, Calcutta Medical College and St. Bartholomew's Hospital; Charles Harrison Barber, Captain, I.M.S., B.A. Oxon., M.R.C.S., L.R.C.P., Oxford University and King's College Hospital; John Hamilton Barclay, M.B., B.S. Durh., M.R.C.S., L.R.C.P., Durham University and London Hospital; Lyle John Cameron, M.D. Manitoba, University of Manitoba, Canada, and King's College; Norman Brandon Capon, Liverpool University; John Beresford Christian, Major, I.M.S., M.R.C.S., L.R.C.P., St. George's Hospital and King's College; Robert Hood Fleming, B.Sc. Lond., Middlesex Hospital; Thomas Gordon Fleming, M.B., B.S. Adelaide, Adelaide University and London Hospital; Alexander Galletly, M.B., Ch.B. Edin., Edinburgh University and King's College; John Gilmour, Durham University; George Turner Gimlette, B.A. Oxon., Oxford University and St. Thomas's Hospital; Arthur Oliver Gray, M.R.C.S., L.R.C.P., Middlesex Hospital; Douglas Green, M.B., B.S. Lond., Sheffield University and St. Bartholomew's Hospital; Frank Keith Hayman, Bristol University and London Hospital; Thomas Albert Hindmarsh, M.B., B.S. Durh., M.R.C.S., L.R.C.P., Durham University and London Hospital; George Philip Buckingham Huddy, London Hospital; Edgar Howard Lake, Middlesex Hospital; Mary Francis Lucas, M.B., B.S. Lond., Royal Free Hospital; Frederick Buick McCarter, B.A., M.B., B.Ch., B.A.O. Dub., Dublin University; Rodney Honor Maingot, St. Bartholomew's Hospital; Charles Bertram Marshall, M.D., B.S. Manch., Manchester University; Frank Beauchamp Martin, M.B., B.S. Melb., Melbourne University and Middlesex Hospital; Vaman Raghunath Mirajkar, L.M. & S. Bombay, Bombay University and St. Bartholomew's Hospital; John Kerr Muir, Middlesex Hospital; Charles Noon, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; Aubrey Radford, M.B., Ch.B. Edin., Edinburgh University; Griffith James Randall, B.Sc., University College, Cardiff, and Westminster Hospital; Nicol McNicoll Rankin, M.B., Ch.B. Glasg., Glasgow University, Middlesex and London Hospitals; Louis Carnac Rivett, M.R.C.S., L.R.C.P., Cambridge University and Middlesex Hospital; Harold Bedford George Russell, M.A., B.C. Cantab., M.R.C.S., L.R.C.P., Cambridge University and St. Bartholomew's Hospital; Henry Richard Sheppard, St. Thomas's Hospital; Archibald Walter Scot Skirving, M.B., C.M. Sydney, Sydney University and University College; Norman Armitage Sprott, B.A. Oxon., Oxford University and St. Thomas's Hospital; James Swan, M.B., Ch.B. Edin., Edinburgh University and London Hospital; Sydney William Frank Underhill, B.A. Oxon., Oxford University; Cecil Pembrey Grey Wakeley, King's College; William Tom Warwick, B.A. Cantab., Cambridge University and Middlesex Hospital; William Edwin Wilson, St. Bartholomew's Hospital; and Alberto Medardo Zamora, M.B., B.C. Cantab., M.R.C.S., L.R.C.P., Cambridge University and Guy's Hospital.

At a meeting of the Council of the College held on May 14th Licences in Dental Surgery were conferred upon 41 candidates who have passed the necessary examination and have complied with the by-laws. The following is the list of successful candidates:—

Gerald Beaumont Ash, B.A. Cantab., Middlesex and Royal Dental Hospitals; Alexander Douglas Ball, Charing Cross and Royal Dental Hospitals; John Walter Beacock, Guy's Hospital; William Milton Bull, London Hospital; Donald Clewer and Arthur Hedley Cole, Guy's Hospital; Henry Robert Pyement Collett, Manchester University; Henry Charles Corke and George Lambert Cutts, Guy's Hospital; Arthur Thomas Dally, Middlesex and Royal Dental Hospitals; Ulysses James Garfield Dancer, Birmingham University; Robert Lester Dunn, Victor Robert Dyke, and Herbert James Edwards, B.A., Guy's Hospital; Gilbert George Ellis, Manchester University; Alan Basil Hacking, Middlesex and Royal Dental Hospitals; William Cecil Hammond-Williams, Guy's Hospital; Albert Ernest Henry, B.Sc. Birm., Birmingham University; Reginald John Inder, Middlesex and National Dental Hospitals; Thomas Henry Jackson, Charing Cross and Royal Dental Hospitals; Henry Jennings, Liverpool University; Sydney Emil Johnson, Guy's Hospital; Lionel Everitt Markham, Durham University; George Douglas Moore, Middlesex and Royal Dental Hospitals; Glenn Fowler Musson, Leeds University; Winifred Amelia Oaten, Royal Free and National Dental Hospitals; Frank Henry Parsonage, Manchester University; Thomas Harold Parsons, Birmingham University and London Hospital; Reginald Jack Pickett, Guy's Hospital; Ernest Russell Ray, Middlesex and Royal Dental Hospitals; Alfred Thomas Rycroft, Ernest Charles Rycroft, and Harold Obesrt Salt, Guy's Hospital; Leslie Bacchus Smith, Middlesex and Royal Dental Hospitals; Hubert Horace Stones, Manchester University; Norman David Swayne Straton, Charing Cross and Royal Dental Hospitals; Frederick Edward Alan Thorman, Birmingham University; Maurice George Whitten, Guy's Hospital; Arthur Stuart Whitworth and Keith Eric Wood, Middlesex and Royal Dental Hospitals; and John Edward Wright, Guy's Hospital.

THE LORD MAYOR TRELOAR CRIPPLES' HOSPITAL AND COLLEGE, ALTON.—The first festival dinner of this hospital and college was held in the hall of the Merchant Taylors' Company on May 13th, those present numbering about 150. The chair was taken by the Right Hon. A. J. Balfour, M.P. The medical men present included the Master of Downing, Sir Bertrand Dawson, Mr. J. Berry, Mr. F. F. Burghard, Mr. O. L. Addison, Dr. F. Batten, Mr. John Morgan, C.V.O., Mr. H. S. Pendlebury, Mr. Walter Edmunds (members of the honorary medical board), Mr. H. J. Gauvain (resident medical superintendent), Dr. Guy Stephen, Mr. D'Arcy Power, Dr. Henry Hetley, and Sir Charles Wyndham, who forsook practice for the stage so many years ago that few remember his connexion with the medical profession. Mr. Balfour, in proposing the toasts of "The King" and of "The Royal Family," said that though it was usual to present these toasts with few words he must remind his hearers that it was largely due to the energy of the Royal Family that the hospitals of the metropolis were on their present basis. The Queen and Queen Alexandra especially had shown their interest in them, and the latter particularly with reference to this hospital. In proposing the toast of "Prosperity to the Alton Hospital and College" Mr. Balfour said that he would lay down the proposition without fear of contradiction that they could feel assured that money given in support of the hospitals of this country would lessen human suffering and increase human efficiency and happiness, and would not be wasted. He dwelt on the threefold work of hospitals—viz., (1) the alleviation and prevention of human suffering; (2) means for medical education; and (3) promotion of research. He dwelt on each point, and with regard to the last said he did not think it would be possible to exaggerate the change that had come over medical practice during his own recollection, and he could not doubt that they were on the verge of great developments. No branch of scientific research had had more beneficial results than medical science, and he urged that they should take their national share in that international work. As to the Treloar Hospital, he had visited it last year, and was so impressed by all that he saw there that he felt that every humane man and every woman should give it their warmest support. The main work was to deal with those of tender years whose whole future if they survived would be overshadowed by this disease, tuberculosis, which if taken in time could be successfully dealt with. The place of this hospital could not be supplied by any other hospital or institution whatever, for a special institution was essential for the work. Alton Hospital combined all that could be given both by a hospital and by a sanatorium. The patient was received under conditions suited to his disease and treated as long as the case required; his subsequent course was followed, and if a relapse occurred he could be again received and treated by those who knew the early history of his case. He asked them to contribute to what was an assured success, and he felt confident that in so doing they would contribute to the felicity of the human race and to the relieving from a life-long burden of those who could neither help themselves nor ask for help. The list of donations was then read, amounting, with two donations of £1000 each, to £6731. Sir William Treloar, in responding, said they had now built a nurses' home to accommodate 35 more nurses, and to be called Queen Alexandra's Home. This would enable them to take 50 more children in addition to the 220 they always had. Mr. Gauvain replied for the medical staff. Other toasts were "The Right Hon. the Lord Ma and the Corporation of the City of London," proposed humorous vein by Lord Reading, the Lord Chief Justice, a responded to, in the unavoidable absence through acci of the Lord Mayor, by Alderman Sir Joseph Savory; "Th Honorary Medical Board," proposed by Lord Moult and replied to by Mr. John Morgan, C.V.O.; "The Chai man," given by the Bishop of London; and "The Mercha Taylors' Company," responded to by the Master, Mr. C. G Kekewich.

AT a meeting of delegates of the Devonpo Liberal Association, held on May 15th, Sir John Collie w adopted as the second Liberal candidate to contest t constituency at the next General Election.

METROPOLITAN HOSPITAL. — Sir Frederic Banbury, Bart., M.P., will preside at the annual festiv dinner, which will be held in aid of the funds of t Metropolitan Hospital on Friday, July 3rd, at the Whiteha Rooms, Hotel Metropole, London.

THE Bolingbroke lecture in connexion with th South-West London Medical Society will be delivered at t Bolingbroke Hospital, Wandsworth Common, on Wednesday June 10th, at 9 P.M., by Dr. W. Hale White, on the subje of Prognosis. All medical men are welcome.

CHELSEA CLINICAL SOCIETY. — The annua general meeting of this society will be held on Tuesday next, May 26th, at St. George's Hospital, in the club room of the Medical School, at 8.30 P.M. After the usual official business the President, Dr. T. B. Hyslop, will deliver a address on Self-control.

MEDICAL SOCIETY OF LONDON: LETTSOMIAN LECTURES, 1914.—The postponed Lettsomian lectures on Dysentery will be delivered by Dr. F. M. Sandwith at 9 P.M. on Tuesday, June 9th, Thursday, June 11th, and Thursday, June 18th. The second and third lectures will be illustrated by pictures and pathological specimens, mostly borrowed from the London School of Tropical Medicine.

FACTORY GIRLS' COUNTRY HOLIDAY FUND.—In the report of this fund for 1913 an earnest appeal for financial help is made. Owing to the effects of strikes on the girls themselves who contribute to the fund, to the effects of heavy taxation on the generous public, and to the increase in railway charges, the useful work of the fund has been much curtailed. Subscriptions and donations should be sent to the honorary treasurer, 19, Norfolk-crescent, Hyde Park, S.W. The bankers are the London County and Westminster Bank, Holborn Circus Branch.

ROYAL INSTITUTE OF PUBLIC HEALTH: LECTURES ON INDUSTRIAL HYGIENE.—A course of lectures on industrial hygiene will be given at the institute by Sir Thomas Oliver, M.D., professor of medicine in the University of Durham College of Medicine, Newcastle-upon-Tyne, during the ensuing summer session on Wednesdays and Thursdays, at 4 o'clock. On May 27th the subject will be Factory Legislation; on May 28th, Injurious Occupations; on June 10th, Coal Mining; on June 11th, Gold Mining; on July 8th, Ankylostomiasis; and on July 9th, Dangerous Trades which have been Rendered comparatively Harmless. The fee for the course is 1 guinea.

ILFORD AND ITS LATE MEDICAL OFFICER OF HEALTH.—At the monthly meeting of the Loxford Ward of the Ilford Ratepayers' Association held on May 13th, Mr. C. F. Stovin, D.P.H. Lond., was presented with a gold watch inscribed as follows: "Presented to Dr. C. F. Stovin by members of the Loxford Ward of the I.R.A. and friends, 13th of May, 1914." Mr. W. H. Barnl[illegible], who presided and made the presentation, also read a manuscript address, signed by himself as chairman of the association, in which regret for the termination of Mr. Stovin's appointment was expressed. The address contained the following passage:—

> We entirely agree with the sentiment in the Local Govern[illegible] Board letter "that the medical officer of health has done nothing to merit discharge from his office," and we deplore the events that now deprive the ratepayers of Ilford of your wise and valuable experience in the administration of the Public Health Department.

Mrs. Stovin was presented with a bouquet of pink roses. Mr. Stovin having expressed his gratitude for the hon which had been done him and his wife, a number of speeches were made by members of the association and other ratepayers of Ilford expressive of approval of the work of their medical officer. Councillor Smith remarked that he had always found Mr. Stovin courteous and perfectly fair; Mr. Stovin's annual reports were a credit to the town, and the absolute loyalty, confidence, and respect of the whole of the public health and hospital staff to their medical officer spoke volumes.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Milk Bill.

THE text of the Milk Bill which Mr. HERBERT SAMUEL, the President of the Local Government Board, has introduced into the House of Commons has been issued. The right honourable gentleman briefly explained the scope of the measure at the time of the introduction.[1] As the measure is important the text of some of its principal provisions may be given.

Clause 1 prohibits the sale of tuberculous milk. It is in the following terms: "If a person (*a*) sells, or offers or exposes for sale, or suffers to be sold or offered or exposed for sale, for human consumption or for use in the manufacture of products for human consumption; or (*b*) uses or suffers to be used in the manufacture of products for human consumption; the milk of any cow which has to his knowledge given tuberculous milk, or which is suffering from emaciation due to tuberculosis, or from tuberculosis of the udder, or from acute inflammation of the udder, or from any disease liable to infect or contaminate the milk, he shall be guilty of an offence against this Act, unless he proves that he did not know and had no reason to suspect that the milk so sold or offered or exposed for sale or used was the milk of such a cow."

In Clause 2 an extension is proposed of the power to make orders respecting milk and dairies. It sets out that the purposes for which general and special orders with respect to milk and dairies may be made by the Local Government Board include: "(*a*) the registration with local authorities of dairies; (*b*) the inspection of dairies and persons employed in or about dairies; (*c*) the prevention of the sale for human consumption or for use in the manufacture of products for human consumption, of infected, contaminated, or dirty milk or the milk of a diseased cow; (*d*) the prohibition of the addition of colouring matter and the prohibition or regulation of the addition of skimmed or separated milk, or water, or any other substance, to milk intended for sale for human consumption, and the prohibition or regulation of the sale for human consumption of milk to which such an addition has been made; (*e*) the regulation of the cooling and conveyance of milk intended for sale for human consumption; (*f*) the labelling or marking of receptacles of milk for sale for human consumption and the identification of churns and vessels used for the conveyance of such milk."

When a medical officer of health of a county or a county borough is of opinion that tuberculosis is caused, or is likely to be caused, by the consumption of the milk supplied from any dairy within his area, he is provided with powers under Clause 3 and Schedule I. to report the matter to the county or county borough council. This authority, if in their opinion the dairyman has failed to show cause why an order should not be made, may make an order prohibiting him, either absolutely or unless such conditions as may be prescribed in the order are complied with, from supplying for human consumption, or using or supplying for use in the manufacture of products for human consumption, any milk from the dairy until the order has been withdrawn.

Clause 4 is important, and deals with the obligation to inspect dairies in certain cases. It is to the following effect:—"1. If the medical officer of health of any local authority has reason to suspect that tuberculosis is caused, or is likely to be caused, by the consumption of any milk which is being sold or exposed or kept for sale within the area of the local authority he shall endeavour to ascertain the source or sources of supply, and on ascertaining the facts shall forthwith give notice of them to the medical officer of health of the county or county borough in which the cows from which the milk is obtained are kept, whether the dairy where they are kept is within or without the area of the local authority, unless the local authority are themselves the council of that county or county borough. 2. On the receipt of such notice it shall be the duty of the medical officer of health of the county or county borough to cause the cattle in the dairy, and, where the case so requires, the persons employed therein, to be inspected, and to make such investigations as may be necessary. 3. Sufficient notice of the time of the inspection shall be previously given to the local authority whose medical officer of health gave the notice, to allow that officer or a veterinary inspector or other veterinary surgeon appointed by the authority being present at the inspection if the authority so desire. 4. The council of the county or county borough on whose medical officer of health the notice is served shall send to the medical officer of health of the local authority who gave the notice copies of any reports which may have been made by the medical officer of health making the inspection, and of any veterinary or bacteriological reports which may have been furnished to him, and shall give him information as to whether any action has been taken upon those reports and as to the nature of that action."

The Bill also deals with the power to take samples of milk, appointment of veterinary inspectors, regulations as to imported milk, establishment of milk depôts, enforcement of duties of local authorities, penalties, and application of the Bill to London.

Milk and Dairies (Scotland) Bill.

The Milk and Dairies (Scotland) Bill which Mr. MCKINNON WOOD, the Secretary for Scotland, recently introduced in the House of Commons has been printed. Its scope and aims are set forth in a memorandum. That memorandum states that the main objects of this Bill are to provide for—"1. The appointment by local authorities of a veterinary inspector. 2. The inspection of dairies and of the cattle therein. 3. The registration of dairies. 4. The provision of by-laws for—(*a*) the inspection of cattle; (*b*) the construction, &c., of dairies; (*c*) the prevention of impurities in milk and the cleanliness of persons engaged in dairy business; (*d*) the precautions to be taken by dairymen against infection. 5. The issue of regulations by the Local Government Board for Scotland for—(*a*) the prevention of danger to public health from the importation of milk, and (*b*) securing the supply of pure and wholesome milk. 6. The prohibition of the supply of milk which has caused or is likely to cause infectious disease. 7. The establishment by local authorities of milk depôts for the sale of milk specially prepared for infants. The provisions as to registration supersede the provisions as to the registration of dairies contained in the Contagious Diseases (Animals) Acts, and the orders made thereunder. The provisions as to the inspection of dairies and prohibition of the supply of milk are an extension of those contained in Sections 60 and 61 of the Public Health (Scotland) Act, 1897. The Board of Agriculture and Fisheries have issued an order under the Diseases of Animals Act, 1894, dealing with tuberculous cows, and providing for the payment of compensation in cases of slaughter. The Treasury are prepared, subject to the assent of Parliament, to sanction the payment from the Exchequer of one-half of the net amount paid by way of compensation for a period of five years."

Infants Milk Bill.

The Infants Milk Bill, introduced in the House of Commons by Mr. DOUGLAS HALL, is the third measure dealing with milk the text of which is published within a week. It is designed to secure the supply of pure milk to mothers of the poorest classes. It is a short measure.

Ireland and Public Health Grants.

It is now announced that the Government proposes to insert in the Finance Bill provisions which will make Ireland's share of the new money made available to local authorities by the Budget £697,500 for a full year. This money will be at the general disposal of the Irish Government and Parliament. This sum includes £67,500 for tuberculosis, nursing, and pathological laboratories.

Midwives (Scotland) Bill.

The Midwives (Scotland) Bill has been read a third time and passed in the House of Lords. On report an amendment was introduced recognising for the purpose of the Bill the qualification of midwives holding the certificate of the National Maternity Hospital, Dublin. This Bill has still to be considered by the House of Commons.

HOUSE OF COMMONS.

WEDNESDAY, MAY 13TH.

A Hospital Ship.

Mr. YERBURGH asked the First Lord of the Admiralty whether, in the Estimates for 1912-13, money was allocated for the provision of a hospital ship; whether such a ship was designed; whether the design was approved by the medical department; whether the construction of the ship had not been proceeded with; whether, in place of it, a merchant ship acquired by the Admiralty was being converted by them into a hospital ship; if so, what was the reason of this action on their part; and had it the approval of the medical department.—Mr. CHURCHILL replied: The facts are as stated in parts 1 to 5 of the question. As regards the sixth part of the question, I would refer the honourable member to the Admiralty letter to the Treasury printed on pages 103 to 104 of the Navy appropriation account for 1912–13. The arrangements for the purchase and conversion of the vessel have been drawn up in consultation with the medical department of the Admiralty throughout.

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[1] THE LANCET, May 16th, 1914, p. 1423.

Insured Persons and Change of Residence.

Sir CLEMENT KINLOCH-COOKE asked the honourable Member for St. George's-in-the-East as representing the Insurance Commissioners what provision was made for change of doctor in the case where an insured person moved from one place to another; and, if notice was given on the day of removal, say from one part of London to another, how long a time should elapse before an insured person was given another doctor in his or her new domicile.—Mr. WEDGWOOD BENN answered: A fresh choice of doctor is exercised in the circumstances referred to by means of the medical card already in the insured person's possession. The card sets out clearly the steps to be taken by the insured person for this purpose and no delay need occur.

THURSDAY, MAY 14TH.

The Drug Fund.

Mr. GODFREY LOCKER-LAMPSON asked the honourable Member for St. George's-in-the-East whether a number of Insurance Committees were finding that the claims on their drug fund for chemists' accounts were growing in amount as compared with last year; whether such was the case with committees which had insufficient money to pay the chemists' accounts in full last year; and what the Government proposed to do to meet these increasing deficiencies.—Mr. WEDGWOOD BENN answered: Until the total sums available to each Insurance Committee have been finally ascertained and the accounts have been scrutinised the assumptions underlying the question cannot be accepted. In a few cases the Insurance Commissioners have received information that the accounts for the quarter which ended on the 11th of last month are in excess of those for the same quarter of last year, but no comparison between the amounts can properly be made until the accounts for each period have been examined.

Mr. G. LOCKER-LAMPSON asked the honourable gentleman whether the chemists under contract with the West Hartlepool Insurance Committee had had 30 per cent. deducted from their bills for last quarter, chiefly because the committee had insufficient funds to meet the bills; whether there was still outstanding and unpaid 10 per cent. of the chemists' bills for each quarter of last year; whether the number of prescriptions dispensed in that area had increased from 1800 in the quarter ending April, 1913, to 2200 in the corresponding quarter this year, and the cost increased from about £525 to £754; and whether the chemists and the Insurance Committee had expressed their dissatisfaction to the Commissioners.—Mr. WEDGWOOD BENN replied: The Insurance Commissioners hope to be able to inform the committee referred to at an early date of the total sum available to them from the drug fund for the past year. In the meantime, any payments made to the chemists are in the nature of advances only. For the reasons already explained in a reply to the honourable Member no comparison can properly be made at present between the accounts for last quarter and for the corresponding period of last year.

Institutional Treatment of Insured Persons.

Mr. GOULDING asked the Chancellor of the Exchequer whether, in addition to the proposals outlined in his speech in introducing the Budget, he would consider the possibility of placing adequate institutional treatment at the disposal of insured persons as part of their medical benefit.—Mr. WEDGWOOD BENN (on behalf of Mr. LLOYD GEORGE) answered: My right honourable friend will be glad to consider the honourable Member's suggestion, though I would remind him that the provision of grants in aid of the voluntary hospitals would necessarily raise the question of State control.

Institutional Treatment of Tuberculosis.

Replying to Mr. ASTOR, Mr. HERBERT SAMUEL wrote: 115 councils have submitted to the Local Government Board schemes for providing institutional treatment for persons suffering from tuberculosis, and in all these cases the scheme either expressly or by implication provides for the treatment of non-insured as well as insured persons. There are now six county councils and five county borough councils which have not yet submitted such schemes. In the case of one of these counties, the Isles of Scilly, no scheme is needed. In another (London) arrangements for providing institutional treatment for the non-insured as well as the insured population are now being developed. Of the county boroughs, two, Bournemouth and Grimsby, will, I have reason to believe, submit schemes at an early date.

Domiciliary Treatment of Uninsured Tuberculous Persons.

Mr. ASTOR asked the President of the Local Government Board whether the local authorities which undertook the treatment of uninsured persons suffering from tuberculosis within their district, with the aid of the Hobhouse grant, had power to provide for persons in receipt of domiciliary treatment the following among other articles of food—namely, milk, butter, eggs, bread, fish, and meat; and, if so, whether he would state what statute or statutes gave local authorities the power to make the above provision.—Mr. HERBERT LEWIS (on behalf of Mr. HERBERT SAMUEL) answered: My right honourable friend is in communication with the Treasury on this subject, and is not at present in a position to answer the question.

Grants for Expert Diagnosis.

Mr. CHARLES BATHURST asked the Chancellor of the Exchequer whether, in connexion with the proposed Government subsidy for the institution of pathological laboratories, he would consider the need of research work in connexion with contagious diseases, such as anthrax, tuberculosis, glanders, cow-pox, and foot-and-mouth disease, which were common to human beings and domestic animals, and apply a portion of the proposed grant towards the conduct of such research and the greater coöperation of the medical and veterinary professions in the interests of human health.—Mr. LLOYD GEORGE said in reply: The grants proposed are in respect of laboratories to be used primarily for purposes of expert diagnosis and not of research, but I understand that certain of the subjects mentioned by the honourable Member are engaging the attention of the Medical Research Committee.

MONDAY, MAY 18TH.

"Form Medical 32."

Mr. CHARLES BATHURST asked the honourable Member for St. George's-in-the-East why Form Medical 32 of the Insurance Commissioners was withdrawn; and whether, in view of the complaints consequent upon the inability of insured persons to obtain medical benefit owing to the difficulty of obtaining a medical card, the Commissioners would re-issue Form Medical 32, making it obtainable from such persons' approved society only.—Mr. WEDGWOOD BENN answered: The form referred to was part of the system which has now been superseded, and its adoption is incompatible with the present system. The form of application for a medical card which takes its place is obtainable at all post-offices, and no difficulty should be experienced by insured persons in securing a medical card on application.

BOOKS, ETC., *RECEIVED.*

ALLEN, GEORGE, London.
  Dr. Ivor's Wife. By Mary Kernahan (Mrs. Charles Harris). Price 6s. net.
  The Great Problems. By Bernardino Varisco, Professor of Theoretic Philosophy in the University of Rome. Translated by R. C. Lodge, M.A. Price 10s. 6d. net.

AMERICAN GYNECOLOGICAL SOCIETY, New York.
  Transactions of the American Gynecological Society. Vol. XXXVIII. Price not stated.

APPLETON, D., AND CO., London and New York.
  Pain: Its Origin, Conduction, Perception, and Significance. By R. J. Behan, M.D. (Dr. Med. Berlin). Price 25s. net.

BAILLIÈRE, TINDALL, AND COX, London.
  The Therapeutic Value of the Potato. By Heaton C. Howard, L.R.C.P. Lond., M.R.C.S. Eng. Based upon an article contributed by the author to THE LANCET of April 11th, 1914. Price 1s. net.

BALE (JOHN), SONS, AND DANIELSSON, LIMITED, London.
  Text-book of Local Anæsthesia for Students and Practitioners. By Professor Dr Georg Hirschel, Heidelberg. With an Introductory Preface by Professor Dr. Wilms. Translated by Ronald E. S. Krohn, M.D. Lond. Price 8s. 6d. net.

CASSELL AND CO., LIMITED, London, New York, Toronto, and Melbourne.
  The Progress of Eugenics. By C. W. Saleeby, M.D., Ch.B., F.Z.S., F.R.S. Edin. With frontispiece by W. J. Ophelia Billinge. Price 5s. net.

CHURCHILL, J. AND A., London.
  The Practice of Medicine. By Frederick Taylor, M.D., F.R.C.P., Consulting Physician to Guy's Hospital. Tenth edition. Price 18s. net.

DUTY AND DISCIPLINE MOVEMENT, 117, Victoria-street, S.W.
  Anarchy or Order: Twelve Papers for the Times.

FIFIELD, A. C., 13, Clifford's Inn, London, E.C.
  Philip's Wife. A play by Frank G. Layton ("Stephen Andrew"), M.R.C.S. Price 1s. net.
  Damaged Goods. A play by Brieux. Translated by John Pollock, with a Preface by Bernard Shaw and a Foreword by Mrs. Bernard Shaw. Price 1s. net.

FROWDE, HENRY, AND HODDER AND STOUGHTON, London.
  Outlines of Zoology. By Arthur Thomson, M.A., LL.D., Regius Professor of Natural History in the University of Aberdeen. Sixth edition. Revised. Price 12s. 6d. net.

KIMPTON, HENRY, London and Glasgow.

Eye, Nose, Throat and Ear: A Manual for Students and Practitioners. By James Forrest, M.B., Ch.B. Edin. 122 illustrations and 12 coloured plates. Price 10s. 6d. net.

LIPPINCOTT (J. B.) COMPANY, Philadelphia and London.

The Diseases of Children: A Work for the Practising Physician. Edited by Dr. M. Pfaundler and Dr. A. Schlossmann. English translation by H. L. K. Shaw, M.D., and L. La Fétra, M.D., with an introduction by L. Emmett Holt, M.D. Vol. VI. Price 21s. net.

Pharmacology, Clinical and Experimental. By Dr. Hans H. Meyer, of Vienna, and Dr. R. Gottlieb, of Heidelberg. Authorised translation into English by John Taylor Halsey, M.D. Price 25s. net.

LONGMANS, GREEN, AND CO., London, New York, Bombay, and Calcutta.

The Simpler Natural Bases. By George Barger, M.A., D.Sc. Price 6s. net.

Nucleic Acids: Their Physical Properties and Physiological Conduct. By Walter Jones, Ph.D. Price 3s. 6d. net.

X Rays: An Introduction to the Study of Röntgen Rays. By G. W. C. Kaye, B.A., D.Sc. Price 5s. net.

OXFORD UNIVERSITY PRESS, London.

Palissy, Bacon, and the Revival of Natural Science. By Sir Thomas Clifford Allbutt, K.C.B., F.R.S. Price 1s. net.

PUTNAM'S (G. P.) SONS, New York and London.

The Backward Child: A Study of the Psychology and Treatment of Backwardness. A practical manual for teachers and students by Barbara Spofford Morgan, with an introduction by Elizabeth E. Farrell. Price 5s. net.

REVIEW OF REVIEWS OFFICE, Kingsway.

Advertising and Progress. A Defence by E. S. Hole and a Challenge by John Hart. Price 5s. net.

ROUTLEDGE, GEORGE, London; E. P. DUTTON, New York.

Photography in Colours. A Text-book for Amateurs and Students of Physics, with a chapter on Kinematography in the colours of nature. By George Lindsay Johnson, M.A., M.D., B.C., F.R.C.S. *Second revised edition.* Price 3s. 6d. net.

SAUNDERS (W. B.) COMPANY, London and Philadelphia.

Modern Surgery, General and Operative. By John Chalmers DaCosta, M.D., Professor of Surgery, Jefferson Medical College. New (seventh) edition, thoroughly revised and enlarged, with 1035 illustrations, some in colours. Cloth, 25s. net.

ST. JOHN AMBULANCE ASSOCIATION, Simla. THACKER, SPINK, AND CO., Calcutta.

The Indian Manual of First Aid. By Major R. J. Blackham, C.I.E., D.P.H. Lond., R.A.M.C. *Fifth edition.*

SURGEON-GENERAL'S OFFICE, Washington.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Second Series. Vol. XVIII. Tetamore–Tzschirner.

THE MACMILLAN COMPANY, New York.

The Unconscious: The Fundamentals of Human Personality, Normal and Abnormal. By Morton Prince, M.D., LL.D. Price 8s. 6d. net.

UNIVERSITY PRESS, Manchester.

Lectures on Housing. The Warburton Lectures, 1914. By B. Seebohm Rowntree and A. C. Pigou. Price not stated.

WRIGHT, JOHN, AND SONS, LIMITED, Bristol. SIMPKIN, MARSHALL, London. THE MACMILLAN COMPANY, Canada.

Appendicitis: A Plea for Immediate Operation. By Edmund Owen, F.R.C.S., D.Sc. (Hon.), Surgeon to the French Hospital. Price 3s. 6d. net.

The British Journal of Surgery. Vol. I., July, 1913, to April, 1914. Price 30s. net.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BURKE, D. E. J., M.B., Ch.B. N.U.I., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Slievereagh District of the county of Cork.

CARRINGTON, H. W., M.B., Ch.B. Oxon., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at King's College Hospital.

CHEYNE, W. H. W., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at King's College Hospital.

DAWSON, C., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Junior Assistant Surgeon to the Gravesend Hospital.

GALVIN, PATRICK ALFRED, M.D., B.S., B.Hy., D.P.H. Durh., has been appointed an Assistant Medical Officer under the Tuberculosis (Sanatorium Benefit) Scheme by the Belfast Health Committee.

HARTLEY, J. D., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Honorary Surgeon to the Gravesend Hospital.

HICKMAN, W., L.R.C.P. & S. Irel., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Croom District of the county of Limerick.

[illegible], CYRIL, M.B., B.S. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Anæsthetist at King's College Hospital.

LAWRENCE, S. M., M.D., B.S. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Assistant Surgeon to the Gravesend Hospital.

LYNE, C. V., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant House Accoucheur and Assistant Casualty Officer at King's College Hospital.

MORTON, H. H. P., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at King's College Hospital.

NEGUS, V. E., M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Physician at King's College Hospital.

O'SULLIVAN, H. J., M.B., B.S. R.U.I., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Templemartin District of the county of Cork.

PINCHING, C. J., M.B., B.Ch. Oxon., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Surgeon to the Gravesend Hospital.

PRITCHARD, N. P., M.R.C.S., L.R.C.P. Lond., has been appointed House Accoucheur and Assistant Casualty Officer at King's College Hospital.

RIGGALL, ROBERT M., Surgeon R.N., has been appointed Assistant Medical Officer to the Queen Alexandra Sanatorium, Davos Platz, Switzerland.

SMITH, SIDNEY, M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon for Diseases of Children at King's College Hospital.

THOMPSON, R. B., M.B., Ch.B. Vict., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Brixham District of the county of Devon.

WAKELY, A. S., M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Physician at King's College Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ABERDEEN UNIVERSITY.—Lectureship in Public Health. Salary £400 per annum.

BARNSLEY, BECKETT HOSPITAL.—Second House Surgeon, unmarried. Salary £160 per annum, with apartments, board, and laundry.

BARROW-IN-FURNESS NORTH LONSDALE HOSPITAL.—House Surgeon. Salary £150 per annum, with residence, board, and laundry.

BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—House Surgeon for six months. Salary at rate of £75 per annum, with board, residence, and washing.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant for three months. Salary at rate of 52 guineas per annum. Also Clinical Assistant to Electrical Department for six months. Salary at rate of 52 guineas per annum.

BIRMINGHAM, CITY FEVER HOSPITAL, Little Bromwich.—Assistant Medical Officer. Salary £160 per annum, with board and residence.

BIRMINGHAM CITY HOSPITAL, Lodge-road.—Assistant Resident Medical Officer. Salary £160 per annum, with board, residence, &c.

BRADFORD CITY HOSPITAL, Leeds-road.—Assistant Resident Medical Officer. Salary £200 per annum, with board and residence.

BRADFORD ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing.

BRENTFORD UNION INFIRMARY, WORKHOUSE, AND SCHOOLS, Isleworth, W.—Second Assistant Medical Superintendent; unmarried. Salary £150 per annum.

BRIGHTON COUNTY BOROUGH ASYLUM, Haywards Heath.—Locum Tenens Assistant Resident Medical Officer for three months. Salary £5 5s. a week.

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke-road.—House Surgeon for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

BRIGHTON, ROYAL SUSSEX COUNTY HOSPITAL.—House Physician, unmarried. Salary £100 per annum, with apartments, board, and laundry.

BRISTOL ROYAL INFIRMARY.—House Surgeon for Throat, Nose, and Ear Department. Salary at rate of £100 per annum, with board, lodging, and laundry.

BURSLEM, HAYWOOD HOSPITAL.—Female Resident Medical Officer. Salary £100 per annum, with board, residence, and laundry.

BURY COUNTY BOROUGH.—Clinical Tuberculosis Officer and Assistant to Medical Officer of Health. Salary £500 per annum.

BURY INFIRMARY.—Junior House Surgeon. Salary £100 per annum, with board, residence, and washing.

CARDIFF, KING EDWARD VII.'S HOSPITAL.—House Surgeon for the Ophthalmic and Ear, Nose and Throat Departments. Salary £100 per annum, with board, residence, and laundry.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd-street, W.C.—Assistant Surgeon.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House Physician. Salary £90 per annum, with board, apartments, and laundry.

CITY OF LONDON LYING-IN-HOSPITAL, City-road.—Pathologist and Registrar.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and residence.

DARLINGTON HOSPITAL AND DISPENSARY.—House Surgeon, unmarried. Salary £170 per annum, with board, lodging, and laundry.

DEVON COUNTY ASYLUM, Exminster.—Assistant Medical Officer. Salary £225 per annum, with quarters, board, and laundry.

DEVONPORT, ROYAL ALBERT HOSPITAL.—House Surgeon, unmarried. Salary £150 per annum, with board and laundry.

DURHAM COUNTY ASYLUM, Winterton, Ferryhill.—Junior Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, and washing.

DURHAM COUNTY HOSPITAL.—House Surgeon. Salary £125 per annum, with board and lodging.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Medical Officer to Casualty Department for six months. Salary at rate of £100 per annum, with luncheon and tea. Also House Physician. Salary at rate of £75 per annum, with board, residence, and laundry.

Eccles and Patricroft Hospital.—House Surgeon. Salary £70 per annum, with board, washing, and lodging.

Egypt, Public Health Department.—Medical Officer, unmarried. Salary at rate of £600 per annum.

Evelina Hospital for Sick Children, Southwark, S.E.—House Surgeon. Salary at rate of £75 per annum, with board, residence, and washing.

Greenock Infirmary.—House Surgeon. Board and residence provided.

Halifax Royal Infirmary.—Second House Surgeon and Third House Surgeon, unmarried. Salary £120 and £100 per annum respectively, with residence, board, and washing.

Hampshire County Council.—Two Assistant County Medical Officers of Health. Salary £300 per annum. Also Tuberculosis Officer. Salary £400 per annum.

Hampstead General and North-West London Hospital.—Casualty Officer at Out-patients' Department, Camden Town. Salary at rate of £70 per annum, with board, residence, and laundry.

Hartlepools Hospital.—Locum Tenens for June. Board, washing, and lodging provided.

Hemel Hempstead. West Herts Hospital.—Resident Medical Officer. Salary £120 per annum, with rooms, board, and washing.

Huddersfield Royal Infirmary.—Assistant House Surgeon. Salary £80 per annum, with board, rooms, and washing.

Huddersfield, Storthes Hall Asylum, Kirkburton.—Locum Tenens for about three months. Salary 5 guineas per week, with board, lodging, and attendance.

Hull City Education Committee.—Male Assistant School Medical Officer and Female Assistant School Medical Officer. Salary £300 per annum each.

King's Lynn, West Norfolk and King's Lynn Hospital.—House Surgeon. Salary £120 per annum.

Kirkmabreck Parish, Creetown, Kirkcudbrightshire.—Medical Officer. Salary £40 per annum.

Leeds, City Hospitals for Infectious Diseases and Tuberculosis.—Assistant Medical Officer, unmarried. Salary at rate of £130 per annum, with board, lodging, and washing.

Leeds General Infirmary.—House Surgeon for six months. Also House Surgeon. Board, residence, and laundry provided in each case. Also Resident Medical Officer for six months at Ida and Robert Arthington Hospitals. Salary £60 per annum, with board, residence, and laundry. Also Assistant Clinical Pathologist. Salary £150 per annum.

Leicester Poor-law Infirmary.—Second Resident Assistant Medical Officer. Salary £150 per annum, with rations, apartments, and washing.

London Fever Hospital, Liverpool-road, N.—Assistant Resident Medical Officer. Salary £150 per annum, with residence and board.

London Hospital, Whitechapel, E.—Medical Registrar. Salary £100 per annum. Also Surgical Registrar.

Macclesfield General Infirmary.—House Surgeon. Salary £125 per annum, with residence, board, and laundry.

Maidstone, Kent County Asylum.—Fourth Assistant Medical Officer, unmarried. Salary £250 per annum, with quarters, board, attendance, washing, &c.

Manchester, Hulme Dispensary, Dale-street, Stretford-road.—House Surgeon. Salary £180 per annum, with apartments, attendance, &c.

Manchester Northern Hospital for Women and Children, Park-place, Cheetham Hill-road.—House Surgeon. Salary £120 per annum, with apartments and board.

Manchester Royal Infirmary.—Surgical Registrar. Salary £75 per annum.

Metropolitan Asylums Board Infectious Hospitals.—Junior Assistant Medical Officers, unmarried. Salary £180 per annum, with board, lodging, and washing.

Middlesbrough, North Ormesby Hospital.—Assistant House Surgeon. Salary at rate of £100 per annum first six months and £110 per annum afterwards, with board, apartments, washing, and attendance.

Middlesex County Council.—Assistant Tuberculosis Officer. Salary £300 per annum.

Newark-upon-Trent Hospital.—Resident Medical Officer, unmarried. Salary £120 per annum, with board, lodging, and laundry.

New Hospital for Women, Euston-road.—Female House Physician, Two House Surgeons, and Obstetric Assistant, all for six months. Also Clinical Assistants for Out-patient Department, and Assistant Pathologist.

New Zealand, University of Otago.—Professor of Anatomy. Salary £800 per annum.

Nottingham, Bagthorpe Institution and Infirmary.—Assistant Resident Medical Officer, unmarried, for six months. Salary at rate of £165 per annum, with apartments, &c.

Nottingham General Hospital.—Assistant House Physician for six months. Salary at rate of £100 per annum, with board, residence, and laundry. Also Locum Tenens for 13 weeks. Salary £3 3s. per week, with board, residence, and laundry.

Notts County Council.—Assistant Tuberculosis Officer. Salary £300 per annum.

Paddington Infirmary and Workhouse.—Second Assistant Medical Officer. Salary at rate of £140 per annum, with board, lodging, and washing.

Plaistow Fever Hospital, London, E.—Second Assistant Medical Officer, unmarried. Salary £100 per annum, with rooms and all found.

Portsmouth Lunatic Asylum.—Medical Superintendent. Salary at rate of £600 per annum.

Portsmouth Royal Hospital.—Three House Surgeons for six months. Salaries: Senior House Surgeon, £110 per annum, and other two £90 per annum, with board, &c.

Portsmouth Workhouse Infirmary, Workhouse, and Children's Home.—Second Assistant Resident Medical Officer, unmarried. Salary £130 per annum, with apartments, rations, &c.

Preston, County Asylum, Whittingham, Lancs.—Junior Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, &c.

Queen's Hospital for Children, Hackney-road, Bethnal Green, E.—House Surgeon for six months. Salary £80 per annum, with board, residence, and washing.

Rochdale Infirmary and Dispensary.—Junior House Surgeon, unmarried. Salary £110 per annum, with board, residence, and laundry.

Rotherham Hospital.—Senior and Junior House Surgeons. Salaries £150 and £100 respectively, with board, lodging, and washing.

Royal Eye Hospital, Southwark, S.E.—Junior House Surgeon for six months. Salary £50 per annum, with board and residence. Also Clinical Assistants.

St. Helens County Borough Education Committee.—Dentist. Salary £250 per annum.

St. Mark's Hospital for Cancer, Fistula, and other Diseases of the Rectum, City-road, E.C.—House Surgeon. Salary £100 per annum, with board, lodging, and washing. Also Junior Anæsthetist. Salary £25 per annum.

St. Marylebone General Dispensary, 77, Welbeck-street, Cavendish-square, W.—Honorary Surgeon for Throat, Nose, and Ear Department. Also Honorary Medical Radiographer.

Salford Royal Hospital.—Junior House Surgeon and Casualty House Surgeon. Salary at rate of £80 per annum each, with board and residence.

Salisbury Infirmary.—Assistant House Surgeon, unmarried. Salary £75 per annum, with apartments, board, lodging, and washing.

Sheffield, East End Branch of the Children's Hospital (Out-patient Department).—Female House Surgeon. Salary £100 per annum, with board and residence.

Sheffield, Jessop Hospital for Women.—Assistant House Surgeon, unmarried. Salary £80 per annum, with board, residence, and laundry.

Sheffield Royal Infirmary.—Ophthalmic House Surgeon for six months. Salary £80 per annum, with board and residence.

Sheffield Union Hospital, Firvale.—Resident Assistant Medical *Officer, unmarried. Salary £140 per annum, with apartments*, rations, &c.

Shrewsbury, Salop Infirmary.—House Physician. Salary at rate of £90 per annum, with board and apartments.

South London Hospital for Women.—Female Anæsthetist.

Stroud General Hospital.—House Surgeon. Salary £120 per annum, with board, lodging, and washing.

Sunderland Royal Infirmary.—Junior House Surgeon. Salary £100 per annum, with board, residence, and laundry.

Swansea General and Eye Hospital.—Two House Surgeons. Salary £125 per annum, with board, washing, and attendance.

Ulster Hospital Corps.—Surgeons.

University of London, King's College.—Demonstrator of Physiology. Salary £120 per annum.

Walsall and District Hospital.—Assistant House Surgeon. Salary £110 per annum, with board, residence, and laundry.

West Ham and Eastern General Hospital.—Junior House Physician and Junior House Surgeon. Salary at rate of £75 per annum, with board, residence, and washing.

West Ham Union Sick Home, 96, Forest lane, Forest Gate, E.—Second Assistant Resident Medical Officer. Salary £160 per annum.

West London Hospital, Hammersmith-road, W.—Two Assistant Anæsthetists. Also Second Resident Casualty Officer. Board, lodging, and laundry provided.

Westmorland Consumption Sanatorium and Home, Meathop, Grange-over-Sands.—Second Assistant Medical Officer. Salary £150 per annum, with apartments, board, and laundry.

Wigan, Royal Albert Edward Infirmary and Dispensary.—Senior House Surgeon. Salary £170 per annum, with board, apartments, and washing. Also Junior House Surgeon. Salary £150 per annum, with board, apartments, and washing.

Wokingham, Berkshire, Pinewood Sanatorium.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, residence, and laundry.

Wrexham Infirmary.—Resident House Surgeon. Salary £120 per annum, with board, lodging, and washing.

The Chief Inspector of Factories, Home Office, London, S.W., gives notice of a vacancy for a Certifying Surgeon under the Factory and Workshop Acts at Brackley, in the county of Northants.

Births, Marriages, and Deaths.

BIRTHS.

Duigan.—*On May 13th, at Beech House, East Dereham, the wife of* V. J. Duigan, M.R.C.S., of a son.

MARRIAGES.

Alexander—Gray.—On May 14th, at the Parish Church, Sundridge, Kent, James Finlay Alexander, M.A., M.D. Cantab., to [illegible] Brenton Gray, daughter of Mrs. Gray, of Linwood, Eastbourne.

DEATHS.

Craven.—On May 17th, at 7, Albert-road, Birkdale, Southport, suddenly, in his 63rd year, Robert Musgrave Craven, M.R.C.S., D.P.H., Medical Officer of Health for the Combined County Districts of Westmorland.

Wallace.—At his residence, Darenth Lodge, Clapton Common, Richard Unthank Wallace, M.B. Lond., M.R.C.S. Eng., in his 81st year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

DR. PETER CHAMBERLEN.

THE following advertisement appeared in the *Times* of May 16th, 1914:—

> "CHAMBERLEN. Any descendants of Dr. Peter Chamberlen, Royal Physician, of London (died 1683), would oblige by COMMUNICATING with C., Field House, Minchinhampton, Glos."

We do not know the object of this advertisement, but some details of Dr. Peter Chamberlen, quoted from Munk's Roll of the Royal College of Physicians, may not be familiar to all our readers. Peter Chamberlen was the son of Peter Chamberlen, a surgeon, who practised in the City of London. He was born on May 8th, 1601, was educated at Merchant Taylors' School, and graduated Doctor of Medicine at Padua in 1619 and at Cambridge in 1621. Dr. Chamberlen was admitted a candidate of the College of Physicians on July 6th, 1626, and a Fellow on April 7th, 1628. On Nov. 23rd, 1629, he was by a vote of the College dismissed from his Fellowship. His reputation must have been considerable, as the Czar wrote with his own hand a letter to Charles I., begging him to allow the doctor to enter his service. He was extensively engaged in the practice of midwifery, and attempted to obtain from the Crown authority to organise the female practitioners into a company with himself at their head as president and examiner. He purchased the Manor House of Woodham Mortimer Hall, near Malden, Essex, where a curious collection of midwifery instruments was discovered about 1815. He died on Dec. 22nd, 1683, and was buried at the Church of Woodham Mortimer. One of his sons erected a monument to his memory in this church, which stated that "The said Peter Chamberlen took ye degree of Doctor in Physick in severall universities, both at home and abroad, and lived such above three score years, being Physician in Ordinary to three kings and queens of England, viz., King James and Queen Anne, King Charles ye first and Queen Mary, King Charles ye Second and Queen Katherine, and also to some foreign princes, having travelled to most parts of Europe, and speaking most of the languages." He was a voluminous writer. Dr. Peter Chamberlen, senior, is more generally remembered as the inventor of the midwifery forceps, by the use of which he and his descendants acquired a great reputation as accoucheurs, keeping their secret to themselves for a long period of time.

"MILLIBARS."

To the Editor of THE LANCET.

SIR,—I am obliged to you for publishing my letter under the above heading in THE LANCET of May 16th. May I, however, correct an error in the third paragraph which escaped my notice when revising the proof. The "unit of acceleration" is the acceleration of 1 unit of velocity per second, or "1 centimetre per second per second," not, as it has been printed, "an acceleration of 1 centimetre per second."

I am, Sir, yours faithfully,
JOHN W. MOORE, M.D., D.Sc., F.R. Met. Soc.
Dublin, May 16th, 1914.

A MEDICAL MAN AND THE SPEED-LIMIT.

Mr. H. J. Bates was summoned recently at Evesham police-court for driving a motor-cycle at a speed dangerous to the public at Norton, and with failing to produce his licence. The evidence of a police constable was to the effect that the defendant drove at or about 40 miles per hour, and that he was stopped near a dangerous corner where several accidents had occurred. Other witnesses put the speed at 30 miles per hour. The defendant stated on oath that his pace was 20 miles per hour, and that he was fully aware of the dangerous corner which he was approaching. His evidence was corroborated by another medical man, Mr. H. H. Sampson, who was with him at the time, and a third medical practitioner, who had been riding in front of the defendant at or about 20 miles per hour, and had not been stopped by the police, corroborated with regard to the speed adopted. The magistrates dismissed the case, but fined the defendant 5s. and 8s. costs for failing to produce his licence. Mr. Bates is to be congratulated upon having successfully defended himself against a charge which involves the infliction of danger upon the public using the highway. Medical men may at any time be impelled by circumstances in which many would sympathise with them to break the law in order to reach a patient as quickly as possible, and for this reason it is very desirable that, being constant users of motor vehicles, they should earn the reputation of using them with consideration for others.

GRADUS AD OLYMPUM.

THE fact that one of the claimants to the Barony of Strabolgi, now in abeyance with the ancient Baronies of Burgh (1529) and Cobham of Kent (1313), is a medical man, Dr. Reginald Gervase Alexander, J.P., of Halifax and Bradford, naturally attracts attention to legal proceedings that would otherwise be devoid of medical interest. The circumstance that Dr. Alexander had his claim as a co-heir with one other claimant to the Baronies of Burgh and Cobham declared valid in 1912 by the Committee of Privileges of the House of Lords was the subject of an annotation in THE LANCET of August 10th, 1912. The same Committee has now further allowed the petition of three co-heirs, of whom Dr. Alexander is one, to the Barony of Strabolgi (1318), and will so advise His Majesty. The further development of the matter now rests with the King. Meanwhile, we congratulate Dr. Alexander on having been successful in getting the validity of his claims upheld in all three instances.

CONJOINED TWINS.

A NEW case of conjoined twins has occurred in America, and is reported in the February number of *American Medicine*. The mother is a white woman, aged 44; by a previous husband she has a son who is now 23 years of age, and quite normal. On Nov. 28th, 1913, she gave birth to two girl children, both a good deal below the normal standard of full term development; it is not stated what period of utero-gestation had been reached. They are united by a piece of tough fibrous tissue, about 4 inches thick and 12 inches in circumference, below the sternum, and reaching nearly down to the umbilicus. They have entirely separate thoracic and abdominal organs, except that the two peritoneal cavities are in communication through the band of union. Possibly it is due to this fact that a curious phenomenon occurs in respiration, for one twin inhales as the other exhales, and *vice versâ*. One child is very slightly larger than the other in most of its measurements, and appears stronger; this larger twin has a pulse rate of 130, whereas the smaller one's rate is but 120. The blood of the two children also exhibits differences. The larger child has 6,960,000 red corpuscles per c.mm. and 7500 leucocytes; the smaller one has 6,280,000 and 6335 respectively. The children are progressing favourably, and a photograph reproduced with the description shows them being fed, one from each breast.

MACAURA.

SOME of our readers may remember the proceedings of an American named Macaura who established institutes for the cure of various diseases by vibratory and other treatment a few years ago. We referred to the matter in our issue of Feb. 3rd, 1906, p. 347, and April 7th, 1906, p. 1014. In 1908 the proprietors of this journal took proceedings to restrain him from using the name of THE LANCET in a wrongful manner, as described in our issue of June 6th, 1908, p. 1673. It is now reported from Paris that Macaura was on May 14th sentenced to three years' imprisonment and to a fine of £120 for swindling, and that the medical societies who intervened were also awarded damages varying from £80 to £120. Other people who assisted Macaura in France were likewise sentenced to imprisonment and fine. The court set aside the charge of illegally practising medicine and convicted the accused of swindling.

◆

F. G. W.—Without knowing further details, such as age of patient, nature of malady, and possible susceptibility to the drug, it is difficult to give a definite answer; every third day would probably be a safe interval to begin with, but this method requires caution.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

THE LANCET Office, May 20th, 1914.

Date.	Barometer reduced to Sea Level and 32°F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
May 14	30·26	S.W.	...	115	68	49	54	57	Fine
" 15	30·27	S.E.	...	113	67	54	55	57	Fine
" 16	30·35	E.	...	118	67	50	52	55	Fine
" 17	30·41	E.	...	120	73	45	53	57	Fine
" 18	30·36	E.	...	121	74	46	55	60	Fine
" 19	30·36	E.	...	109	74	55	55	61	Fine
" 20	30·37	S.E.	...	102	75	54	56	60	Fine

Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; Mr. E. Arnold, Lond.; Ardath Tobacco Co., Lond.; Messrs. Arnold and Son, Lond.; Addenbrooke's Hospital, Cambridge, Secretary of; A. M. J.; Automobile Association and Motor Union, Lond., Secretary of; Asylum Workers' Association, Lond., Hon. Secretary of; Mr. F. Ahmed, Lond.; Admiralty Medical Department Lond., Director-General of.

B.—Mr. C. Birchall, Liverpool; Mr. E. Bougault, Paris; Messrs. Butterworth and Co., Lond.; Dr. Bogle, Bordighera; Messrs. Burroughs Wellcome and Co., Lond.; Brentford Union, Clerk to the; Birmingham Corporation, Clerk to the; Mr. R. Burges, Hartley Wintney; Mr. W. H. Brown, Lond.; British Hospitals Association, Lond., Joint Hon. Secretaries of; Brompton Hospital for Consumption, Lond., Dean of; Bristol, Medical Officer of Health of; Dr. J. Charlton Briscoe, Lond.; British Drug Houses, Lond., Managing Director of.

C.—Messrs. Cowie and Co., Lond.; Messrs. C. D. Clayton, Lond.; Cannon Iron Foundries, Bilston; Messrs. T. Christy and Co., Lond.; Mr. F. W. Clarke, Chorlton-cum-Hardy; Chesterfield Hospital, Secretary of; Cancer Hospital, Lond., Secretary of; Messrs. Cassell and Co., Lond.; Messrs. Carfax, Lond.; Chadwick Trust, Lond., Secretary of; Dr. Harry Campbell, Lond.; Sir John Collie, Lond.; Dr. Carey Coombs, Clifton; Mr. John Kyte Collett, Penarth; Dr. C. W. Crawshaw, Green Mount; Cherwell.

D.—Messrs. W. Dawson and Son, Lond.; Dorland Agency, Lond.; Denver Chemical Co., Lond.; Sir Bryan Donkin, Lond.; Messrs. Dakin Bros., Lond.; Dr. Frederick Dillon, Leicester.

E.—Dr. N. Erian, Baltim; Eccles and Patricroft Hospital, Secretary of; Dr. William Ewart, Lond.; Earl's Court Syndicate, Lond.

F.—Fabian Research Society, Lond.; Mr. Gustav Fischer, Jena; Mr. W. Fingland, Liverpool; Mr. O. K. Frohwein, Würzburg; Messrs. Ferris and Co., Bristol; Factory Girls' Country Holiday Fund, Lond.

G.—Dr. C. Gibson, St. Austell; Messrs. Gould and Portman, Lond.; Mr. E. H. Godbold, Lond.; Glasgow Maternity and Women's Hospital, Secretary of; Mr. F. Gill, Sheffield; Mr. H. Ginn, Worcester; General Medical Council, Lond., Registrar of; Gillingham, School Medical Officer of; Glasgow University Club, Lond., Hon. Secretary of; Glasgow Medico-Chirurgical Society, Editorial Secretary of; Dr. Dundas Grant, Lond.

H.—Mr. C. E. Harris, Canterbury; Hampshire County Council, Winchester, Secretary of; H. H. T.; Mr. B. Hoffmann, Thorn-Mocker; Hoffmann-La Roche Chemical Works, Lond.; Messrs. Haasenstein and Vogler, Lond.; Messrs. C. J. Hewlett and Sons, Lond.; Sir Frederic Hewitt, Lond.; Hartlepools Hospital, Secretary of; Hulme Dispensary, Manchester, Secretary of; Mrs F. Henderson, Largs.

I.—Islington, Medical Officer of Health of.

J.—Jessop Hospital, Sheffield, Secretary of; J. W. R.; Mr. R. L. Jones, Bristol; Mr. Robert Jones, Liverpool; Mr. Walter Judd, Lond.

K.—Messrs. Kutnow and Co. Lond.; Messrs. H. S. King and Co., Lond.; Kirkmabreck Parish Council, Creetown, Secretary of; Mr. John B. Kershaw, Liverpool; Mr. Frank Kidd, Lond.

L.—Leeds Corporation, Town Clerk of; Mr. H. K. Lewis, Lond.; Leicester Guardians, Clerk to the; London Hospital Medical College, Secretary of; *Leeds Mercury*, General Manager of; Local Government Board, Lond., Secretary of; Mr. R. Leycester, Knutsford; Mr. R. McC. Linnell, Kuala Lumpur; Mr. E. Muirhead Little, Lond.

M.—Mr. W. Martindale, Lond.; Dr. R. Muir, Lond.; Dr. A. Macdonald, Kingston, Jamaica; Dr. J. Miller, Dundee; Messrs. C. Mitchell and Co., Lond.; Mr. J. C. Montgomerie, Richmond; *Midland Counties Herald*, Birmingham; Messrs. P. C. Millard and Co., Lond.; Manchester Royal Infirmary, Secretary of; Maltine Manufacturing Co., Lond.; Mr. J. E. May, Lond.; Mr. R. Mosse, Berlin; *Middlesex and Bucks Advertiser*, Uxbridge, Manager of; M. B. A.; Dr. G. W. McCaskey, Fort Wayne; Metropolitan Hospital, Lond., Secretary and House Governor of; Sir John W. Moore, Dublin; Mr. C. Mansell Moullin, Lond.; Martins, Ltd., Lond., Managing Director of.

N.—Mr. L. D. Neave, St. Osyth; Nottingham General Hospital, Secretary of; Norfolk Education Committee, Norwich, Secretary of; Messrs. F. Newbery and Sons, Lond.; Nordrach-on-Dee, Banchory, Secretary of; N. B.; Newark Hospital, Secretary of; North-East London Post Graduate College, Dean of.

O.—Mr. J. A. Ormerod, Lond.; Messrs. Osborne, Peacock Co., Manchester; Mrs. G. B. O'Conor, Freshwater; Mr. Edmund Owen, Lond.

P.—Dr. E. S. Popham, Winnipeg; Dr. D. E. Paterson, York; Messrs. G. Pulman and Sons, Lond.; Messrs. C. Pool and Co., Lond.; Portsmouth Borough, Clerk to the; Mr. E. P. Poulters, Lond.; Mr. H. E. Pridham, Summer Hill; Miss Patourel, Crosby-upon-Eden; Dr. F. J. Poynton, Lond.; Portsmouth Guardians, Clerk to the; Mr. C. F. Peters, Lond.; Dr. T. Wilson Parry, Lond.; Mrs. Mary E. Page, Lond.; Panel Committee for the County of London, Secretary of.

R.—Richmond Gas Stove Co., Lond.; Royal Albert Hospital, Devonport, Secretary of; Royal National Sanatorium, Bournemouth, Secretary of; Royal Portsmouth Hospital, Secretary of; Royal South Hants and Southampton Hospital, Secretary of; Royal Halifax Infirmary, Secretary of; Royal Institution of Great Britain, Lond.; Royal Academy of Medicine in Ireland, Dublin; Mr. S. Restrepo, Lond.; Royal Institute of Public Health, Lond., Secretary of; Royal Prussian Amber Mines, Lond., Directors of; Royal Naval Medical Club, Lond., Hon. Secretary of; Royal Commission on Venereal Diseases, Lond.; Dr. C. Hubert Roberts, Lond.; Dr. D. W. Roy, Lond.; Royal Meteorological Society, Lond., Secretary of.

S.—Mr. A. C. Shoppee, Lond.; Mrs. Spence, Guildford; Mr. [illegible] H. Jocelyn Swan, Lond.; Messrs. H. Squire and Co., Lond.; Miss Shearer, Lond.; Sheffield Union, Clerk to the; Salford Royal Hospital, Secretary of; Sunderland Corporation, Medical Officer of Health of; Storthes Hall Asylum, Kirkburton, Clerk to the; "Salvation Army," Lond., Secretary of; Scientific Manufacturers, Lond.; Dr. C. Stiebel, Gujerat; Lieutenant-Colonel O. C. Sherwood, Lond.; Southworth Co., Troy; Dr. Graham Simpson, Sheffield; Stafford, Medical Officer of Health of; Society of Apothecaries of London, Clerk to; St. Thomas's Hospital, Lond., Lady Almoner's Department.

T.—Messrs. W. Thacker and Co., Lond.; Dr. Frederic Thomson, Lond.; Mr. Ralph Thompson, Lond.; Mr. Philip Turner, Lond.

U.—Under-Secretary of State, Home Office, Lond.

V.—Messrs. J. W. Vickers and Co., Lond.; Dr. Ralph Vincent, Lond.; Victoria League, Lond., Secretary of; Mr. Vorley-Wright, Chicago.

W.—Messrs. Willing and Co., Lond.; Mr. A. J. Walton, Lond.; Messrs. F. Williams and Co., Lond.; Messrs. A. J. [illegible] and Co., Lond.; Westmorland Consumption Sanatorium, Medical Superintendent of; Messrs. J. Woodhead and Sons, Huddersfield; Wolverhampton and Midland Counties Eye Infirmary, Secretary of; Messrs. J. Williams and Son, Bradford; Mr. A. F. Walters, Bunessan; Messrs. J. Wright and Co., Birmingham; Wrexham Infirmary, Secretary of; Mr. D. Waterston, Lond.; Walsall and District Hospital, Secretary of; Dr. Albert [illegible], Lond.; Mr. E. H. Worth, Lond.; Dr. J. Darley Wynne, Clonmel; Dr. F. Parkes Weber, Lond.; Dr. Frank G. Wallace, Lond.; Woking, Medical Officer of Health of.

Y.—Dr. Warrington Yorke, Runcorn.

Z.—Messrs. C. Zimmermann and Co., Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. R. G. Adams, Blenheim, New Zealand; Anglo-American Pharmaceutical Co., Croydon; Messrs. Armour and Co., Lond.; Dr. P. Allan, Halesowen; A. M. J.

B.—Dr. C. L. Birmingham, Westport; Dr. C. Burnham, Ross; Bootham Park, York, House Steward of; *Banffshire Journal*, Banff, Manager of; Bristol General Hospital, Secretary of; Mr. W. H. Barrett, Chichester; Messrs. Baker and Co., Oxford; Birkenhead and Wirral Children's Hospital, Treasurer to the; Bombay Medical Union, Hon. Librarian of; Bristol Royal Infirmary, Secretary of; Barnwood House Hospital, Gloucester, Medical Superintendent of.

C.—Mr. W. D. Coplestone, Sheen; Dr. F. G. Crookshank, Lond.; Dr. S. G. Champion, Bournemouth.

D.—Mr. Adair Dighton, Liverpool; Dewsbury and District General Infirmary, Secretary of; Dundee Royal Infirmary, Secretary of; Mr. H. Davis, Lond.; Doncaster Royal Infirmary, Secretary of; Durham County Asylum, Clerk to the; Durham County Hospital, Secretary of; Devonshire Hospital, Buxton, Secretary of.

E.—E. S. B.

F.—Dr. J. Freeman, Lond.; Free Eye Hospital, Southampton; Dr. J. W. Frew, Moshesh's Ford, S.A.

G.—Mr. E. W. Ginner, Cannes; Dr. S. Gill, Formby; Messrs. Grantham and Co., Reading; Mr. A. Gilliatt, Lond.

H.—Dr. K. H. Hekimyan, Amassia; Mr. T. Hunt, Wellington College; Dr. G. Hamel, Lond.; Haywood Hospital, Burslem, Secretary of; Hull Royal Infirmary, Secretary of; Huddersfield Corporation, Medical Officer of Health to the; Mr. G. A. Hepworth, Lond.; Messrs. Hooper and Co., Lond.; H. C. W. A.; Dr. H. W. Hills, Epsom.

I.—Institution Notre Dame, La Ferté-Macé, Director of; Ilford Urban District Council, Accountant to the; Isle of Ely County Council, March, Clerk to the.

J.—Mr. L. Jablonski, Paris; Dr. Johnson, Lond.

K.—Dr. H. Cameron Kidd, Bromsgrove.

L.—Leeds University, Accountant to the; London University, Accountant to the; Messrs. E. and S. Livingstone, Edinburgh; Mr. H. H. Lacy, Warwick; London Temperance Male and Female Nurses' Co-operation, Secretary of; L. E. T.

M.—Messrs. Menzies and Co., Edinburgh; Messrs. Mather and Platt, Lond.; Messrs. Menzies and Co., Glasgow; Mr. E. Morison, [illegible]; Manchester Northern Hospital for Women and Children, Secretary of; Dr. E. H. Montgomery, Mallow.

N.—Northampton County Council, Accountant to the; National Bank of India, Bombay, Manager of; National Health Insurance Commission, Lond., Secretary of; Messrs. Newton, Chambers, and Co., Sheffield; Newcastle-upon-Tyne Hospital for Sick Children, Secretary of.

O.—Oldham Royal Infirmary, Secretary of.

P.—Dr. C. A. Pannett, Lond.; Dr. N. S. Page, Brisbane; Preston Royal Infirmary, Secretary of; Mr. A. E. Pettit, Weybridge; Pinewood Sanatorium, Wokingham, Medical Superintendent of.

Q.—Queen's Hospital, Birmingham, Secretary of; Queen's University, Kingston, Canada, Secretary of.

R.—Dr. J. A. Rooth, Brighton; Mr. W. Ramsay, Melbourne; "Retreat" York, Secretary of; Messrs. Robertson and Scott, Edinburgh; Royal Victoria Hospital, Belfast, Secretary of.

S.—Mr. E. W. Sharman, Lond.; S.P. Charges Co., St. Helens; Messrs. W. H. Smith and Son, Lond.; Sunderland Royal Infirmary, Secretary of; Smedley's Hydro Co., Managing Director of; Stockport Infirmary, Secretary of; St. Mary's Hospital, Manchester, Secretary of; Mr. J. Elliott Square, Lond.; Dr. D. T. Sheehan, Milltown; Messrs. Spiers and Pond, Lond.; Mr. J. B. Stedeford, Batley; Dr. H. C. Sumner, Omaha; Mr. G. P. Smith, Birmingham.

T.—Mr. J. Thin, Edinburgh; Mr. Thwaites, Lond.

U.—Ulster Hospital Corps, Lond., Organiser to.

V.—Victoria Hospital, Burnley, Secretary of; Mr. A. C. Van Bruen, Plymouth; Messrs. G. Van Abbott and Son, Lond.

W.—Dr. Malcolm Watson, Klang; Dr. J. A. Watson, Port [illegible]; Wolverhampton Education Committee, Accountant to the; Mr. W. S. Wilkinson, [illegible]; Messrs. Wilcox and Co., Lond.; Messrs. J. Woolley, Sons, and Co., Manchester; West Riding County Council, Wakefield, Accountant to the; Messrs. Willows, Francis, Butler, and Thompson, Lond.; Mr. A. C. Wilson, [illegible]; West Norfolk and Lynn Hospital, King's Lynn, Secretary of.

The Annual Oration

ON

THE SURGICAL TREATMENT OF INFANTILE PARALYSIS.

Delivered before the Medical Society of London on May 18th, 1914,

By ROBERT JONES, CH.M. LIVERP.,
F.R.C.S. IREL., F.R.C.S. EDIN.,

LECTURER ON ORTHOPÆDIC SURGERY AT THE UNIVERSITY OF LIVERPOOL.

MR. PRESIDENT AND GENTLEMEN,—When your Council graciously invited me to deliver the oration before this distinguished society I fear I had not the courage to refuse. The honour was such that for a time I did not realise my grave responsibility, and now I deplore the consciousness that I do not possess those gifts of erudition and imagination which have charmed while they enlightened you in the past. Despite the wide field you have allowed me, the choice of subject has not been easy. Devoted as my life has been to the more practical and clinical aspect of surgery, my horizon is for this very reason less comprehensive. I must, therefore, crave your kind indulgence while I deal in a simple and plain fashion with such principles as I have found helpful to me in dealing with infantile spinal paralysis. The subject is so vast and the technicalities are so manifold and intricate that I intend to dwell merely on those procedures which I have tested through the years and which have served me best, and to refer you to the work of others who labour in different ways in other fields. One must possess a buoyant spirit and boundless enthusiasm to treat these affections with advantage, and one must have fixed principles of wide application. If these principles are fundamental we must give them our whole-hearted allegiance and not merely pay them a transient homage. We can then afford to await results and not take heed of difficulties or yield to the counsels of despair. Like a mariner who meets an adverse wind we must not lack confidence, but exercise every art we know to land safely where we would.

There are few subjects which have aroused so much interest during recent years as that of infantile paralysis. This is due to its greater prevalence, its proved infectiveness, and the great advances in the method of attack which modern surgery has introduced. Unfortunately very little has been done in this country as compared with America and Germany by way of the collective investigation of etiological factors.

EARLY TREATMENT.

The early treatment of poliomyelitis falls of necessity into the hands of the medical man in attendance. It is on rare occasions only that the surgeon sees a case during the first few days, and then only where the onset of paralysis is accompanied by pain. Such cases are by no means rare, the pain being most marked in the spine and limbs. Rigid fixation of spine and limbs gives more relief than any other procedure I know. Indeed, I should make it a general rule that in every case, whether pain be present or not, the head and spinal column should be kept at rest in accordance with the general principles which guide us in the treatment of an inflamed area. The surgeon is often asked when treatment should be started. The answer is, "At once"; and during the acute and early convalescent stages the surgical treatment may be summed up in the word "rest," if this term be allowed to include the prevention of postural errors, such as tend to give an initial bias towards deformity.

Active treatment should commence *only* when the tender stage has passed. If a possibility exists that during the tender stage an active myelitis is present, there can be, in my opinion, no sound reason for the use of massage or electricity. How long may this tender stage last? I should say from three to eight weeks; in exceptional cases longer. We all know how difficult it may be to allay the parental apprehension during this period of surgical inactivity, but I have never found trouble when the reasons for the delay were made clear.

Our treatment should consist in placing the paralysed muscles in a position of relaxation, in the use of very gentle massage, and in active movements so conducted that no strain of the relaxed muscles be allowed. For instance, if the flexors of the ankle are being kept relaxed the foot should in no case be allowed into the position of equinus during massage, and any active movements should consist of flexion beyond but never below the right angle. Of this fact I have had many definite experiences. Some degree of voluntary muscular action should be encouraged as soon as possible, but at first there should be no movement of the joint, for the muscle is not strong enough to act against resistance. Thus, in a case in which the lower limb is fixed with the knee extended, in order to rest the quadriceps extensor, the first clinical sign of recovery will be a voluntary twitch of the muscle. The child's attention should be directed to this and he should be taught to practise it. The masseuse can soon lay a finger on the upper edge of the patella and so give a little added resistance. To allow the child to flex the knee at this stage would be to court disaster.

The character of the massage is very important and much harm may result if it be too vigorous. In this early stage it should consist of light vibratory effleurage applied as if to the skin, particularly over the area supplied by the same segments of the spinal cord as supply the impaired muscles. Rough kneading at any stage of the disease will damage fragile muscle fibre and diminish muscle tone.

POSSIBILITY OF RECOVERY OF MUSCLES.

Another question we are early called upon to decide is the possibility of recovery of weakened or paralysed muscle. This is often very difficult. It has always been the teaching that a muscle which exhibits the reaction of degeneration is outside the pale of hope, but years ago I drew attention to several instances where recovery took place in muscles where this reaction was carefully noted on the chart. This observation has been borne out and emphasised by many observers abroad. We may be certain that if a muscle reacts to faradism it will recover, but in actual practice the converse does not always hold. This may be due to the real difficulty that exists, sometimes even under anæsthesia, in making reliable observations in small children. The result is that in most active clinics complete electrical observations are rare. This would be a serious omission were no other means available to obtain trustworthy evidence sufficiently accurate to be a practical guide. We can, however, secure, with a little patience and gentle approach, much valuable information from general remarks, however, are necessary if my address is to be of practical use. Contracted knees and hips should be overcome slowly. It is highly injudicious to exercise much force; indeed, force in the form of redressment, apart from its dangers, is very inefficient. It is much easier to straighten the fixed limbs of arthritis by force than those of poliomyelitis. Division of tendons, fasciæ, and even ligaments may be freely performed. A tendon, however, which may at some future date be required for transplantation should be spared from tenotomy and be gradually stretched instead, for adhesions are very apt to form over old scar tissue.

A common deformity which is so often the despair of the surgeon of to-day is the one in which he finds both limbs contracted at the hips and knees, and where the spine is lordosed, the pelvis oblique, the knees in genu valgum, and the feet in equinovarus. My mode of attack in such a case would consist in the division of the tensor fasciæ femoris and of any other tight structures in that neighbourhood, moulding the feet into a valgoid position, dividing the Achilles tendons, and then laying the patient on a splint or frame of the Thomas's type, adding a simple extension to correct the pelvic obliquity, and with a bandage to the outside bars of the splint to overcome slowly the knock knees. The procedure is simple and invariably effective. The lordosis will usually be overcome in three or four weeks with barely any discomfort. We must employ gravity as our ally by so placing the limbs that time is not wasted. Even here common sense and practical experience must be of use. For instance, after division of the tensor fasciæ the limbs must be kept slightly hyperextended and rotated inwards, otherwise no strain is applied to tight structures. Where deformities are extreme, lordosis, no matter how pronounced, should be absolutely corrected if we are to attain the best functional result. Sufficient attention is hardly given to this very important point.

Many authors warn us to be careful of evils which may follow division of the Achilles tendon. The substitution of a calcaneus deformity for an equinus would be serious. This is a real danger in spastic cerebral paralysis, and a subcutaneous tenotomy in such a condition should never be performed. In my own experience, and I have divided the tendo Achillis and immediately corrected the deformity many thousands of times, non-union has resulted in three instances only. Despite this good fortune, in adults with extreme deformity, I generally employ one of the many methods of subcutaneous plastic division. The lengthening so much feared is the result of faulty after-treatment, the uniting tendon having been allowed to stretch before it is sufficiently strong to bear body weight. Another common mistake is to place a small pad over the site of puncture, so permanently separating one end of the tendon from the other. In a limb with three inches of shortening it is tempting to leave the tendon shortened and let the pa k
on tip-toe, but it is a temptation to be r r
we must always think of uscle gro
being stretched with le poten
recovery. If recov t take
resources of surgery nded,
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Let us recognise, a fu
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corrected before any perf
securing nproved ction.

deformities may be overcome by manipulation, tenotomies, fixations, and extensions, and more rarely by osteotomies and the removal of bone. These preliminaries, however, are inevitable and allow of no exception. I emphasise this because I have frequently seen failure in tendon transplantations due solely to their neglect.

TENDON TRANSPLANTATION.

In briefly discussing the question of tendon transplantation I shall make no attempt to enter into the details of various operations, but will be content to point out what in my experience are the indications for its performance, the elements that make for success, and the causes of failure.

The object of a transplantation is to improve or restore muscular balance. It is not justified unless it improves function. There is little satisfaction to a patient if the transplanted muscle merely responds to faradism, or even makes a feeble movement by an effort of the will. It must be, or give the promise of becoming, a substitute for the muscle it supplants. It can only be judged by its usefulness. It may be applied to restore the balance between opposing groups of muscles by helping a redistribution of power, or its attachment may be slightly transposed to prevent deformity. Or it may be applied, as it often is, as an accessory to arthrodesis or in conjunction with the use of silk ligaments. Now, if we were to be guided entirely by the charts that have been worked out as to the relative strengths of muscles, and if we were to abide by them each time we desired to transplant a tendon, we should probably be discouraged at the very threshold. The tibialis anticus would be too strong to supplant the peronei, and the peronei too weak to act as a substitute for the tibial group. Although it is useful to possess the knowledge that the calf muscles are as strong as all the other muscles of the foot put together, we need not infer from this fact that in pes calcaneus no tendon transplantation need be tried. Healthy muscles can be developed to an extraordinary degree. Some years ago I was called upon to operate upon a boy whose peroneus longus slipped over his malleolus. This had happened for two years, and I was amazed at its great size. On inquiry I found that the dislocation, which was voluntary, was always accompanied by an audible snap, and the youngster collected pennies by displaying his gift and had thus greatly over-developed the muscle. Transplanted muscles by special exercise become similarly developed. The equalisation of forces, therefore, is not essential, for Nature has a large margin of adaptability, but for obvious reasons an effort should be made to get all the help possible when we have to secure substitutes for a powerful tendon.

Clearly the most important factor in commanding success is a sound judgment on the part of the operator. He should definitely realise what he wants to do and the means at his disposal. He should not be content merely to know the action of the muscle he is transplanting, but he should judge also of the disability he creates at the part from which the tendon is removed. There is no sense in substituting one deformity for another. Transplant are most successful when the
paralysis i and when re-enforcement can
be introdu close vicinity. The operator is
he best ju value and strength of tendons
his can l e by noting the active move
ents. le which responds to faradism

is not fit for transplantation. I have no sympathy at all with those surgeons who make large incisions to investigate the colour of the muscle fibre before they transplant. No operation should be done until evidence of sufficiently strong active movement in the muscle to be used has been obtained. Experience clearly indicates that we are justified in sacrificing abduction and adduction of the foot for plantar flexion and dorsiflexion, and that we can at any time sacrifice the mobility of the toes whenever the tendons are likely to be of use elsewhere. Paralysis of the calf muscles is the worst of all disabilities. I have long ago discarded complicated varieties of transplantation, the subdivision of muscles, and the many forms of fixation into tendons, and I rely more and more upon simple and direct methods.

For a varus deformity, I transplant the tibialis anticus; for a valgus, the peroneus longus and the extensor proprius hallucis. For a partial paralysis of the calf muscles, I shorten the tendo Achillis, pleat the posterior part of the capsule, fix the peroneus longus and flexor hallucis firmly into the insertion of the tendo Achillis, and remove an area of skin at the back of the ankle. Where the calf muscle is completely paralysed after correction of the cavus I transplant the peronei and flexor hallucis, with any other available muscle from the sole, into the tendo Achillis.

In cases where the paralysis is complete, or almost so, my own two stage bone wedge resection, or the operation of Whitman, which involves the removal of the astragalus and a readjustment of body weight upon the ankle, is sound and effective. In paralysis of the quadriceps I transplant one or more of the hamstrings, and these practically complete my list of transplantations except for rare conditions. I rarely utilise tendons in the upper limb, although occasionally I find it necessary in the spastic type such as infantile hemiplegia.

Technique Employed.

There has been much discussion as to the method of implantation. I am in no manner of doubt as to the great advantage of transplanting into bone. Lange and Vulpius respectively advocate grafting into periosteum and tendon, but when it is possible a graft into bone gives far greater security. There may be a sound reason on rare occasions for employing silk tendons, but I am quite satisfied that, wherever it is possible, the tendon should be directly implanted into bone.

If you will allow me I can best indicate the technique I employ by describing to you the operation of transforming the peroneus longus into an inverter of the foot. The tourniquet is applied above the knee and only removed when the wound is dressed and bandaged. This obviates bleeding, a source of danger to the security of the graft. An incision of about an inch in length is made on the outer side of the foot and the tendon is divided where it turns round the cuboid. A small incision is next made over the muscle, well above the external malleolus, and a smooth dissector is passed underneath the tendon, and it is pulled through the opening and wrapped in a sterile dab. A small incision is then made over or near the scaphoid, and a curved forceps is passed from this to the upper wound, preferably through fat, and moved about to make a free tunnel. The tip of the tendon is now held by the forceps and guided through the tunnel to its new insertion. Care must be taken that in its transit it runs as nearly as possible parallel to the tibialis anticus, and that there is no angle in any part of its course. The attachment may be made in one of two ways. A hole may be drilled through the scaphoid, or internal cuneiform, and the tendon passed through it. This is a method of choice. Or in a case where the tendon is short a groove may be made in the bone and the tendon may be made to lie in it while the end is fixed in ligamentous tissue below. The wounds are then closed and the foot is bandaged in inversion. No silk is used around the tendon which is secured by chromicised gut.

The important part of the technique is first and foremost never to handle the tendon with forceps anywhere excepting quite at its periphery, to pass it through fat, to secure the transplanted end in firm, unyielding tissue, and to see that the alignment makes for a direct pull. Experiments have conclusively shown that wherever a tendon is roughly handled adhesions form; for this reason it is well to compress the tendon with forceps at the point of its attachment—namely, at the end—but nowhere else. The causes of failure are largely due to errors of judgment and to faulty technique. This is suggested by the progressive improvement in our results. In many of my early cases the point of attachment yielded under the influence of strain, in others, adhesions formed. This was due to want of delicacy in the handling of the tendon, to the character of the structure through which it was made to pass, and to want of directness in the pull. The tunnel through which the tendon is directed should be roomy, the track through which it passes should be where possible in one plane, it should not pierce different layers, it should never abruptly turn a corner, nor perforate an interosseous membrane. The transplanted tendon should not be called upon to correct deformity, nor follow the convex aspect of a bone. It should not be allowed to travel immediately below the line of incision for fear of adhesions, nor be affixed to yielding structures. When its sheath can be preserved it is of advantage, but this cannot always be. Total transplantation is always preferable to partial, and when choice exists it is well to fix upon a muscle for transplantation whose function is similar to that which is paralysed. There is another point upon which I lay great stress, and that is an appreciation of the appropriate tension on the transplant. Under excessive tension muscle atrophies, while if the tendon is left too slack restoration of its function will be long delayed.

After the tendon is transplanted, and before education begins, a somewhat prolonged period of fixation is needed, all strain on the graft being prevented. Three months or more may be needed by the calf muscles; in the case of the everters and inverters of the ankle, from four to six weeks; the extensors of the knee require considerably longer. Light celluloid or leather splints of a removable kind may then hold the joint in position for an indefinite period, to prevent the harmful exercise of body weight during walking. The splints should be removed two or three times a day during the whole of this period for the practice of massage and active exercises under resistance. In other words, every care should be taken to strengthen the transplanted tendon for its new responsibilities.

Results of Tendon Transplantation.

Seven or eight years ago Hoffa, Lange, Vulpius, and I were invited to give our experiences of tendon transplantation at the French Congress of Surgeons in Paris. We differed from each other in our respective procedures, but we all spoke in favour of the operation. Our colleagues in France were not so enthusiastic, and Kirmisson especially drew attention to the fact that although immediate improvement occurred, it was generally followed by loss of function in the transplanted muscle. This has been referred to by many writers and must be within the experience of us all. Why should a muscle which is working at first fail later? With hardly an exception it is because we do not recognise in practice the principles in regard to muscle stretching which I have discussed at such length. Either the muscle has not been developed sufficiently to defend itself against an opponent, or, during walking, body weight has been allowed to bear injuriously upon it. These are both fundamental errors which are happily avoidable, and can, even when they have happened, be remedied by recourse to relaxation and massage.

I rarely operate upon children under 5 years of age for three reasons: First, because of the technical difficulty in handling and fixing minute tendons; secondly, because we should be sure that sufficient time has elapsed to give the muscles a chance of recovery without operation; and, thirdly, because it is most essential that the child should be sufficiently intelligent to give us help.

A fascinating problem to study is that of physiology or psychology as it affects the transplanted muscle. It is very difficult to understand how an inverter can be trained to evert the ankle, and how it can be made to exercise its new function by an effort of volition. Vulpius suggestively refers us to the work of Galen, Duchenne, and Sherrington on the function of opponent groups and draws attention to the well-known fact which we have all observed, that when we ask a paralytic whose extensors are lost to attempt extension of the toes he uses the flexors instead. This does not happen in a later stage. Both clinical and physiological investigations clearly prove that when a muscle or muscle group is stimulated to contract, the opponent muscle or group is inhibited. It has been argued, therefore, that a hamstring, transplanted into the patella to reinforce the quadriceps extensor, will not contract simultaneously with the latter muscle. According to this view, which is supported by Murk Jansen of Leyden, the only real benefit of this transplantation is that it makes the knee-joint steadier, and when the hamstrings contract in flexion the transplanted hamstring also contracts and prevents their uncontrolled action. Even if this were the whole truth of the case, the operation would be beneficial from the practical point of view, but it is not the whole truth; generally the transplanted tendon can be seen and felt to become tense simultaneously with the quadriceps extensor. In the present state of our knowledge I venture to suggest that this dissociation of the action of the transplanted muscle from its own natural group, and its association with a new strange group, is comparatively easily attained in children under careful muscle training. Certainly in adolescents a long and uncertain struggle between the opponent groups is often observed, suggesting that the older the patient the more difficult is education. In my opinion this indicates the necessity for more careful consideration of our methods of muscle training rather than a hasty condemnation of the operative procedure.

OPERATIONS TO GIVE STABILITY TO JOINTS.

Associated with the transplantation of tendons we have to consider measures which add to the stability of joints as distinct from their mobility; these consist of artificial ligaments, tendon fixation, and arthrodesis.

Artificial Ligaments.

As an outcome of the use of silk tendons by Lodge, several experienced surgeons are using silk ligaments in order to give stability to the joints and to guard newly transplanted tendons from strain. It is interesting to inquire what becomes of these silken tendons and ligaments. Anger and Gluck many years ago experimented upon the fate of silk strands used to fortify and bridge separated structures, and they concluded from experiments on animals that in some instances the silk was displaced by connective tissue, and in other instances the silk formed a trellis work along which connective tissue grew. Lange, who has had a very large experience, tells us that artificial silk tendons, with use, will develop from the size of a knitting needle to the thickness of a little finger. His microscopical examinations revealed the fact that the tissue immediately adjacent to the silk had all the characteristics of true tendon.

My personal experience, by no means an extensive one, has not been fortunate. I have operated upon only six cases. Each case healed uneventfully, but later in two instances the silk began to irritate at the points of insertion, and had to be removed. There was no attempt at the formation of connective tissue in either case, although the strands had remained quite aseptic. In a third case, many weeks after operation a suspicious reddening appeared over the knot, which had not been sufficiently hidden, and again the silk had to be removed. In two of the remaining cases the union was stretched, and in only one instance has the foot remained in a desirable position. All this may be due to faulty technique, but I am interested to note that Rich, of Tacoma, has had to remove the silk in 18 out of 40 cases in which it was used, although only in two cases was there any primary infection. Against these experiences I must refer to the successes reported by Lange, Tubby, Plummer, Ryerson, Allison, and others. In an interesting summary favourable to the use of artificial ligaments, Bradford and Soutter state in order to prove the strength and permanency of the ligament "that in a child of 8 the paralysed muscles largely recovered their function, and that in a man of 23 years, one year after the operation, not only was a foot-drop prevented, but some restoration of function furnished." This is only a further confirmation of the advantage of preventing strain from falling upon so-called paralysed muscles. We should keep a very open mind upon this question. The fixation of artificial ligaments into bone is so simple, and offers so many inducements, that if we can feel assured by further experience that the silk will not give rise to trouble, the method will have an assured position. For instance, in foot-drop with complete paralysis of the anterior muscles, if the silk will not merely remain, but will also develop in thickness and strength, a distinct gain will be conferred. Even when the paralysis is not complete it may prove, as in the cases reported by Bradford and Soutter, an effective means for protecting the over-stretched muscles.

Tendon Fixation.

At present the operation of utilising the tendons as ligaments has a greater fascination for me. Tilanus first suggested it and it is capable of very general application. It involves sacrificing the tendon, so it becomes obligatory to make quite sure that the paralysis is permanent and complete. If the tibials are paralysed, for instance, an incision is made above the ankle and the tendon of the tibialis anticus is pulled upon until the eversion of the foot is corrected. It is then securely fixed under the necessary tension into the periosteum or bone. The tendon may be divided, but often it is quite unnecessary. The deformities of equinus and varus are overcome by similar procedures. This operation seems to me to be more physiological than is that of the introduction of silken cords, for we are using a homogeneous tissue which will not act as a foreign body.

In the present stage of our knowledge, operations such as I have described are insufficient when we have to deal with a flail joint, over which there is no muscular control, if it has to support body weight. With further and improved methods of using tendon fixations and artificial ligaments, both within and without the joint, we may in time be able to make such joints capable of bearing the strain of walking; at present, however, this is not so. Tendon transplantation, unassisted, is of very little use at the ankle where several of the muscular groups are totally paralysed. Lange speaks optimistically of producing useful function at the ankle-joint if only three muscles are left to him. Under such circumstances he would use two for dorsiflexion and the third as a substitute for the Achillis tendon. I am sorry to say, with so limited a choice, I should be hopeless of success. There is no single muscle which can undertake the duties of the tendo Achillis. When we have a flail ankle to deal with the only operative success at present is arthrodesis.

Arthrodesis.

Over 20 years ago I advocated the bony fixation of flail joints in the position of greater advantage. At that period the operation had only on rare occasions been performed. I fear that my enthusiasm carried others as well as me into a somewhat too confident generalisation as to its merits and indications. There was then no choice of methods. It predated plastic work. There is nothing I regret more than that in those days I argued in favour of arthrodesis of the knee in childhood. It is an operation which a more matured experience teaches me should never be performed upon a child. In the *adult* it gives an admirably firm limb, and under certain conditions it may prove the best thing to be done. There are many who are very grateful to be spared the use of troublesome apparatus. There are others who have come to me whose knees were stiffened in childhood and who beg for a restoration of motion. A surgeon can have no experience more bitter. No knee-joint should be fixed until the patient is old enough to appreciate fully the arguments in favour of, and against, the operation. In the child it often results in a pseudo-arthrosis; sometimes it develops into a bony flexion, and it is very apt to throw harmful strain upon the hip, the muscles of which so often participate in the paralysis. Even in the adult, if the facts are clearly driven home to the patient, his choice will fall often upon some form of cheap and light support whereby he may be less awkward than if his limb were stiff. I am prepared to admit that certain people with blue dangling limb, retaining some power in the psoas muscle, may find ankylosis of knee and ankle combined a real boon.

Arthrodesis of the ankle-joint is quite another matter and is often of very considerable advantage. It should be usually associated with fixation at the mid-tarsal joint, should never be performed upon a child under 8, and it is better to delay even longer. Vulpius disagrees with me upon this point, but his arguments do not appear to be in the least convincing. The delay renders ankylosis much more certain, and with ordinary care the deformities and contractures he speaks of will not occur. The deformity which sometimes occurs after this operation is an obstinate varus and is due to a faulty technique. Before the operation, if there is any cavus deformity, the sole should be flattened and all tight structures severed. After its completion the bare surfaces of the astragalus should be closely hugged by the malleoli, while the foot should be fixed with flattened sole in a position of slight abduction. This position should be maintained for at least four months. The hip and wrist should never be ankylosed, nor do I see any advantage in operating upon the elbow. The shoulder requires a bony fixation where the deltoid only is paralysed and the scapular muscles are active. The humerus should then be abducted, drawn forward, and slightly rotated inwards, when it will respond at a useful angle to movements conveyed through the scapula.

We must remember that, at the best, arthrodesis is a mutilating operation and should be the last resort. If a mistake is made it cannot be remedied, and mistakes unfortunately are frequently made. Some time ago I saw a boy, aged 10, whose knee had been arthrodesed because of paralysis of the quadriceps extensor. The paralysis had lasted three years before the operation was performed. As an arthrodesis, the result had been a failure, because the knees moved, but the profoundly interesting fact is to come. The quadriceps, so long rested, had recovered, and the knee could be easily and strongly extended. It was a valuable object lesson to all who saw it.

NERVE SUTURE.

We have discussed the various methods by which we are able to give immense relief to these crippled children. We can generally avoid deformity; we can always correct it. We can often rectify lost function and make flail limbs firm. Such results are very important, but it would be depressing to feel that we are destined always to travel on these lines: building up by complex mechanism, steel splints without, silk splints within, muscles fixed to new attachments, and joints ruthlessly destroyed. Our thoughts naturally turn to more conservative methods by the way of the nervous system. Whether nerve-crossing is ultimately to lead to great triumph or to bitter disappointment we cannot yet answer without being biased either by hope or despair.

The many successful cases of nerve suture in man which followed that of Baunders in 1835 have placed this operation upon a sure foundation, and primary suture is to-day a daily routine. Similarly, secondary suture has outlived its experimental stage and under favourable conditions we can predict success. From this it does not seem a wide step to nerve-crossing, and yet it is a momentous one. Perhaps the earliest success was reported by Sick and Sanger, who grafted a portion of the median nerve into the radial. In our own country, in 1895, Ballance met with gratifying success when he united the facial to the spinal accessory. The physiological theory of the neurones was adverse to the experiment, but, as sometimes occurs, the findings of the more exact sciences are modified by the findings of surgical empiricism. The work of Ballance and Stewart was founded on the belief that regeneration occurs in two ways—by a downward growth of axis-cylinders from the proximal or central segment, and by essential processes of regeneration in the distal end in the form of a new growth of neurilemma cells, which become part of the new axis-cylinder.

I believe the present position of the neurologist is once more the old one—that the axis-cylinder grows down from the proximal end, but the neurilemma cells play an important part in its nutrition and assist its downward growth. Should the distal segment not be sutured or bridged, the impulses to and from the central nervous system cannot travel, and these new parts therefore never become developed, but merely exist as embryonic nerve structures. As Osgood has suggested: "In the problem which presents itself in cases of paralysis following acute poliomyelitis we find different conditions existing from those obtaining in traumatic or experimental division of nerves, and questions demanding answer at once arise. How essential, if true, is this process of regeneration in the distal or peripheral segment to future conductivity and *restoration of full function.* Are the nerve trunks, which run to the paralysed muscles, themselves affected by the disease we are considering, and if so does regeneration occur in the trunks as the *infectious process subsides? If it does not,* must we consider this degenerated old nerve trunk as simply a scaffolding, or bridge, and suppose that the new axis-cylinders of motion, growing from any healthy proximal or central trunk into which the diseased nerve may be grafted, must travel along such a path before we may expect any return of motor power?" These are certainly interesting questions when we compare the almost brilliant results of experiments on animals and the excellent results obtained after primary and secondary suture in man with the hitherto distinctly disappointing results obtained in infantile paralysis. There is no evidence that the virus of poliomyelitis attacks the peripheral nerves. In comparing results of operations on cases of paralysis with those of nerve-crossing after experimental section, we must remember that in the former we are dealing with nerve trunks which have for a long time been in a state of disuse.

Every now and again a partially successful case is reported. Spitzy, who has been one of the most assiduous workers in this field, has obtained encouraging results. Partially successful cases have been reported in our country by Tubby and by Sherren, and we have now in literature records of over 50 cases. Warrington and Murray, in a very able and useful communication, report five failures after most carefully conducted operations. The authors suggest that a cause of failure may be the fact that the apparently healthy nerve trunks, which conduct energy to the paralysed muscle, are less virile and can draw from fewer motor cells than before the disease; while they may just have enough to supply their own trunk they have none to spare for another.

Topography of Cross Sections of Nerves.

Quite recently a new impetus has been given to this subject by the investigations of Stoffel, who, by an elaborate system of dissection, has worked out the topography of the *cross* section of nerves. He seems to have proved conclusively by very laborious dissections that the nerve branch to each muscle is continued for a considerable distance up the nerve *trunk* as a separate and distinct nerve bundle. He maintains it to be fairly constant and definite in position, and by a study of the nerve any bundle desired at an operation may be secured. Nerve *graftings* should be materially helped by this discovery, as healthy nerve tracts which *go to* supply muscles of minor importance can be drafted for implantation into paralysed nerves. Without this knowledge motor fibres might easily be attached to sensory ones. This is contrary to *the previous* findings of Bruandet, whose experiments led him to conclude that the motor fibres in a peripheral nerve have no compact distribution, but are diffused and mixed up with all other fibres. If Stoffel's conclusions are correct, our technique will be much simplified. It is obvious that if one attempts to cure a paralysis of the extensor group of muscles in the leg *by splitting off* a strip of the internal popliteal nerve and planting it into the external popliteal, there is no reason why the graft should not unite—modern surgery can secure that. Further, as we have seen, our modern knowledge of the regeneration of nerves gives us every assurance that the graft ought to perform its function in conducting nerve impulses provided the *portion split off* is a bundle of motor fibres, and provided it is planted into the proper bundle of motor fibres in the other nerve and not into a portion of it which contains only sensory fibres. This is the practical anatomical difficulty which up to now has remained unsurmountable. When we turn next to the successful cases, which have been *reported,* some are *probably* cases in which the surgeon has really succeeded in grafting motor fibres into motor fibres. When, however, we look up the details of after-treatment, in several instances we find that part of the treatment consists in *fixing* the limb in a position in which the paralysed muscles are relaxed, so that they may more readily respond to any impulses sent down *through* the regenerated nerve. Here, in my *opinion,* lies the fallacy, for some of these cases might have recovered, if fixed in this position for a sufficient period, without transplantation. In support of this Wittek, of Gratz, *knowing my views* upon this subject, sent me a report of one of his cases. It was sent on from the neurological department with a *report of* reaction of degeneration in muscles *supplied by* the external *popliteal* nerve. Relying on this report he performed muscle transplantation, and the result was successful. A year later the *patient came back* with an extreme valgus, *the* internal malleolus touching the floor. On examination the muscles previously pronounced to be hopelessly paralysed were now acting strongly, *while* the previously strong groups were *paralysed* from overstretching. There was nothing for it but to reverse his former operation and put his transplanted muscle back where he found it. His remark was, "What a *brilliant result to record* if I had only done nerve transplantation." Many of us have had similar experiences in cases where we have *been hasty* in transplanting muscles.

Although the results of neuroplasty in poliomyelitis leave much to be desired, there is *no* occasion to abandon hope. We may *learn in time* the lessons *taught by failure,* and, what is infinitely more important, take courage from success. A failure depresses, but a success is eloquent of possibilities, and that is just the encouragement we want. Failure should merely set us thinking, and however critical our mind it should always remain an open one.

INTRINSIC CANCER OF THE LARYNX:

COMPLETE EXCISION APPARENTLY EFFECTED BY ENDOLARYNGEAL OPERATION.[1]

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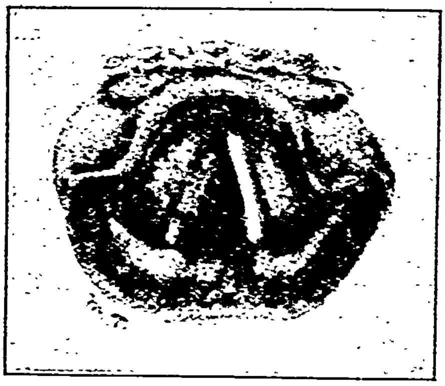
PROFESSOR OF LARYNGOLOGY AND PHYSICIAN FOR DISEASES OF THE THROAT IN KING'S COLLEGE HOSPITAL.

THE treatment of intrinsic cancer of the larynx by laryngo-fissure is remarkably satisfactory. It is doubtful if the results of operation for cancer in any other part of the body can surpass those I have already published.[2] Since giving full particulars and showing cases before the Medical Society of London in 1912 I have continued to obtain the same results—i.e., no patient has been lost by operation, and 80 per cent. have remained free from recurrence. This freedom from recurrence dates back in some cases for 10 years. The same proportion of lasting cures was obtained by Semon, who did so much to popularise laryngo-fissure in these cases, and similar records were secured by Butlin, who revived the operation after it had been quite discredited both in this country and abroad. Possibly it is because these excellent results were first obtained in England that we in this country have come to look askance at any other route for removing an endolaryngeal cancer except that obtained by splitting the larynx. We are even a little sceptical in accepting the records which claim permanent cures by operating through the mouth, yet such cases have been published by several eminent authorities.[3]

Amongst my recent cases it has been my good fortune to obtain, in a curious way, the definite proof that an intrinsic cancer of the larynx can be completely removed *per vias naturales*. But I hasten to add that the completeness of removal was unintentional, and that I do not for a single moment suggest that excision of a cancer of a vocal cord should ever be confided to the laryngeal forceps. On the contrary, this very case which I am about to relate gives the strongest proof of the desirability and hopefulness of treating intrinsic laryngeal cancer by opening the larynx from the outside. It was the first case of endolaryngeal cancer which I have handled in a woman; all my other cases were males.

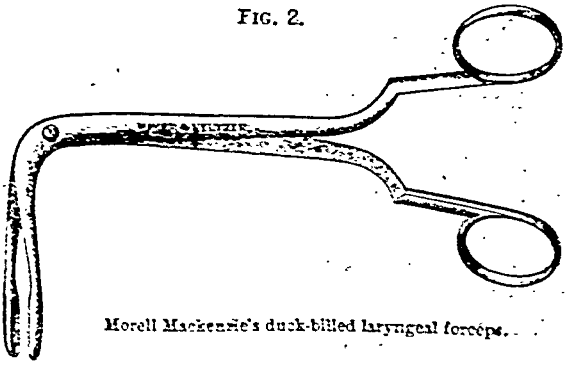
The patient, a woman aged 53, had been hoarse for eight months, when she was sent to me at King's College Hospital on Oct. 12th, 1912, by Dr. R. H. Shaw, of Great Yarmouth. The right vocal cord from the anterior commissure back to the vocal process was replaced by a reddish, cauliflower growth. (Fig. 1.) This somewhat interfered with the movement of the cord, but its intrinsic mobility was not impaired. There were no enlarged glands, and the case was evidently a very suitable one for operation by laryngo-fissure. The Wassermann reaction was negative and the chest was healthy As the growth did not infiltrate the cord to any great extent (as shown by the persistence of mobility), and as it projected well above the surface, I decided to remove a portion so as to confirm the diagnosis by microscopical examination. With the aid of cocaine, and using a large-sized duck-billed forceps of Morell Mackenzie (Fig. 2) with the indirect method, I seized as large a piece of the cord as possible, and, finding it very tough, I removed it by avulsion. The toughness and naked-eye appearance were confirmatory of my diagnosis of malignant disease, and the following report on the removed tissue was kindly furnished by Dr. W. d'Este Emery:—

FIG. 1.



Malignant growth of right vocal cord.

FIG. 2.



Morell Mackenzie's duck-billed laryngeal forceps.

> The material is an irregular mass about 9 × 5 millimetres. It is divided into two parts, of which one consists of papillomatous and epitheliomatous tissue, with a very small amount of fibrous stroma which shows evidence of subacute inflammatory changes. The large portion consists of a firm fibrous basis. On one edge there are some mucous glands. On the other two unattached edges there is a margin of epitheliomatous tissue, which in places is inflamed and ulcerated. The epithelioma in this section is a typical one, but shows little keratinisation. There are a few imperfectly formed cell nests, and some so-called "cancer parasites."

On Nov. 28th, 1912, anæsthesia was induced by intravenous infusion of ether and hedonal. The usual laryngo-fissure operation was carried out; no Hahn's tube was used. The remains of the right cord and the ventricular band were dissected up with their perichondrium from the inner surface of the thyroid cartilage and removed *en masse*, together with the vocal process of the arytenoid cartilage. The tracheotomy tube was removed before the patient left the table. The patient would have been allowed up the next day, but she was exceedingly drowsy from the hedonal and could hardly be roused. However, within 48 hours of the operation she was sitting out of bed and taking solid food. She returned to the country a fortnight after operation.[4]

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[1] A paper read before the American Laryngological Association at the meeting in Atlantic City, N.J., on May [illegible], 1914.

[2] [illegible] Med. Jour., Feb. 17th, 1912; THE LANCET, Feb. 24th, 1912, p. 50[illegible].

[3] B. Fraenkel: Deutsche Medicinische Wochenschrift, xx., [illegible], Nos. 1 to 6, S. 1 to [illegible]; Archiv für Laryngologie, vi., [illegible], S. [illegible] to [illegible]. Arslan: Archivii Italiani di Otologia, [illegible], fasc. 2; Annales des maladies de l'Oreille, xxx., 1, Fev. 1904, p. [illegible]. (Gives an analysis of [illegible] cases. Two personal cases, confirmed by the microscope, [illegible] well after 4 years and 20 months respectively.) Fetter: Journal of Laryngology, vol. xxv., 1910, No. 11, p. [illegible].

The tissue removed by laryngo-fissure was submitted to Dr. Emery, who reported on it as follows:—

> The specimen is of an irregular shape, the longest dimensions being 19 × 10 millimetres. The base consists of striped muscle which is inflamed and œdematous; some mucous glands occur in the lowest portion. Above this there is a layer of organising granulation tissue in various stages, but there is no epithelial covering. Mucous glands, normal or slightly inflamed, are scattered throughout the section, and at one end there is a triangular piece of cartilage about 2½ millimetres long. There is no sign of epithelioma or other malignant disease in any other part of the section.

This report brings us to the instructive conclusions which may be drawn from this case, and, to be brief, I will simply state them in order.

1. Cancer of the vocal cords is, in early stages, a very slowly progressive and strictly limited process. (N.B.—In this case hoarseness dated from eight months, the cord was still quite mobile, and the disease was still superficial.) Alteration of voice is the principal, and may be the only, symptom. Persistent hoarseness in any patient calls for a definite diagnosis.

2. Diagnosis is based chiefly on inspection of the larynx. Only in certain cases, where the growth is a superficial and not an infiltrating one, can it be confirmed by microscopical examination.

3. The growth, even when it occupies almost the entire length of a vocal cord, can sometimes be completely removed by endolaryngeal operation in early cases. But this completeness can only be ascertained when, by laryngo-fissure, the remains of the vocal cord and adjoining soft parts have been removed and submitted to the pathologist.

4. Laryngo-fissure is, therefore, the operation of choice in all cases of endolaryngeal cancer.

5. The operation offers the very best prospects: first, because the disease remains for some time superficial and limited; and secondly, because laryngo-fissure cannot be considered a dangerous operation.

6. Statistical results show a lasting cure in 80 per cent. of cases, and if all cases presented themselves and were diagnosed early there is no reason why the results should not be even more satisfactory.

My patient is in good health, with a useful voice, and has no recurrence at the present date—that is, one and a half years after operation.

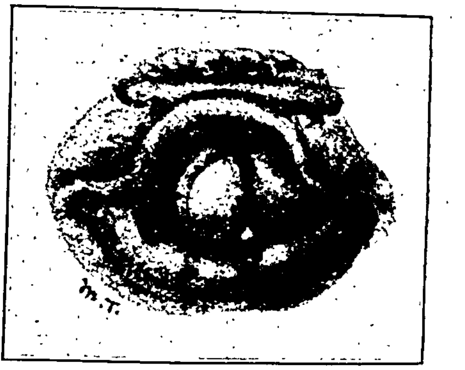
I have already confirmed the opinion originally enunciated by Semon, that if recurrence does not take place during the first year after operation there is every prospect of permanent cure.

ADDENDA.

In addition to the six conclusions I have tabulated above this case suggests three other points which, I think, are very interesting:—

(*a*) *Regrowth.*—Towards the end of January, 1913—i.e., two months after operation—the patient began to show symptoms of what many would have taken to be a recurrence of the growth. (Fig. 3.) But I had no anxiety myself, partly on account of the above negative report from the pathologist, but chiefly from experience with previous cases in which a regrowth during the first two months nearly always proved to be a simple granuloma. In this case the fresh neoplasm was removed entire through the mouth, with the same Mackenzie forceps and by indirect laryngoscopy, and was found to consist of simple granulation tissue, showing no epithelioma or sign of malignant disease in any part of the section. The moral of this is that a regrowth, in early days, after a thyrotomy for cancer is not necessarily malignant.

FIG. 3.



Granuloma following removal of malignant growth of right vocal cord.

(*b*) *Value of indirect laryngoscopy.*—The case shows that a considerable growth, indeed, practically an entire vocal cord, can be removed with one bite of the forceps used by the indirect, or, as some already call it, the "old method" of laryngoscopy. As I have practised Killian's direct laryngoscopy for 11 years I feel equally skilled with both methods and each method has its own well-marked indications. I very much doubt if the most expert endoscopist could have removed as large a growth as I did in this case, and certainly it could not have been done more quickly or less disagreeably. The indirect method allows of the forceps being sloped to the opposite side of the body, so that any growth on a cord can be more cleanly and completely seized than is possible with the limited action of cutting forceps working in a circumscribed circular tube. The importance of removing as large and intact a portion of growth as is possible is of the highest value when it is desirable to submit a suspected neoplasm to the microscope. It will be a loss to laryngoscopy, and to our patients, if the rising generation of throat surgeons neglects to acquire the gentler art of indirect laryngoscopy and limit themselves to the easier but rougher technique of direct examination.

(*c*) *Anæsthesia.*—Laryngo-fissure can be well carried out under local anæsthesia. I have employed it in one successful case, but I doubt if many of our sensitive patients in this country would submit to the moral ordeal. In the above case the operation lasted 85 minutes. Anæsthesia was induced by a mixture of 1 ounce of ether and 20 grains of hedonal to a pint of normal saline solution, the object of the hedonal being to diminish as far as possible the total amount of fluid passed into the circulation. Two pints and six ounces of this mixture were used corresponding to 2 oz. 2½ drm. of ether and

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[4] The patient was shown before the Clinical Section of the Royal Society of Medicine on Feb. 14th, 1913.

46 grains of hedonal, including a certain amount of wastage. Probably 2 oz. of ether and 40 grains of hedonal were infused through the internal malleolal vein, just above the ankle. As administered by Dr. J. F. W. Silk the resulting anæsthesia was, from the operator's point of view, ideal. The field of operation was quite clear of the anæsthetist and his paraphernalia, and the patient's sleep was tranquil and even. But the profound sleep in which she continued to be plunged next day gave me some anxiety. For 24 hours it was difficult to rouse her, and I thought what a serious condition might have arisen if, peradventure, she had inspired any blood during the operation and we had wished her to cough up the resulting bronchial or pulmonary catarrh. I would suggest that in future cases the hedonal be reduced to a minimum, if it cannot be dispensed with.

In another case I had there was some thrombosis of the lower part of the internal saphena vein, and this kept the patient in bed when he ought to have been up and about. Besides, I am not quite sure whether it is wise to flood the circulation with over two pints of liquid, and it is difficult to keep within this limit unless some such drug as hedonal be employed with its corresponding tendency to prolonged and profound after-sleep. Anyhow, the method of anæsthesia by intravenous infusion of ether has not yet established itself, in my opinion, for these cases and it still requires consideration. In my more recent cases I have returned with satisfaction to the use of chloroform employed in the usual way.

Wimpole-street, W.

A NOTE ON

A METHOD BY WHICH REMEDIAL AGENTS MAY BE MINGLED WITH THE CEREBRAL CEREBRO-SPINAL FLUID.

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SOME time ago Dr. Harry Campbell asked me to introduce salvarsanised serum into the cranial cavity in such a way as would admit of the serum coming in contact with the brain cells the life of which was in danger from the syphilitic virus. The consideration of this suggestion naturally led the mind along two lines of thought: (1) the argument for this plan of treatment, and (2) the best method to adopt for the purpose in view.

I.—*The Argument.*

There is a general belief that while anti-syphilitic remedies are useful in the gross lesions of meningeal syphilis, they are quite ineffective in the lesions of parenchymatous cerebral and spinal syphilis. There is some evidence that the injection of salvarsanised serum into the subarachnoid space of the spinal theca has been followed by improvement in the signs and symptoms of certain early cases of spinal syphilis. It is also fairly certain that the injection of the serum into the spinal theca is less efficacious in the lesions and symptoms of cerebral syphilis than it is in the early stages of spinal syphilis. The question therefore arises whether benefit would follow the introduction of salvarsanised serum into the subarachnoid spaces of the brain. Is it not fair to conclude from a comparison with the results obtained by the injection of the serum into the subarachnoid spaces of the spinal theca that the answer to the question may be in the affirmative?

In all the great emergencies of surgery early diagnosis alone can lead to early and successful operation. No emergency can be more urgent than that which has for its object the saving of the life of nerve cells. The method proposed therefore can only be effectual in the very earliest stage of cerebral disease, that is, before extensive damage has been done to the brain cells. The preclinical stage of cerebral disease is therefore the ideal time for the commencement of treatment. In these earliest cases repeated injections may possibly be necessary. How, then, can salvarsanised serum be introduced into the cerebral subarachnoid space so that it may mingle with the cerebral cerebro-spinal fluid and destroy the spirochæte which is threatening the life of the brain cells?

Key and Retzius in their classical work published in 1875 showed that the subdural and subarachnoid spaces of the brain of man did not communicate except in the Pacchionian bodies which are found in relation with the superior longitudinal, the lateral, and the straight sinuses. The simultaneous injection of the subdural and subarachnoid spaces by differently coloured fluids was successfully carried out, and the only places where they mingled was in the Pacchionian bodies. If the injections were continued the coloured fluids made their way into the lumina of the venous sinuses. It would seem, then, that salvarsanised serum to be effective must be introduced not into the subdural but into the subarachnoid space, because it is within this space that the brain and its cells are placed. The cerebro-spinal fluid bathes and nourishes the brain cells. Is it not fair to hope, then, that the integrity of the brain cells in cerebral syphilis may be maintained if salvarsanised serum is mixed with the cerebral cerebro-spinal fluid?

The anatomical injections of Key and Retzius have a great and permanent value. The experiments of Dr. Golla on the distribution of colloidal carbon when injected under the cerebral or spinal dura mater of the living animal are of surpassing interest. They strike a new note in the living anatomy and pathology of the nervous system, and may open a new path for the treatment of cerebral and spinal disease. For long years neurology has been living more or less in the stage of "dead meat" pathology. This period was reached in general pathology when I first entered the profession, for then the members of the Pathological Society of London were solely engaged in showing at their meetings specimens of disease obtained from the post-mortem room and microscopical specimens of the same. What is now urgently required is a great scheme for the endowment of research into the living pathology of neurological disease—for the quest of the intimate causes, living and chemical, of the diseases of the nervous system.

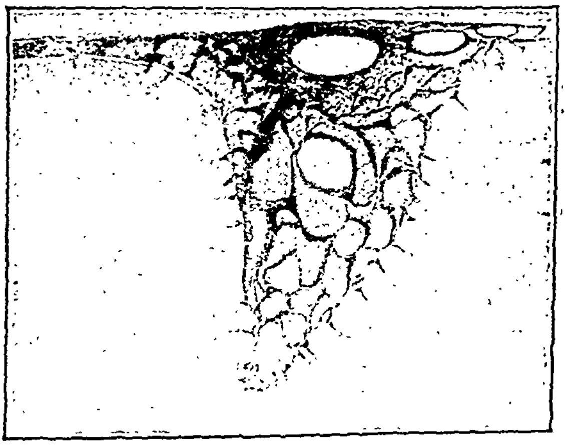
The arachnoid membrane in man is a very definite membrane. It consists of riband-like bundles of fine fibrous tissue interlaced with one another. The intervals between these bundles are filled up by delicate membranes. Several layers of this tissue, arranged in a complex way, constitute the arachnoid proper (Quain's Anatomy). The trabeculæ and membranes which cross the subarachnoid space consist of similar fine fibrillar tissue, and are continuous with the intertrabecular cell membranes of the arachnoid itself. When I introduced 6 c.c. of salvarsanised serum into the subdural space, it only remained there when the tube and glass vessel were raised to a considerable height. On lowering the glass vessel the serum returned into it. The glass vessel was again raised and the serum caused to return into the subdural space. The fine hollow needle was then withdrawn and from the puncture in the dura caused by the needle the serum spurted out under pressure.

When the arachnoid membrane is dissected off the convolutions and arranged so as to form a vessel it holds water without a leakage. Though in the living state diffusion of fluid may occur in man through the arachnoid membrane, there is obviously no gross opening between subdural and subarachnoid spaces.

The amount of cerebro-spinal fluid normally present has been estimated at from 120 to 200 grammes (Testut). It is found in the ventricles, in the cisterns at the base of the brain, and in the brain tissue itself. The brain, like a sponge, holds in its tissue much cerebro-spinal fluid. In the practice of surgery displacement of certain regions of the brain by gentle continuous pressure is a common event. This displacement is effected by displacement of the fluid which is normally contained in the substance of the brain. The specific gravity of the brain substance (1030) is not greatly in excess of that of water, and on its "liquid texture" depends, in some measure at any rate, the hope of success in the treatment of cerebral disease by the introduction of remedial agents into the cerebro-spinal fluid.

The arachnoid membrane passes from convolution to convolution. The spaces or sulci between the convolutions are part of the subarachnoid space. The subarachnoid space of each sulcus is broken up into a number of channels (Fig. 1), through which the cerebro-spinal fluid finds its way. These subarachnoid rivulets are continuous with the sheaths of the pial arteries which supply the cortex with blood.

FIG. 1.



The subarachnoid space in man between the convolutions. The space is here broken up into a number of channels through which the cerebro-spinal fluid finds its way. Some of the sheaths of the pial arteries are shown perforating the cortex. The fluid of the subarachnoid rivulets is in communication with the fluid in the sheaths of the pial arteries. (Key and Retzius.)

The terminal distribution of the arterioles of the pia in the cerebral substance is important in that each arteriole is surrounded by a wide lymph sheath which conveys the cerebro-spinal fluid from the cortical subarachnoid space into the substance of the brain and around the nerve cells. The arterioles are divided into long or medullary and short or cortical vessels. The short arterioles break up into a fine network in the grey matter of the cortex.

The cerebro-spinal fluid is a secretion from the cells lining the subarachnoid space and covering the choroid plexuses, and of course, like all secretions, comes from the blood; hence the main source of this fluid would appear to be from the choroid plexuses and from the arterioles of the pia mater. The choroid plexuses are covered by the same epithelium which lines the ventricles, and these cells and others lining the boundaries of the subarachnoid space seem to have a selective action which prevents the escape of antisyphilitic remedies, such as mercury and arsenic, from the blood into the cerebro-spinal fluid.

It is hardly to be believed that the cerebro-spinal fluid in health is not in movement. A stagnant fluid could not be the means of nourishment of brain cells, and movement is a law of life. Clinical experience in cases of intradural injury, meningitis, and hydrocephalus helps us to picture to some extent the course of the stream of the cerebro-spinal fluid. As the secretion of this fluid may be supposed to be most active in the region of the choroid plexuses of the ventricles, it must have means of exit from the ventricles. It can escape from the ventricles through certain known pathways—the foramen of Majendie, the foramina in the lateral recesses of the fourth ventricle (Luschka), perhaps also at the clefts described by Merkel in the descending cornua of the lateral ventricles, and perhaps also through some lymphatic vessels around arterioles on the surfaces of the ventricles into the cerebral substance. What is certain is that when the foramina in the roof of the fourth ventricle are closed by meningitis internal hydrocephalus results, so that the other means of escape of cerebro-spinal fluid from the ventricles can be only of slight service and are ineffective in emergencies. I have often noticed at post-mortem examinations that the foramen of Majendie is a distinct opening of considerable size. It is well shown in the "Atlas of Human Anatomy" of Spalteholz, Vol. III., Fig. 703. Testut and Poirier and Charpy give its measurements as 8 mm. × 6 mm.

In cases of intradural injury and hæmorrhage the fluid withdrawn by lumbar puncture a few hours afterwards is blood-stained. In the ordinary subarachnoid cerebral meningitis the fluid withdrawn by lumbar puncture is turbid and purulent. These results would not be obtained if the cerebro-spinal fluid was stagnant.

In cases of meningitis, especially of the fulminating variety, in which the pus is always subarachnoid in position, the spread of the inflammation from the basal cisterns upwards over the cortex towards the superior longitudinal sinus and Pacchionian bodies is explained in part, I think, by the current of cerebro-spinal fluid following this course. In this form of meningitis the arachnoid protects the subdural space, which is often unaffected by the presence of the pus beneath the arachnoid. The pus fills up the sulci between the convolutions and soaks into the cortex along the sheaths of the pial vessels. This is exactly the voyage which it is desired that remedies should take when mingled with the cerebro-spinal fluid in order that they may counteract the lethal effects of the poisoning of the cortical brain cells.

When pus collects in the cerebral subdural space it spreads out over the arachnoid as a flat sheet. This I have several times observed. The sheet of pus can be wiped off the outer side of the arachnoid—the membrane itself looking afterwards unaffected and the subarachnoid spaces between the convolutions being free of contamination. In cases of subdural hæmorrhage, which is an ingravescent condition and slowly extends from repeated small hæmorrhages, I have several times peeled the blood cyst thus formed off the outer surface of the arachnoid and then observed that neither the arachnoid membrane nor subarachnoid space beneath it was stained by blood pigment. These facts dispose of the view that there is any gross communication in man between the subdural and subarachnoid spaces.

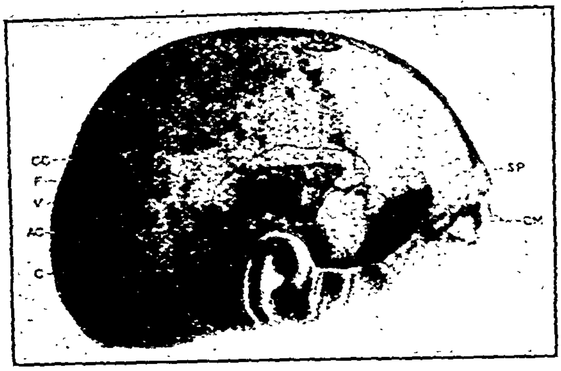
It would appear, then, probable that the cerebro-spinal fluid, having flowed out of the ventricles, passes down the spinal canal, and escapes along the sheaths of the spinal nerves. It also enters the numerous cisterns at the base of the brain, passes out through the sheaths of the cranial nerves, and streams upwards over the external face of the hemispheres under the cortical arachnoid. The largest cortical river flows from the "lac Sylvien" and divides into two streams, the "flumen Rolandien" and the "flumen Sylvien" (Testut). It is just in the territory watered by these streams that the manifestations of meningitis are often most advanced and most obvious. The larger streams divide into numerous rivulets which are found in all the sulci between the convolutions. The rivulets in the sulci are continuous, as we have seen, with the fluid in the sheaths around the pial arterioles. The arterioles penetrate the cortex and the cerebro-spinal fluid in their sheaths is conveyed to and flows around the cells of the grey matter of the cortex.

It is clear then that salvarsanised serum or other remedies introduced into the subarachnoid space of the brain will reach the nerve cells. What is the best plan to adopt in order to get the serum into the subarachnoid space of the brain? Should it be injected into the substance of the brain, or into the cisternæ at the base, or underneath the arachnoid of the cortex, or into the ventricles? There are certain obvious objections to the injection being made into the substance of the brain, and a considerable operation would be necessary if the serum was injected into the basal cisternæ. To inject the serum underneath the arachnoid over the cortex might injure the surface of the brain, and the opening made for the passage of the cannula might allow of its subsequent escape. These considerations seemed to point to the lateral ventricle as the best site for the injection.

II.—*The Method Chosen and Operation Performed*

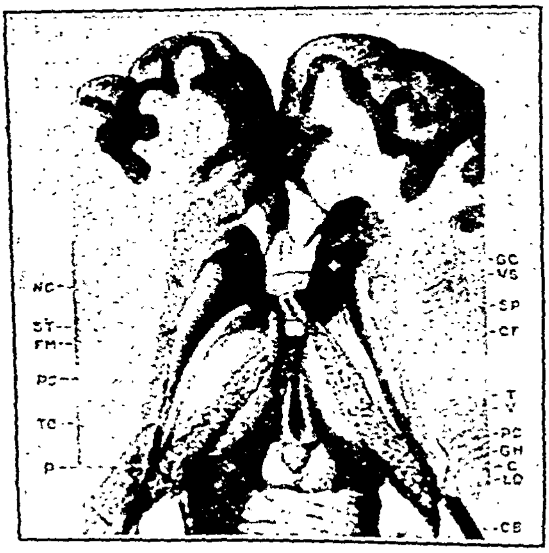
The patient was anæsthetised and the head arranged in a position as nearly vertical as possible. A trephine opening was made to the right of the middle line just in front of the bregma. (Fig. 2.) The dura was then opened and the inner surface of the right cerebral hemisphere was gently drawn outwards by means of a retractor (1 cm. wide) bent at a right angle. It had previously been ascertained that the anterior cornu of the lateral ventricle was distant $6\frac{1}{2}$ to 7 cm. (roughly $2\frac{1}{2}$ to $2\frac{3}{4}$ inches) from the surface of the scalp at the mid-line on the vertex. A cannula (having a lumen of 1 mm. and a length of 3 inches) was then passed through the anterior part of the corpus callosum about a quarter of an inch to the right of the middle line. It was felt to enter a cavity—namely, the anterior cornu of the lateral ventricle. (Fig. 3.) The cannula was fitted with a stylet whose rounded end projected beyond the end of the cannula. (Fig. 4, A.) The passage of the stylet

FIG. 2.



Lateral view of skull with the position of the ventricles indicated. The site of the trephine opening for the introduction of the trocar and cannula used for perforating the anterior part of the corpus callosum is shown. The trocar and cannula (1 mm. lumen) perforate the corpus callosum about ¼ inch from the middle line, and enter the anterior cornu of the lateral ventricle. SP, Septum pellucidum. CM, Corpus mammillare. CC, Corpus callosum. F, Fornix. V, Ventriculus III. AC, Aquæductus cerebri. C, Cerebellum. (From Hermann's "Lehrbuch der Topographischen Anatomie.")

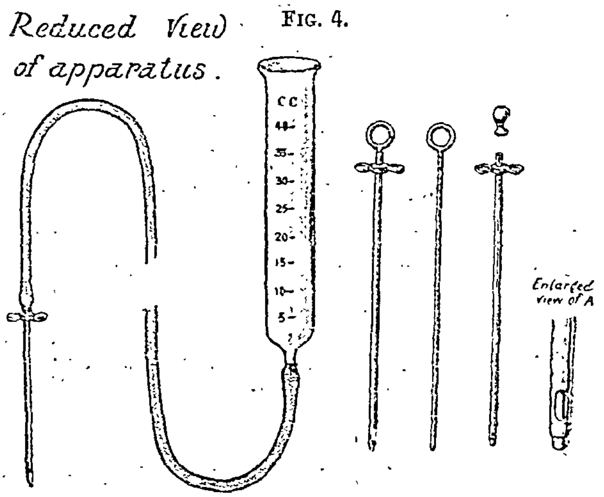
FIG. 3.



Horizontal section of brain. The trocar and cannula perforate the corpus callosum ¼ inch from the middle line and enter the pool of fluid (marked with a white +) in the anterior cornu of the lateral ventricle. NC, Nucleus caudatus. ST, Stria terminalis. FM, Foramen interventriculare (Monroi). PC, Plexus chorioideus lateralis. TO, Thalamus opticus. P, Pulvinar. GC, Genu corporis callosi. VS, Vorderhorn des Seitenventrikels. SP, Septum pellucidum. CF, Columnæ fornicis. T, Tænia. V, Ventriculus III. PC, Pedunculi conarii. GH, Ganglion habenulæ. C, Conarium. LQ, Lamina quadrigemina. CB, Cerebellum. (From Hermann's "Lehrbuch der Topographischen Anatomie.")

and cannula through the corpus callosum could not divide any vessel and might be thought of as pushing aside rather than cutting any of the commissural fibres of the corpus. On the entrance of the cannula into the lateral ventricle the stylet was withdrawn and cerebro-spinal fluid escaped, not continuously, for there was a distinct ebb and flow due to the arterial pulsations or to the respiratory movements. A rubber tube attached to a graduated glass vessel was then fixed to the cannula and the infusion into the ventricle commenced, at first with normal saline solution and then with salvarsanised serum; of the serum varying quantities have been used from 35 c.c. to 60 c.c. As the infusion proceeded it was noticed that the brain bulged into the trephine opening, but on closer inspection it was clear that the bulge was not a brain hernia, but that the cortical subarachnoid space was filling up with fluid. The 90 c.c. of fluid (salt solution and serum) took about 20 minutes to infuse and the pressure varied from 6 inches to 18 inches. No ill-effects have occurred from the injection of the serum into the ventricle. In the first case the fluid flowing very slowly the glass vessel was raised when a little respiratory difficulty occurred which was probably due to pressure in the fourth ventricle, the fluid not escaping quickly enough through the foramen of Majendie.

FIG. 4.



It only remained at the conclusion of the infusion to withdraw the cannula from the lateral ventricle and to stitch up the scalp, which in each case has healed by first intention. No ill-effects have followed the infusion. I have now introduced salvarsanised serum on five occasions into the lateral ventricle; twice in two patients and once in a third patient. The first operation was done on Feb. 25th, 1914, and was repeated on this patient on March 11th, 1914. This case appears to be improved, but Dr. Campbell will no doubt record the results at a later stage. Only a very large experience would justify a claim that the new methods would cure or arrest cerebral or spinal disease, as typified in general paralysis or tabes. In the third case, as related above, an unsuccessful attempt was made to infuse the serum by way of the subdural space, and a fortnight later the serum was introduced into the lateral ventricle. To the serum in this third case was added 0·009 gramme of neosalvarsan: that is one-hundredth of the intravenous dose. The serum used in these cases was obtained from blood drawn one hour after the intravenous injection of neosalvarsan.

On the operation being performed a second time in one of the cases it was noticed that there was a considerable collection of fluid within the dura, the brain being somewhat shrunk away from the dura. This fluid was allowed to run out by lowering the head, and a space then existed beneath the dura which would have taken all the salvarsanised serum that was available, but it was decided to infuse the serum again into the ventricle. The collection of fluid beneath the dura was cerebro-spinal fluid which had escaped from the subarachnoid cistern around the corpus callosum. Between the inferior border of the falx and the corpus callosum there is a large cistern—the spatium subarachnoidale corporis callosi. The wall of this space is broken by the passage of a spatula which is passed down between the inner surface of the brain and the falx cerebri to the corpus callosum, and cerebro-spinal fluid at once flows out of the cistern.

The method above described may perhaps be useful for introducing remedial agents into the cerebral cerebro-spinal fluid in other diseases of the brain besides that caused by syphilis. Sleeping sickness, meningitis, tetanus, and epilepsy are such diseases. The passage of the cannula through the corpus callosum appears to be innocuous, and the operation as a whole with reasonable care is free of all danger.

Addendum.

When this paper had been completed (April 20th, 1914) Dr. Purves Stewart kindly drew my attention to one by Dr. Marinesco and Dr. Minea published a month before. Marinesco and Minea[1] state that Marinesco in 1911 began to treat syphilis of the nervous system by injecting into the spinal arachnoid cavity the serum of syphilitic subjects who had been treated with salvarsan, and that in some cases good results were obtained in spinal syphilis and in the gastric crises of tabes. In their history of the subject they refer to the following:—1. Robertson[2] adopted the same treatment, and claimed amelioration in 50 per cent. of his cases. 2. Swift and Ellis in the Rockefeller Institute adopted the following technique. An hour after an intravenous injection of salvarsan they drew 40 c.c. of blood; this was centrifuged after coagulation. The next day to 12 c.c. of the serum were added 18 c.c. of physiological saline solution and the mixture was heated for half an hour to 56° F. A certain quantity of this diluted serum was injected into the spinal arachnoid of tabetics and general paralytics. 3. Several observers have tried injection of salvarsan into the spinal arachnoid. 4. Sicard and Lapointe, after preliminary experiments with physiological saline solution, injected 1/10th of a milligramme of mercuric cyanide dissolved in 5 c.c. of saline solution into the cerebral subarachnoid space, and later tried minimal doses of neosalvarsan by the same method. 5. Förster in general paralytics injected partly into the cerebral arachnoid and partly into the ventricles 20 c.c. of their own serum.[3] Marinesco and Minea make bilateral subarachnoid injections of serum salvarsanised *in vitro*, in the neighbourhood of the second frontal convolution. "We think," they say, "that the best apparatus is that of Neisser-Polak, by which the puncture can be made in less than a minute, and which makes a minimal opening; we believe that a trephine opening is needless even if it is desired to introduce a considerable quantity of fluid. For the present, at all events, we prefer serum salvarsanised *in vitro* by adding 40 or 50 milligrammes of neosalvarsan to 5 c.c. of serum obtained from the patient and rendered inactive. That is the dosis optima tolerated by the brain and one which very rapidly arrests the movements of the treponema pallidum. ...... The injections should be limited to the subarachnoid space and should not damage the cerebral cortex."

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[1] Revue Neurologique, March 15th, 1914, pp. 337 et seq.

[2] Edinburgh Medical Journal, 1913, vol. i., p. [illegible]

[3] Congrès de Psychiatrie et de Neurologie, November, 1912.

It will be seen that Marinesco and Minea refer to Förster as having injected serum into the ventricles of general paralytics, but in the *Münchener Medicinische Wochenschrift*[4] a different reading of Förster's paper is given as follows: "Förster read a paper at the Congress at Jena (Nov. 1st and 2nd, 1913) on Some Inoculation Experiments. He obtained by cranial puncture fragments of the brains of general paralytics, and planted them in guinea-pigs and monkeys. These fragments of the cerebral cortex contained active spirochætes in large numbers. He concluded by saying that '*we might take advantage* of the well-known susceptibility of the spirochæte to the antibodies in the blood by bringing these bodies into direct contact with the brain by injecting the patient's own serum into the subdural space or the ventricle.'" Unfortunately, I have not yet been able to obtain a copy of the transactions of the Jena Congress. The plan of cranial or orbital puncture for the introduction of remedies into the cranial cavity does in no way commend itself to me. The remedy in these desperate cases should be given in a scientific and precise manner. The "minimal opening" seems to me utterly wrong. It is impossible with a "minimal opening" of the cranial cavity or by passing a hollow needle through the sphenoidal fissure[5] to know exactly where the remedy has been injected. A trephine opening and a deliberate operative method is the only way at present known of scientifically injecting remedies into the cranial cavity. The circle of bone if thought desirable can be replaced at the conclusion of the operation. Desperate diseases require desperate remedies if any good is to be attained. Some may think apparently that a trephine opening is a desperate measure, but no one with any experience of modern cranial surgery would give his assent to such a view.

Harley-street, W.

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[4] 1913, p. 2700.

[5] Beriel: Neurologisches Centralblatt, 1914.

Post-Graduate College, West London Hospital.—A conversazione was held at the West London Hospital on Wednesday evening, May 27th. The guests were received by the senior surgeon (Mr. A. Baldwin) and the dean of the college (Mr. Donald J. Armour). An admirable musical performance was given by the string band of King Edward's Horse, and kinematographic views of the Panama Canal and of various interesting continental localities were shown. Some really excellent drawing-room magic was provided by Mr. Herbert J. Collings. There were exhibitions of optical, surgical, ophthalmic, X ray, and other scientific instruments, drugs, and medical publications. Dr. R. R. Elworthy showed favus and other preparations, and Dr. Reginald Morton stereoscopic and other radiographs. Refreshments were provided in the lecture-room.

THE TREATMENT OF PARENCHYMATOUS SYPHILIS BY INTRACRANIAL MEDICATION.

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Syphilitic diseases of the central nervous system fall under two heads—those in which the spirochætes infest the meninges and the walls of the blood-vessels, producing such lesions as gummata, meningitis, and endarteritis; and those in which the parasites get lodged between the nerve cells (i.e., in the perineuronic lymph spaces), giving rise to a primary parenchymatous degeneration, of which dementia paralytica, tabes dorsalis, and tabo-paresis are the commonest manifestations.

These two varieties of syphilis of the nervous system—the *interstitial* and the *parenchymatous*, as we may term them—exhibit many differences. The most noteworthy of these is that which relates to the effect of treatment upon them. While the interstitial variety is in large measure amenable to antisyphilitic remedies (salvarsan, mercury, potassium iodide) conveyed through the blood, parenchymatous syphilis, on the other hand, is wholly, or all but wholly, uninfluenced by treatment of this kind. The explanation probably lies in the fact that the drugs in question are incapable of percolating the walls of the capillaries which supply the lymph environing the nerve cells of the central nervous system, and thus are unable to reach the spirochætes ensconced between these cells.

The problem which confronts us in the treatment of parenchymatous syphilis would thus seem to be, how to get our spirillicidal remedies conveyed to the perineuronic lymph spaces. A ready means presents itself. All that is necessary is to introduce them into the subarachnoid space, either directly, or indirectly *viâ* the cerebral ventricles. Dr. F. W. Mott has long taught that the perineuronic lymph and the cerebro-spinal fluid are practically the same; and Dr. F. L. Golla has recently shown that a certain amount of the cerebro-spinal fluid in the subarachnoid space does, in point of fact, flow by way of the perivascular lymph spaces of the brain and spinal cord into the perineuronic lymph spaces, whence it drains off into the capillary venules. The method he adopts is to inject the subarachnoid cavity with colloidal carbon, allowing the animal to survive the injection some days, so as to give time for the translation of the carbon particles. These do not pass through animal membranes, and thus can only travel along open channels. Dr. Golla has kindly afforded me the opportunity of examining microscopically sections of the brain and spinal cord of animals thus treated, and it has been quite easy to trace the dark particles along the perivascular sheaths into the perineuronic lymph spaces, and even indeed into the nerve cells themselves. We thus see that, though spirillicidal substances cannot be conveyed to the perineuronic spaces through the blood stream, they can be made to reach these spaces by the route described, thus coming to grips with the spirochætes.

A question of importance in connexion with this mode of treatment is the direction in which the cerebro-spinal fluid flows within the subarachnoid space. Does the direction of the flow, e.g., permit of our remedies, when introduced into the spinal sac, reaching the cerebral cortex?

The cerebro-spinal fluid appears to be secreted partly by the cells covering the choroid plexuses within the ventricles, and partly by those lining the subarachnoid space. That derived from the ventricles escapes into the subarachnoid space by certain apertures, notably by the foramen of Majendie in the roof of the fourth ventricle—i.e., it passes chiefly, if not entirely, into the lower, subtentorial cranial chamber. As regards the flow of the cerebro-spinal fluid contained in the subarachnoid space, it is probably sluggish, moving mainly caudal-wards, though influenced somewhat by gravity. The flow is probably in large measure determined by the rhythmic pulsations (cardiac and respiratory) of the brain and spinal cord. These by commoting the fluid lead to an ebb and flow at the foramen magnum, the incisura tentorii (connecting the upper and lower cranial chambers), and the various orifices between the ventricles and the subarachnoid space. Hence some interdrainage of the fluid is continually taking place between the spinal sac and the lower cerebral chamber (containing the cerebellum, medulla, and pons), between the lower and the upper cerebral chambers, and again between the ventricles and the cranial subarachnoid space. In short, these rhythmic commotions lead to such a churning up of the fluid that a substance introduced into any part of the subarachnoid space (supra-tentorial, infra-tentorial, or spinal) tends to diffuse itself throughout the entire space. Thus when colloidal carbon is introduced subdurally above the tentorium it blackens the entire brain and spinal cord, and even to some extent the interior of the ventricles. The like happens when it is injected into the spinal arachnodural sac, though in this case little blackening of the cerebral hemispheres occurs. Indeed, Goldmann, after injecting trypan blue into the spinal sac, found them unstained. Golla, on the other hand, employing colloidal carbon and allowing some days to elapse before destroying the animal, found definite blackening of the hemispheres.

It would appear from these injection experiments that a considerable interchange of the fluid takes place between the spinal sac and the lower cranial chamber (at the foramen magnum), but that as regards the upper and the lower cranial chambers (communicating with one another at the incisura tentorii) the flow is mainly caudal-wards; and that while it is possible to convey our medicaments more or less evenly throughout the entire cerebro-spinal axis by introducing them into the upper cranial subarachnoid space, and also to reach the entire spinal cord, bulb, and cerebellum, by introducing them through the spinal sac, it is not possible by this latter method to convey more than a very small fraction of them to the cerebral hemispheres. This explains why in tabes intraspinal injections usually suffice, and why in general paralysis they are comparatively useless. If we rely upon intraspinal injections in the latter disease, the flow of the cerebro-spinal fluid from the spinal sac into the cranial cavity should be encouraged by raising the foot of the bed and allowing the patient's head to be at a lower level than the sacrum; also by urging him to turn about from side to side, and thus by commotion of the fluid to favour the diffusion of its spirillicidal contents. But even so we shall not succeed in carrying more than a very small proportion of the injections to the main seat of the spirochætes—the cerebral cortex. (It must not be forgotten, in considering the beneficial results of intraspinal injections in dementia paralytica, that the lesions in this disease are not confined to the cerebrum, but that they also affect the cerebellum, bulb, and spinal cord.)

It was the consciousness of our inability to convey our remedies in sufficient quantity to the cerebral cortex by the intraspinal route that led me to approach Mr. C. A. Ballance with regard to the possibility of introducing them directly into the cranial cavity. I had seen such striking results from the employment of intraspinal injections of salvarsanised serum in tabes as to make me hopeful of equally good results in dementia paralytica, if only the serum could be conveyed in sufficient quantity to the cerebral cortex. I had hoped that it could be introduced directly into the subarachnoid space of the upper cranial cavity by means of a small trephine opening, but Mr. Ballance has convinced me, by actual demonstration on the operating table, that it is very difficult, if not impossible, to introduce more than a very small quantity of fluid in this way. For this method to be successful we shall have to dispense with bulky remedies and rely upon remedies which are effective in quantities not exceeding a few cubic centimetres.

Mr. Ballance decided that the best way to introduce so large a quantity as, say, 40 c.c. of serum into the cranial subarachnoid space would be viâ the anterior horn of the lateral ventricle, by means of a cannula passed along the side of the falx cerebri through the corpus callosum; and this operation he performed successfully on a case of general paralysis on Feb. 25th. The patient made a rapid recovery. The operation was repeated on March 11th, and this time five drops of Fowler's solution were added to the serum. Convalescence on this second occasion was attended by slight mental disturbance, the result, I am inclined to think, of the Fowler's solution. There is no doubt that this patient's mental state has improved since these operations, but how far the improvement is the result of the treatment it is yet too early to say. Mr. Ballance has twice successfully performed the same operation on a second case of general paralysis. In this case the cortical degeneration had already reached an advanced stage, and I am not satisfied that any substantial improvement in the mental condition has been effected.

The intraventricular operation was undertaken in the belief that by its means a considerable proportion of the serum introduced is enabled to reach the upper cranial chamber, where it can circulate freely over the cerebral cortex. We have seen, however, that most, if not all, of the intraventricular cerebro-spinal fluid escapes through the openings of the fourth ventricle into the subarachnoid space of the inferior cranial chamber, and that thereafter it tends to pass downwards through the foramen magnum, rather than upwards through the incisura tentorii. This suggests that the trend of the serum injected intraventricularly is in the same direction. For this reason it is advisable to keep the head low after the intraventricular operation so as to favour the passage of the fluid through the incisura; but even assuming that only a small proportion of the serum injected intraventricularly reaches the cerebral cortex, we may, I think, safely conclude that much more reaches it by this method than by the intraspinal one, owing to the much greater supply of serum which reaches the inferior cranial chamber by the intraventricular method. The most satisfactory way of ascertaining to what extent the intraventricular cerebro-spinal fluid reaches the cerebral cortex would be by injecting the ventricles with colloidal carbon, an experiment which Dr. Golla has not been able to carry out with the animals at his disposal.

I have said that in tabes spinal injections usually suffice, for by their means the whole of the affected area of the central nervous system can be reached by the injections. There is, however, one form of tabes in which the question of resorting to intracranial injections presents itself—that form, namely, in which optic atrophy, generally of a rapidly progressive character, occurs. There is every reason to believe that the atrophy in these cases is due to the presence of spirochætes in the immediate neighbourhood of the optic nerves. It should be observed that the arachnoid membrane forms but a loose investment round the optic nerves, and thus allows the cerebro-spinal fluid to circulate freely about them. Dr. Golla's experiments have shown that when colloidal carbon is introduced subdurally into the upper cranial chamber the walls of the peri-optic subarachnoid space are blackened with carbon particles, and, moreover, that these can actually be traced into the nerves themselves. Now, it is true that the optic nerves can be reached by intraspinal injections, but certainly not so effectively as by the intracranial route. It was for this reason that I sought the help of Mr. Ballance in a case of tabetic optic atrophy with complete blindness of one eye and almost complete blindness of the other. This was the case in which the attempt was made to introduce the serum subdurally, and in which it was found impossible to get more than a very small quantity to remain under the membranes. Directly the cannula was removed, almost the whole of what had been introduced escaped through the opening in the dura. In a subsequent operation the intraventricular method was adopted, and there can, I think, be little doubt that this method affords the most effective way of reaching the optic nerves, for the serum rapidly passes into the peri-optic subarachnoid spaces, where it can soak into the optic nerves. The patient recovered from the operations, but the optic neurons had already been injured beyond recovery, and he has since lost the small degree of sight that was left to him at the time of the second operation. Nevertheless, it seems reasonable to hope that we may be able to arrest these cases of optic atrophy by means of suitable intracranial injections.

A word of caution in conclusion. The plan of treating syphilitic diseases of the central nervous system by the introduction of remedies into the cerebro-spinal fluid opens a new chapter in therapeutics, and has, I believe, a great future before it; but it is one beset with many dangers, and needs to be carried out with the utmost caution, not only in regard to strict asepsis—that goes without saying—but also as regards the remedies employed, and the strength, number, and intervals of the injections. It must not be forgotten that in introducing remedies into the cerebro-spinal fluid we are, as it were, going behind one of nature's defences—the capillaries of the central nervous system. When, e.g., arsenic is administered intravenously, intramuscularly, or by the mouth, it does not reach the neurons of the central nervous system; it is prevented from reaching them by the local capillaries, which constitute an important line of defence against poison circulating in the blood. When, therefore, it is introduced into the cerebro-spinal fluid only very minute doses shall be employed.

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THE INTRATHECAL INJECTION OF SALVARSANISED SERUM.

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THE diseases of tabes dorsalis and general paralysis of the insane were, until quite recently, always looked upon as being "parasyphilitic" in origin, or, in other words, diseases which follow on in the wake of syphilis rather than being definitely attributable to it. Following the discovery of the spirochæta pallida by Schaudinn and the successful inoculation of anthropoid apes by Metchnikoff, Neisser, and others, the researches of Mott,[1] Noguchi,[2] Marie,[3] and Levaditi, who have found the spirochæta pallida in films from the brains of general paralytics, have conclusively proved the syphilitic origin of the diseases in question.

These diseases were usually treated with mercury and potassium iodide; very little benefit was derived from this or other antisyphilitic treatment, but the reason for the disease not responding to treatment was not at first obvious. An explanation has been found in the selective action of the choroid plexus, which allows practically no drugs or antibodies to pass through into the cerebro-spinal fluid. In proof of this are the facts: (*a*) that the spinal cord and fluid do not become stained in jaundice; (*b*) that mercury and arsenic are not present, or only in minute traces after the patient has been taking the drug for some time; and (*c*) that if trypan blue be injected intravenously the cord or fluid does not become stained. It is, therefore, obvious that if we are to reach the spirochætes, which we now know are present in the brain and cord, we must place our antisyphilitic remedies into the cerebro-spinal fluid itself.

Intravenous injections of salvarsan and neosalvarsan having failed to give relief it occurred to Dr. Swift[4] of the Rockefeller Institute, to try the intrathecal injection of the serum of a patient who had had salvarsan. Nierenstein,[5] working with atoxyl, has shown that arsenic by itself has no effect upon trypanosomes *in vitro*. Upon adding protein death occurred after a certain time, but this time was much lessened if the atoxyl was allowed to combine with the protein first and then added to the trypanosomes. This then provides the rationale of our present treatment, as there is only a minute quantity of protein in the cerebro-spinal fluid; so the neosalvarsan is given intravenously first, and then the serum derived from the patient, which will therefore contain the arsenic-protein compound, is injected intrathecally.

Technique.—An intravenous injection of neosalvarsan 0·75 grm. is first given. In this series of experiments the neosalvarsan has been given in concentrated solution, never more than 10 c.c. of doubly distilled water being used to dissolve it, and the injection has been made with a "record" syringe without previously dissecting out the vein. The two main points to notice are: (1) the importance of using doubly distilled water, which almost reduces to nothing the reaction to the drug; and (2) that the injection should be made by puncture with a hypodermic needle without dissection, as patients are beginning to grumble and to refuse treatment on account of the tell-tale scar left in the anticubital fossa.

Twenty-four hours after the injection of neosalvarsan blood is withdrawn from a vein, again by puncture with a needle. Scrupulous asepsis must be observed, and it is advisable to wear sterilised rubber gloves during the operation. The blood is allowed to flow into six centrifuge tubes, each of about 15 c.c. capacity, and these are then plugged with sterile wool. After standing for an hour, to allow the blood to clot, the clot is loosened round the edges by means of a sterile platinum needle, and the tubes are then centrifugalised. The resulting serum is collected from the lot into a sterile tube.

Lumbar puncture is now performed in the ordinary way, and about an equivalent quantity of cerebro-spinal fluid to the amount of serum to be injected is drawn off. A syringe is then filled with the serum, and the serum forced into the intrathecal space. About one ounce of serum was given in each case. It is hardly necessary to emphasise the fact that all the above operations must be carried out with the strictest aseptic precautions, as the slight resistance of the spinal cord and cerebro-spinal fluid to infection is well known, and the danger to the life of the patient, should such occur, is obvious.

I have found the above method by far the most satisfactory, though it differs in many ways from that used by other observers. Campbell[6] withdraws the blood after six hours. A few experiments were performed to find out when the greatest percentage of arsenic is in the blood. The method used was colorimetric, and, contrary to expectation, it was found that the second day revealed the greatest quantity. Further experiments are necessary, and are being carried on, before this can be definitely asserted, but there was sufficient evidence to justify the delay to 24 hours in withdrawing the blood after the injection of neosalvarsan. This delay also ensures that the combination between the arsenic and the proteins in the blood has taken place.

By centrifugalisation a larger quantity of serum is obtained from a smaller quantity of blood, and I do not think that the risk of infection is increased if proper care is taken. Further, only 1½ to 2 hours need elapse between withdrawing the blood and the intrathecal injection. In this respect my method again differs from that of Dr. Campbell, who allows the blood to stand for 12 hours in a sterile bottle.

If trypan blue be injected by lumbar puncture it has been found that only the cord and brain stem become coloured with the pigment. It is therefore possible that none of the salvarsanised serum reaches the brain. If this is so, this method is only applicable in the treatment of tabes dorsalis and other syphilitic lesions of the cord, and cannot be used for the relief of general paralytics. In the cases about to be described an examination was made for the presence of arsenic in the blood, urine, and cerebro-spinal fluid 24 hours after the injection of neosalvarsan. Speaking roughly, arsenic was found in the blood and urine, but not in the cerebro-spinal fluid.

With regard to the reaction to the intrathecal injection it was found that in those cases where the injection was being given for the relief of the lightning pains of tabes the pains became very severe, almost excruciating, a few hours after the injection, but that they gradually passed off and the patient was altogether free from them at the end of 36 to 48 hours. There was usually a slight rise in temperature and pulse-rate during the first day, but this fell during the second. No untoward instances or complications occurred throughout the series.

Seven Cases of Tabes Dorsalis.

CASE 1.—Female, aged 38. No definite history of infection. Symptoms: Lightning pains which occurred daily; ataxy. Signs: Absent knee-jerks, Argyll Robertson pupils, and glove and stocking anæsthesia. Wassermann reaction positive. Has had no lightning pains for past four months; reflexes unaltered; health improved.

CASE 2.—Male, aged 34. Had gleet 28 years ago; no chancre. Seven years' history of increasing difficulty in walking. Had lightning pains about every other day. Signs: Absent knee-jerks, Argyll Robertson pupils, rombergism, patches of anæsthesia, and ataxy. Wassermann reaction positive. Has had no pains since injection; rombergism less marked; walks more steadily and can now feel the ground as he walks.

CASE 3.—Male, aged 39. Had soft sore 15 years ago. Had lightning pains for 11 years, with increasing difficulty in walking. The pains were very bad and he took morphia to relieve them. Signs: Bedridden, absent knee-jerks, glove and stocking anæsthesia, incoördination, and incontinence. Wassermann reaction positive. The pains were absent for a week after injection but came on again. No lasting improvement noticed. The patient's blood from which the serum was made gave none of the reactions for arsenic, showing that possibly he was unable to split up the neosalvarsan molecule. Arsenic was recovered from the urine.

CASE 4.—Male, aged 42. Had gonorrhœa but no chancre. Four months' history of lightning pains, which had been very severe. Wassermann reaction positive. Has had no return of the pains since injection.

CASE 5.—Male, aged 46. Had gonorrhœa. Seven years' history of increasing difficulty in walking. Severe lightning pains, often requiring morphia. Signs: Absent knee-jerks, incontinence of urine, Argyll Robertson pupils, and glove and stocking and girdle anæsthesia. Wassermann reaction positive. Has had no lightning pains since injection. Gait improved and patient's health much better; rombergism less marked. Only slight improvement in incontinence.

CASE 6.—Male, aged 54. Ten years' history of lightning pains and difficulty in walking. Signs: Absent knee-jerks, Argyll Robertson pupils, and rombergism. Has had no pain since injection; walk steadier; feels better.

CASE 7.—Male, aged 52. Had a chancre 23 years ago. Three years' history of lightning pains. Charcot's knee one year. Signs: Argyll Robertson pupils and absent knee-jerks. Wassermann reaction positive. Pains much less since injection; health better; walk steadier.

Five Cases of Sclerosis and Interstitial Cord Lesions.

CASE 1.—Male, aged 29. Nine months' history of stiffness of legs and difficulty in walking. Signs: Lateral nystagmus; knee-jerks brisk, patellar clonus present on left side, and double extensor plantar response; incontinence of urine and fæces; greatly impaired mental state. Wassermann reaction positive. After injection slight improvement occurred in the movement of the legs and in his general mental condition. He seemed to know that he was passing his motions, but would not trouble to control them. The improvement was only temporary.

CASE 2.—Female, aged 38. Spastic paralysis of both legs for 18 months with contractures. Ankle clonus present on right side; extensor plantar response. Wassermann reaction positive. Intrathecal injection made no definite improvement.

CASE 3.—Male, aged 31. Sensory and motor aphasia; right hemiplegia; incontinence. Wassermann reaction positive after injection of neosalvarsan. After intrathecal injection patient appeared to take notice of his surroundings, which he had not done before, and he was able to move his right leg slightly. No improvement in incontinence, and he did not recover his speech.

CASE 4.—Male, aged 44. Pain at the bottom of his back and in his legs for eight months. Knee-jerks brisk, double extensor plantar response, rombergism; anæsthesia over feet; pupils equal and active; gait ataxic. Wassermann reaction positive. Much improved by injection; tingling in feet disappeared, rombergism less, ataxy improved and has had no pain; no alteration in reflexes.

CASE 5.—Male, aged 39. Soft sore four years ago. Difficulty in walking, vomiting and lassitude for one year. Knee-jerks exaggerated, double extensor plantar response, patellar clonus present; no alteration in sensation; pupils active; rombergism present. Wassermann reaction positive. The pain and vomiting were relieved and the rombergism was less marked, but patient does not feel any better.

McIntosh[7] has subdivided syphilitic lesions of the brain and spinal cord into "interstitial" and "parenchymatous." In the former the meninges, blood-vessels, and neuroglia are primarily affected, with secondary involvement of the neurons through compression and softening; in the latter the neurons themselves are affected. Tabes and general paralysis belong to the parenchymatous variety, and the above results seem to show that this type of cord lesion is more affected by the intrathecal injection than the interstitial.

Campbell[6] has published a series of 10 cases which seem to bear this out, but the patients treated by him were also given mercury. The above cases received nothing but the salvarsan, and so the improvement made is entirely due to the intrathecal injection, and this may account for the poor results obtained with the interstitial cases, as considerable improvement can be effected in them by the ordinary antisyphilitic treatment.

Conclusions.—The intrathecal injection of salvarsanised serum offers a hopeful method of treating and arresting the progress of tabes and other parenchymatous diseases of the spinal cord. Before its introduction these cases resisted all our efforts, and finally drifted into the asylums and workhouses. A cure of the lightning pains can almost definitely be promised. The injections, if carried out with special aseptic care and technique, do not endanger the patient's life. There is a great future before this treatment when further work has been done in perfecting it, as we are now working on definite scientific lines for the cure of a condition which has previously baffled all our efforts, mainly because the pathology has not been fully understood.

In conclusion, I wish to express my very best thanks to Professor F. H. Edgeworth for his kindness in allowing me to publish these cases and for his invaluable help and sympathy with the work. The technique of the method of neosalvarsan injection was due to Dr. J. A. Nixon, whom I wish to thank for this and for the permission to publish one of the above cases. The Wassermann reactions were carried out by Professor I. Walker Hall by Wassermann's original method, and this fact is sufficient guarantee of their absolute accuracy. I am also greatly indebted to Mr. J. Taylor for much valuable work in the estimation of the arsenic in the blood and urine.

THE OCCURRENCE OF ASCITES OF A NON-TUBERCULOUS ORIGIN IN CHRONIC RECURRENT DIARRHŒA IN CHILDHOOD.

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FROM time to time cases of intractable recurrent diarrhœa are met with in childhood, which though not tuberculous in nature may nevertheless develop ascites. In a recent paper Poynton, Armstrong, and Nabarro,[1] in the second case they record and again in the fifth, note such an occurrence, but in neither instance was the event fatal. The combination of obstinate diarrhœa with profound wasting and ascites in early childhood is one so intimately associated with abdominal tuberculosis that this fatal case, giving *proof* of its existence in a non-tuberculous condition, appears to us worth recording, not only because we think it is a fact not very generally recognised, but because it is a small addition to the literature of a condition of very great difficulty and much importance.

In general terms this class of case shows the following characters. Following not infrequently an acute infantile gastro-enteritis, the case develops an obstinate recurrent diarrhœa, varied sometimes by intervals of meteorism and constipation. There is in bad cases profound infantilism, and there may be general anasarca, tetany, cœliac symptoms, and even arthritic changes. The dieting of such children is a matter of extreme difficulty, but a considerable number after the fifth year seem to make an almost spontaneous though slow recovery. The case we record here is clearly one of this class, as the description will show.

The patient, a male aged 3½ years, the second child of healthy parents with no tuberculous history in the family, was admitted for "wasting" into the Hospital for Sick Children, Great Ormond-street, on Dec. 19th, 1913. He had been a healthy boy with a good digestion until he was a year old, when he had an attack of "infantile cholera." Since that time he had never been well, but had gradually drifted into the state of marasmus for which he was admitted to the hospital. The illness had shown the usual features. Any attempts at pressing forward the diet resulted in breakdown with vomiting and diarrhœa. His weight on admission was 21½ lb., and though there were records of a gain of 1½ lb. in a week the usual history had been that of a stationary weight or a slight loss. There was a greedy desire for water, and when the attacks came on vomiting and the passage of large, white, undigested, offensive stools. When the motions improved the child would make a change for the better, but only to fall back again as quickly at the next relapse. At times there was considerable abdominal pain. All kinds of devices had been tried in dietary, but none had suited. His appearance was very characteristic in its waxy pallor, but apart from the marasmus he did not

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[illegible] 1. Mott: Degeneration of the Neurone in the Light of Recent Research, THE LANCET, Nov. [illegible], p. 1357. 2. Noguchi and Moore: Demonstration of Spirochæta Pallida in the Brain in Cases of General Paralysis, Journal of Experimental Medicine, February, [illegible] 3. Marie, Levaditi et [illegible]: Présence constante du [illegible] dans le Cerveau des Paralytiques Généraux Morts en Ictus, [illegible] de la Société de Biologie, vol. lxxiv., No. 17, 1913. [illegible] from the Rockefeller Institute, vol. xvii., 1913. [illegible] Annals of Tropical Medicine and Parasitology, [illegible], No. 3, November, 1913. 6 Campbell: Treatment of [illegible] the Nervous System by Intrathecal Injection, Brit. Med. [illegible], March [illegible], 1914. 7. McIntosh, Brain, July, 1913.

[1] Proceedings of the Royal Society of Medicine, 1913, vol. vii., p. [illegible]. A Contribution to the Study of a Group of Cases of Chronic Recurrent Diarrhœa in Childhood.

appear acutely ill and the temperature was never above normal. Previously to admission there had been a general anasarca which had, however, mostly disappeared. There was nothing abnormal discovered in the heart or lungs. The abdomen was rather distended. The liver was not felt and no masses were detected. There was no discoverable ascites, and the urine was not abnormal. The first week after admission the weight rose a pound, and then followed an attack of diarrhœa. The motions were clay-coloured and unformed, but later became greenish and contained mucus.

Dr. D. N. Nabarro reported upon the motions as follows: "Reaction acid.—Smears showed a preponderance of Gram-positive bacilli. Smell 'butyric,' not fæcal. Culture showed only typical bacillus coli. Agglutination tests were made with typhoid, paratyphoid B and four strains of dysentery bacilli (1–25, 1–50, 1–100). The results were all negative except a partial reaction (1–25) with one strain of dysentery."

After the attack of diarrhœa the weight fell to 19 lb., and then there was once more some improvement, but in the middle of January vomiting commenced and the motions now became dark. On the 16th anasarca began to show again, and fluid was detected in the abdomen. In spite of every care the child died from heart failure on the 25th, the weight having risen to 23 lb. At no time was there a rise of temperature.

The essential features of the necropsy were: (1) A general infiltration of the tissues with œdema fluid; (2) the entire absence of any evidence of tuberculosis; (3) the presence of a pint of straw-coloured fluid in the abdomen and about 5 oz. in each pleural cavity; (4) general œdema of the walls of the gastro-intestinal tract, the mucous membrane of which was thinned in some places, but was for the great part œdematous and thickened and showed no ulceration; (5) definite enlargement of the mesenteric glands, which were translucent on section, but showed no signs of tuberculous change; (6) extreme fatty change in the liver; and (7) no apparent change in the pancreas.

The brain and spinal cord were not examined and the other organs showed no obvious changes. Bacteriological investigation after death failed to discover the dysentery bacillus. Microscopical examination of the various organs showed, on the whole, remarkably few points of interest. The liver showed definite fatty changes of high degree and particularly obvious at the periphery of the lobules. The pancreas showed small circumscribed areas of leucocytic infiltration between the acini, but there was no fibrous change. The gastro-intestinal tract showed œdema of the walls, and there were circumscribed areas of leucocytic infiltration in the submucosa and mucosa of the stomach and colon. In the colon there was also much destruction of the glandular epithelium, and in the ileum the submucosa was in places much thinner than normal. The mesenteric glands appeared normal. The cardiac muscle showed no obvious changes. The renal epithelium appeared normal. The Malpighian corpuscles of the spleen were poorly marked.

Poynton, Armstrong, and Nabarro in their paper describe a fatal case of this kind, but differing in the absence of ascites. From that case Nabarro isolated after death the bacillus of dysentery, but on this occasion failed to do so. There were, however, some decided points of resemblance in the results of the necropsy in these two cases, notably the absence of ulceration in the intestinal tract and the presence of extreme fatty change in the liver. Further, foci of infiltration with leucocytes in the gastro-intestinal tract were described in both, and above all it was apparent that the condition was not one of gastritis, enteritis, or colitis, but a widespread affection of the digestive apparatus apparently in its nature infective.

From whatever point of view these cases are studied they present features of intense interest. The etiology is obscure, and we have still to learn whether it is a clinical group only or a group dependent upon some special infection. The treatment is extraordinarily difficult and demands the most trying of all tests both for doctor and parents the patience, one might almost term obstinacy, to struggle on month after month with almost a starvation diet. No fact is more certain in the present state of our knowledge than that any attempt to hasten progress is to court disaster. The more experience one has of these cases the more is any phenomenal gain in weight rather a warning of impending disaster than a sign of any real progress. The relation of the cœliac symptoms to the actual disease is yet another point of interest, and, lastly, three is the question of the diagnosis.

It is abdominal tuberculosis that provides the great difficulty. These cases waste; they have abdominal pain, recurrent diarrhœa and constipation, distension, and sometimes fever. They may pass mucus or even a little blood, and they may have ascites; nevertheless, the necropsy shows an entire absence of any tuberculous process in the body.

As the writers in the paper already alluded to pointed out, these cases in their recurrent attacks may reach a degree of illness from which, if they were tuberculous in nature, it would seem impossible to recover, and certainly to recover on more than one occasion. There is no evidence of tubercle elsewhere in the body and the various tuberculous reactions have been negative. Examination of the fæces will show the absence of tubercle bacilli. The temperature is not so constantly raised and may be subnormal. There are no masses of tuberculous deposit in the abdomen, and our experience has been that the ascites when it occurs is part of a general anasarca, which in its sudden onset is a remarkable feature of these cases. Again, the previous history of an infantile "cholera" is suggestively frequent, and the difficulty in the dieting appears to us greater than in most cases of abdominal tuberculosis. The occurrence of tetany and laryngismus and of rheumatic pains in the limbs are suggestive of the nature of these cases, as also is the infantilism, with a peculiar pallor and remarkable softness of the general musculature.

The practical physician will, however, in analysing these distinctions, recognise that they are relative rather than absolute indications, and if further proof were needed it might be stated that there are probably few who have had experience of such cases and have not for months, perhaps for years, thought some of them were probably tuberculous in nature and have been led to change their diagnosis by an unexpected, slow, but complete recovery.

It is a curious fact that the periods of constipation with great meteorism may lead to the suspicion that we are dealing with an entirely different condition—namely, Hirschsprung's disease; but this may be the case, and it is quite possible that, as Poynton, Armstrong, and Nabarro record, a condition almost indistinguishable may result.

The occurrence of this ascites is an interesting example of a clinical difficulty in which the combination of physical signs in two widely different processes creates a striking likeness in the results that are produced. The ascites in abdominal tuberculosis is clearly the result of the local irritation of the peritoneum by numberless foci of miliary tubercle; the ascites in these cases of chronic diarrhœa is a transudate which occurs also in all loose tissues, and in very severe cases in probably all the soft tissues of the body. It is an ascites comparable to that in renal disease, and it is possible, we suppose, that some change in the renal tissues may actually occur, although it is not obvious to ordinary methods of examination. This œdema of the loose tissues is a very suggestive occurrence, and when, as is usually the case, it precedes the ascites is strong evidence that the latter is not tuberculous in origin. In this particular case we think it greatly assisted the diagnosis of the non-tuberculous nature of the illness.

In conclusion, we would repeat that the essential point in this contribution is the actual *proof* of a definite ascites in this condition.

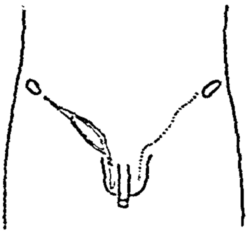
AN OPERATION FOR UNDESCENDED TESTICLE.

BY RALPH THOMPSON, CH.M. VICT., F.R.C.S. ENG.,
SURGEON IN CHARGE OF THE GENITO-URINARY DEPARTMENT, GUY'S HOSPITAL; SURGEON TO THE VICTORIA HOSPITAL FOR CHILDREN.

WHEN an operation designed to bring down an undescended testicle is undertaken two main difficulties present themselves. One is the lengthening or the partial removal of the structures which connect the testicle to the body. I do not propose to deal with this difficulty in the present paper. The second difficulty is the retention of the testicle in the scrotum. It is with this difficulty that this paper is concerned.

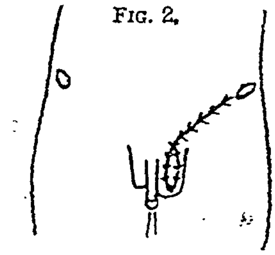
I have, in two cases of undescended testicle which have occurred at Guy's and the Victoria Hospitals, adopted the following plan for retaining the testicle in the scrotum. The usual incision is made for the exposure of the external opening of the inguinal canal, with two exceptions—it is longer and it is curved. The incision commences just internal to the anterior superior spine, and proceeds in a sinuous manner into the scrotum. It may be divided, for the purposes of description, into three parts of equal length. The first part lies half an inch above, and parallel with, the outer half of Poupart's ligament. (Fig. 1, left side.) The second part is curved with its convexity directed downwards and outwards. It begins just above the middle of Poupart's ligament and terminates near the pubic spine. The third part curves downwards into the scrotum, and is of equal length to each of the two other parts of the incision. Its convexity is directed upwards and inwards. The external ring is exposed and any hernia treated in the usual way. The vas is isolated with its accompanying artery and vein. The cremasteric plexus of blood-vessels and lymphatics is removed between ligatures. A finger is introduced into the cavity of the scrotum and the testicle is brought down and placed in the scrotum, where it is retained by an assistant. The extremities of the middle part of the incision are then united by a curved incision, whose convexity is directed upwards and inwards (Fig. 1, right side); and an oval flap of skin and subcutaneous tissues, extending down to the external oblique muscle, is dissected and isolated. This oval flap is then transferred to the scrotal part of the incision and sutured to both sides of this part, so that its lower apex lies in the lowest part of the scrotal portion of the incision. The rest of the wound is then sewn up in the usual way. When the suturing is complete the wound is as shown in Fig. 2.

FIG. 1.



Left side, incision indicated by dotted line. Right side shows formation of oval flap.

FIG. 2.



To show incision, sutured edges, and position of inguinal flap when sewn up.

By this means the scrotum is appreciably enlarged and, as it were, stiffened by a portion of tissue which contains no "dartos" muscle, and therefore remains uncontracted. The simplicity of the operation and its successful results in two cases have tempted me to place it on record.

Wimpole-street, W.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Exhibition of Cases.—Auricular Flutter in Acute Rheumatic Carditis.

A MEETING of this section was held on April 24th, Dr. LEONARD G. GUTHRIE, the President, being in the chair.

Dr. H. MORLEY FLETCHER showed a case of Amyotonia Congenita.

Mr. A. E. MORTIMER WOOLF exhibited a case of Arthritis of the Left Shoulder in a boy aged 8. Three years before he had been under treatment for fibroid lung of tuberculous origin. The present trouble started with pain in the joint followed by limitation of movement and muscular wasting. An X ray examination showed caries of the head of the humerus.

The PRESIDENT showed a case of Pneumonia followed by Encephalitis.

Mr. PHILIP TURNER showed: 1. A case of Cubitus Varus after fracture of the lower end of the humerus which was treated by osteotomy of the humerus above the condyles. The operation was successful in removing the deformity, and there was also a great improvement in the function of the arm. 2. A case of Syphilitic Cirrhosis of the Liver with Ascites, which had been treated by a Talma-Morison operation. Though the operation was followed by a considerable collection of fluid in the peritoneal cavity calling for tapping, this had not re-collected and the abdomen was now considerably smaller. The general condition had also improved.

Dr. E. A. COCKAYNE exhibited a case of Mongolian Blue Spots. The patient was aged 11 months and the parents were both Jews. The spots when first seen at the age of 9 weeks were of a clear slaty-blue colour unaltered by pressure.

Dr. R. A. CHISOLM showed a case of Enlargement of the

Spleen which was considered to be an example of splenic anæmia of infancy. It was proposed to treat it by salvarsan, and if this was not followed by improvement splenectomy would be considered.

Mr. A. H. **TODD** showed a case of Complete Double Hare-lip without any Cleft of the Palate. Congenital bilateral mucous fossæ were also present in the lower lip.

Dr. H. D. **ROLLESTON** and Dr. J. N. **MACBEAN ROSS** exhibited a case of Lymphatic Leukæmia which had been successfully treated with benzol.

Dr. G. A. **SUTHERLAND** read a paper on Auricular Flutter in Acute Rheumatic Carditis. He pointed out that while the importance of the endocardial, pericardial, and myocardial changes in rheumatic infection was generally recognised, there was another factor to be considered in some cases—viz., the development of an abnormal rhythm of the heart. The onset of an abnormal rhythm did not necessarily mean that the heart was irregular in its action, as tested by the ordinary methods. As a matter of fact, one of the striking features of acute carditis was the regularity of the action, however rapid the rate, as tested by the pulse or the apex beat. These beats were dependent on the action of the ventricles, and in the majority of cases an abnormal rhythm was developed in the auricles. He had recently met with two cases in which there was apparently an abnormal rhythm of the auricles, and which was recognised only on taking a venous tracing in the neck. Tracings were shown which seemed to point to a condition of auricular flutter. He thought that a heart already weakened by disease might find itself hopelessly crippled by the supervention of some such rhythm, and the signs of cardiac failure might be rapidly induced or gravely aggravated. While an exact diagnosis of auricular flutter could be made only by means of an electric cardiograph, he thought the polygraph gave very suggestive tracings. As practical points for further investigation he suggested that attention be paid to the following possible indications of this form of disordered rhythm: (1) Attacks of cardiac asthma (great dyspnœa) occurring suddenly and without accompanying variations in the cardiac condition; (2) a triple or galloping or cantering rhythm heard on auscultation; (3) pericarditis without effusion and with great respiratory distress; and (4) the presence of the pulsus alternans.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

Election of Officers.—Exhibition of Specimens.—The Etiology of Eclampsia.

THE annual meeting of this section was held on May 7th, Dr. W. S. A. **GRIFFITH**, the President, being in the chair. The following officers and members of Council were elected for 1914–15: President: Dr. W. S. A. Griffith. Past-Presidents: Sir Francis H. Champneys, Bart., Sir J. Halliday Croom, Mr. Alban Doran, Dr. Amand Routh, Sir William J. Smyly, Mr. W. D. Spanton, and Dr. Herbert R. Spencer. Vice-Presidents: Dr. W. W. Chipman, Dr. T. Watts Eden, Dr. F. W. N. Haultain, Dr. M. Handfield-Jones, Dr. Arnold W. W. Lea, Dr. H. Macnaughton-Jones, Dr. G. H. Drummond Robinson, Dr. Heywood Smith, and Dr. Walter W. H. Tate. Honorary Secretaries: Dr. C. Hubert Roberts and Dr. Cuthbert Lockyer. Other members of Council: Dr. G. F. Blacker, Mr. J. S. Fairbairn, Dr. A. E. Giles, Mr. William Gilliatt, Mr. Bryden Glendining, Dr. T. B. Grimsdale, Dr. J. P. Hedley, Dr. J. B. Hellier, Dr. Eardley Holland, Dr. J. M. Munro Kerr, Dr. F. J. McCann, Dr. R. G. McKerron, Mr. J. D. Malcolm, Mr. G. F. Darwall Smith, Dr. Clifford White, Mr. H. Beckwith Whitehouse, Dr. J. Abernethy Willett, and Dr. Thomas Wilson. Representative on Library Committee: Dr. H. Russell Andrews. Representative on Editorial Committee: Dr. John Phillips.

Dr. **FLORENCE WILLEY** showed: 1. Endothelioma of Uterus removed from a single woman aged 45. For three years the patient had suffered with hæmorrhage, and for six months from recurring abdominal pain. Subtotal hysterectomy was performed, and on opening the enlarged uterus, which measured 4 by 4 inches, a fluctuating globular tumour was found bulging into the cavity, and on incision clear fluid escaped. The rest of the tumour appeared to be filled with soft lobular masses of the consistency of fat. The tumour measured 3 inches in diameter, and was only partially encapsuled; part of the growth invaded uterine muscle tissue. On section the tumour was an endothelioma. The specimen was referred to the Pathology Committee, who reported it as a "perithelioma." 2. Specimen illustrating Partial Development of a Placenta on the Decidua Capsularis and Implantation on a Submucous Fibromyoma.

Dr. C. E. **PURSLOW** (Birmingham) showed: 1. Uterus with Red Degeneration and Early Pregnancy removed from a married woman whose period was ten days overdue, during which time she suffered with violent abdominal pain. The tumour, which showed well-marked red degeneration, was on the anterior wall. The uterine cavity was filled with blood clot and contained an amniotic sac having a diameter of half an inch. 2. Uterus with Multiple Fibroids and Placenta Prævia, removed by hysterectomy.

Dr. J. P. **HEDLEY** showed a specimen of 19 pieces of Fœtal Bones which he had removed from the uterus of a woman, aged 37, three years after a miscarriage at about the fourth month. At the time of operation the finger in the uterus found a thick mass an inch in diameter which bristled with the spicules of bone now shown. Dr. Hedley believed the pregnancy to be intra-uterine and not interstitial.—Remarks were made on this specimen by the **PRESIDENT**, Dr. **PURSLOW**, Dr. G. F. **BLACKER**, and Dr. R. D. **MAXWELL**.

Dr. E. ***ATHOLE ROSS*** *(for Mr.* ***JOSEPH E. ADAMS****) showed* a specimen of Carcinoma of the Uterus in a child, aged 2½, who for three weeks before admission had a blood-stained discharge, and passed clots. Examination of the abdomen showed a tumour, partly cystic, in the hypogastrium between the bladder and the rectum. The urine contained no blood. Abdominal section was performed on June 18th, 1913, and a mass of soft growth the size of a golf ball was found in the recto-vesical space, obscuring the position of the uterus. It was incised, and a hæmorrhagic growth of a malignant nature discovered. It could not be removed. The child died two months after the operation. At the post-mortem examination a large mass of growth occupied the pelvic cavity, arising apparently from the uterus. Careful examination of the removed organs showed the ovaries and tubes intact, and that both body and cervix of the uterus were largely replaced by breaking-down growth which had extended into Douglas's pouch and grown into the cavity of the vagina and bladder. The growth appeared to be a "papilliferous or villous carcinoma arising in the glandular epithelium of the body of the uterus" (Dr. Ross). There was no evidence of tubercle.—Remarks were made by the **PRESIDENT**, and the specimen was referred to the Pathology Committee.

Dr. **HERBERT WILLIAMSON** showed a specimen of Intussusception through a Gastro-enterostomy Wound occurring during labour in a patient, aged 28, in the thirty-fourth week of her second pregnancy. In 1908 and 1909 she had symptoms of gastric ulcer and underwent two operations, one being a gastro-enterostomy at the Great Northern Hospital. She made a good recovery, and in 1912 was delivered of a healthy child after a normal pregnancy. Her second pregnancy commenced in July, 1913. There was vomiting, which became more severe on Dec. 24th, 1913. It ceased, but recurred on Jan. 25th, 1914, and she was admitted to St. Bartholomew's Hospital on Feb. 24th last. The urine contained a trace of albumin and a considerable quantity of acetone and diacetic acid. On Feb. 25th she expelled a stillborn child. Two hours later the stomach was greatly distended and a loud succussion splash was evident. The patient looked very ill. The stomach was washed out by a soft tube, and gas and a pint of dark blood-stained fluid drawn off. Acute dilatation of the stomach was suspected, but she became rapidly worse. The temperature was 101° F., and the pulse 140, with cyanosis and collapse. No surgical interference was thought advisable on account of the general condition. She died 36 hours later. On post-mortem examination the stomach contained gas, dark fluid, decomposing blood clot, and a large tract of intussuscepted intestine which appeared through the wound. The bowel mass was 15 inches in length and was gangrenous, and consisted of the upper portion of the jejunum.

Mr. **CLIFFORD WHITE** showed a specimen of Volvulus of the Cæcum occurring in connexion with labour. The patient was aged 25 years and expected her second child in May, 1914. Four years ago an appendix abscess was drained in the Hastings Hospital. The resulting scar was weak and prominent. At the seventh month of the present pregnancy she was very constipated, for which she took castor oil. On

Feb. 24th she consulted a medical man for abdominal pain. On March 1st a dead seven months child was born before the midwife could reach the house. Her general condition was at first good, but later, when the district resident medical officer of Queen Charlotte's Hospital visited her, the pulse was 140. Enemata failed to get the bowels to act. When Dr. Clifford White saw her the abdomen was distended and tense, and there was a large hernia of the appendectomy scar which could not be reduced. In the right lumbar region an indefinite mass could also be felt. The patient was removed to the Samaritan Free Hospital for Women, and the abdomen opened in the line of the old scar. The sac contained offensive fluid and the cæcum, which was gangrenous. There was a volvulus of the cæcum and about 3 inches of the ascending colon. The cæcum, a few inches of colon, and 10 inches of the ileum were removed, and Paul's tubes tied in. Death occurred on March 6th. No necropsy could be obtained. The interest of the case was as to when the volvulus occurred and the difficulty in diagnosing the cause of collapse occurring in a patient soon after labour.

Dr. **JAMES YOUNG** (Edinburgh) read a paper on the Etiology of Eclampsia and the Albuminuria of Pregnancy, and discussed their relation to accidental hæmorrhage. Placental disease was especially apt to be found in these toxæmias. That this relationship was not a necessary one, however, was usually supposed to be shown by the fact that in acute cases the placenta often looked healthy. But he showed that whilst this was so, if some days had elapsed between the acute attack and the birth of the placenta there was always a massive recent necrosis. This discovery indicated that there was a necessary relationship, and that it was with the earliest, often unrecognisable, stages of the placental death that a toxæmia was associated. Dr. Young referred to the fact that it was not difficult to show that the chorionic elements depended directly and immediately upon the maternal blood for their nourishment, and so long as this was not implicated, could live where there was no fœtal circulation. The causes of such placental disease were merely an exaggeration of changes normally present in lesser degree. It could be proved that the implication of the circulation, which ended in placental death, was not due to a toxæmic state. It could, moreover, be proved that the cause of accidental hæmorrhage was something apart from a toxæmia, for 50 per cent. of such cases were unassociated with any sign of poisoning. The inevitable conclusion from these researches was that the placental disease was the cause of the toxæmia. If the placenta was completely detached or was delivered early there would be no chance for the development of a toxæmia. Dr. Young supplied experimental proof of the conclusion that it was the early autolytic products of a dying patch of placenta that caused the toxæmia. By autolysing healthy placenta for short periods he had isolated a material that, when injected subcutaneously into lower animals, reproduced the three cardinal features of eclampsia—(1) severe convulsions, (2) focal necrosis in the liver, especially in the peripheral zone of the lobules, and (3) degenerative changes in the kidney, especially in the region of the convoluted tubules. The convulsions, it was interesting to note, came on within 30 seconds. He had controlled his experiments by the injection of extracts of other organs which gave negative results.—The paper was discussed by the PRESIDENT, Dr. WILLIAMSON, Dr. MACMASTER, Dr. H. OLIPHANT NICHOLSON, and Dr. EDEN.—Dr. YOUNG replied.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

Early Nervous and Mental Cases.

THE quarterly meeting of this association was held at the Medical Society's rooms, London, on May 19th, under the presidency of Dr. JAMES CHAMBERS.

Dr. WOLSELEY LEWIS proposed—

That [illegible] as Part [illegible] of the London County Council (General Powers) Bill [illegible] the visiting asylums committee of its special [illegible] as a Statutory Committee under the Lunacy [illegible] with the [illegible] of Asylums [illegible] that [illegible] in the above mentioned Bill be made to [illegible]

This was carried.

The SECRETARY (Dr. M. Abdy Collins) read a letter from the Board of Control intimating that the Treasury had placed at the disposal of the Board £1500 for the year 1914–15 to encourage scientific research into the causes and treatment of mental disease and mental defect.

On the motion of Dr. J. G. SOUTAR, seconded by Dr. R. G. ROWS, the meeting passed a series of resolutions thanking the Board of Control for their efforts in the promotion of research connected with the specialty, and offering to nominate members of the association who would be available for consultation in furtherance of the manner of disposing of the grant to the best advantage, and suggesting that grants be given to (*a*) individual workers, and (*b*) universities and public bodies acting together or separately.

Dr. HELEN BOYLE, of the Lady Chichester Mental Hospital, read a paper entitled "Some Observations on Early Nervous and Mental Cases with Suggestions as to Possible Improvement in our Methods of Dealing with Them." It was a plea for unification of teaching treatment with regard to nervous and mental diseases. She said that early nervous and mental cases were inseparable logically in the abstract, and still less separable in practice. Dr. F. W. Mott had declared that locomotor ataxy was pathologically the same disease as general paralysis of the insane, and she suggested that the discovery of this fact would not have been postponed until now but for locomotor ataxy having been labelled nervous and general paralysis of the insane mental, and the cases of that disease packed off to an asylum. She spoke of her experience of 19 years, which was largely concerned with nervous and mental cases, as asylum officer, and later in connexion with the Lady Chichester Hospital for early mental and nervous cases among the poor. During that experience she had often known non-recovery in recoverable cases, and was much impressed by the lack of unity of conception or treatment. The differences and reasons fell under two heads: (1) those relating to the general treatment and opinions held on mental and neurotic cases as a whole; and (2) reasons connected with individual and special treatment of definite groups of patients. The cases were treated by the general practitioner, who in most instances had had no special training in neurology or insanity; or they might fall under the care of psychotherapeutists or physicians or surgeons or professors of various faiths, such as Christian Scientists. The last person to see an early mental case was usually the specialist in that class of disease, the alienist. Dr. Boyle deprecated the separation in teaching of neurology from psychiatry, and the absence of wards for early nervous and mental cases, and consequent lack of teaching regarding those cases for students and nurses in the great general hospitals which possessed medical schools. All specialists on the nervous system should be conversant with brain conditions as well as nervous. There were many cases of mental disease wrongly labelled nervous and sent to undergo Weir-Mitchell treatment, under which treatment the unoccupied mind, with nothing to distract it, fed upon itself. Moreover, the separation of neurology from psychiatry confused the public mind. She repeated a paradox she often used, that insanity began before the person was insane; defective mental health often existed long before the person became certifiable. Some acute cases cleared up under appropriate treatment, and were no more fit for an asylum than were the temporary insanities of typhoid fever or pneumonia. The cases which it was really important for students to see were not those of delirium tremens, but the early uncertifiable cases, the early obsessional and early melancholic, the hypochondriacal; these cases could never be taught by books. No practitioner could escape the early nervous and mental cases, and the welding of the two specialties would do away with much of the fear of detention on the part of patients suspecting a mental breakdown. She referred with gratitude in this connexion to the generosity of Dr. Maudsley in providing an institution for the treatment of London's poor mental patients.

Sir GEORGE H. SAVAGE thought there was a good deal of misapprehension in the minds of many people on the subject of the paper, for many declared that if only certain patients had been seen earlier they would never have been sent to an asylum. He emphasised the importance of a general knowledge of medicine in all who practised the specialty. He fully agreed that the psychologist and the neurologist should work together. There was a public prejudice against lunacy and against the medical men who specialised in it, and they had the notion that the one idea in the minds of the latter was to send people to asylums, forgetful of the numbers who were prevented from entering asylums owing to appropriate early treatment.

Dr. **PERCY SMITH** pointed out the administrative difficulty concerning the provision of beds for early mental cases in general hospitals. At St. Thomas's and other general hospitals there was an out-patient department for mental cases, and he believed it was of great benefit. But there were some cases which from the first required asylum treatment.

Dr. **JAMES STEWART** expressed the hope that the public would be brought to see the difficulties which were associated with this subject, and supported the authoress's plea for a closer association between the neurologist and the alienist.

Dr. **BEDFORD PIERCE** hesitated to speak on this subject because we knew so little as to the causes of these early cases of mental disorder and so little as to what was best to be done for them. He recently, for the purposes of a debate, inquired the views of a number of physicians and busy practitioners, and the inquiry revealed a remarkable difference of opinion.

Dr. **NOEL SERGEANT** deprecated importing too much sentiment into the matter and the talk of the "shame" of certification, especially as certification was a safeguard both for the general public and for the patient himself, and so giving him the best chance for recovery.

Dr. **T. B. HYSLOP** said that in border-line cases there had always been a difficulty, and probably there always would be. And there was the risk of illegality in institutions which were not under the regulations of the Lunacy Act. He also discouraged any tendency of one specialty, such as psychiatry, throwing stones at another, neurology.

Dr. **H. F. HAYES NEWINGTON** said that a large section of the public thought that insanity was cured by scientific observations and the use of sera, but the prime and most important step towards cure was to take the patient out of the surroundings in which the defect occurred, and, indeed, there seemed reason to believe that this one step was responsible for some patients getting well. There were many difficulties in connexion with placing patients under suitable care, and these the bulk of the public had no conception of.

Dr. **H. CORNER**, speaking of an experience of 17 years, during part of which time he had had care of a home, said he fully recognised the difficulties of the position. But there was need for early treatment of cases on lines which the existing law did not provide for. He detailed suggestions which he made to the authorities in connexion with two attempts at legislative amendment.

Dr. **C. F. FOTHERGILL** spoke of the importance of taking harassed and run-down people away from their mischievous surroundings as the first step towards cure, and thought they should be, at least in the first instance, sent to hospital instead of to an asylum. Moreover, the fear of certification was calculated to drive a threatening case over the borderline into actual insanity. This was especially the case of the poor, who could not afford residence in some of the special homes set apart for this work.

Mr. **C. T. STREET** considered that certification was the crux of the whole matter, but thought there was much nonsense talked about certification. It was difficult to give many cases proper treatment without certification.

Dr. **LEWIS** said there seemed to be a strong opinion in favour of some alteration of the law with regard to certification of patients and it was true that some patients sent to asylums would have been better treated outside those institutions. For this purpose, however, there should be a system of notification as opposed to certification, though perhaps there would be a difficulty in that from the point of view of the public. The medical students' curriculum was already so crowded that he did not think it wise to attempt to include definite teaching of insanity in it, especially as that subject could not be learnt from books.

Dr. **WILLIAM R. DAWSON** agreed with what had been said as to the exaggerated ideas which prevailed concerning effects of certification upon patients. His experience was that it had no adverse effect upon them. The relatives were much more upset by certification than were the patients themselves. He referred also to the unsuitability of ordinary hospital nurses for mental cases. With regard to the unification of the specialties of neurology and psychiatry it was much easier for the psychiatrist to become a neurologist than *vice versâ*, for psychiatry could not be learnt from books; there was only one road to knowledge of mental diseases and that was active residence in an asylum and being constantly with mental cases.

Dr. **MAURICE CRAIG** commented on the regrettable lack of hospital accommodation for acute mental cases in the poorer classes, the need for which was manifested by the great number of applications for admission to the Lady Chichester Hospital which Dr. Boyle was in charge of. On this question of certification a great deal was made of the "liberty of the subject," but the lawyers were really greater opponents of that in this matter than the alienists.

Dr. **J. FRANCIS DIXON** agreed with Dr. Craig's remarks, and thought some provision should be made for asylums taking in voluntary boarders.

Mr. **H. E. HAYNES** thought the present English law bore hardly upon mental patients.

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EDINBURGH OBSTETRICAL SOCIETY.

Gift of a Presidential Chair.—Stillbirth Registration.

A MEETING of this society was held on May 13th, Sir J. HALLIDAY CROOM, the President, being in the chair.

The PRESIDENT intimated the gift of a Presidential Chair from Dr. H. M. Church: it is decorated with the crest and motto of the society—viz., the beautiful head of Lucina (or Juno), the goddess who presided over marriage and childbirth, with an olive branch and young olives on either side, intertwined with the motto "Floreat Lucina." The society was founded in 1840.—Dr. CHURCH was very cordially thanked for his gift and made a suitable reply.

was to send people to asylums, forgetful of the numbers who were prevented from entering asylums owing to appropriate early treatment.

Dr. PERCY SMITH pointed out the administrative difficulty concerning the provision of beds for early mental cases in general hospitals. At St. Thomas's and other general hospitals there was an out-patient department for mental cases, and he believed it was of great benefit. But there were some cases which from the first required asylum treatment.

Dr. JAMES STEWART expressed the hope that the public would be brought to see the difficulties which were associated with this subject, and supported the authoress's plea for a closer association between the neurologist and the alienist.

Dr. BEDFORD PIERCE hesitated to speak on this subject because we knew so little as to the causes of these early cases of mental disorder and so little as to what was best to be done for them. He recently, for the purposes of a debate, inquired the views of a number of physicians and busy practitioners, and the inquiry revealed a remarkable difference of opinion.

Dr. NOEL SERGEANT deprecated importing too much sentiment into the matter and the talk of the "shame" of certification, especially as certification was a safeguard both for the general public and for the patient himself, and so giving him the best chance for recovery.

Dr. T. B. HYSLOP said that in border-line cases there had always been a difficulty, and probably there always would be. And there was the risk of illegality in institutions which were not under the regulations of the Lunacy Act. He also discouraged any tendency of one specialty, such as psychiatry, throwing stones at another, neurology.

Dr. H. F. HAYES NEWINGTON said that a large section of the public thought that insanity was cured by scientific observations and the use of sera, but the prime and most important step towards cure was to take the patient out of the surroundings in which the defect occurred, and, indeed, there seemed reason to believe that this one step was responsible for some patients getting well. There were many difficulties in connexion with placing patients under suitable care, and these the bulk of the public had no conception of.

Dr. H. CORNER, speaking of an experience of 17 years, during part of which time he had had care of a home, said he fully recognised the difficulties of the position. But there was need for early treatment of cases on lines which the existing law did not provide for. He detailed suggestions which he made to the authorities in connexion with two attempts at legislative amendment.

Dr. C. F. FOTHERGILL spoke of the importance of taking harassed and run-down people away from their mischievous surroundings as the first step towards cure, and thought they should be, at least in the first instance, sent to hospital instead of to an asylum. Moreover, the fear of certification was calculated to drive a threatening case over the border-line into actual insanity. This was especially the case of the poor, who could not afford residence in some of the special homes set apart for this work.

Mr. C. T. STREET considered that certification was the crux of the whole matter, but thought there was much nonsense talked about certification. It was difficult to give many cases proper treatment without certification.

Dr. LEWIS said there seemed to be a strong opinion in favour of some alteration of the law with regard to certification of patients and it was true that some patients sent to asylums would have been better treated outside those institutions. For this purpose, however, there should be a system of notification as opposed to certification, though perhaps there would be a difficulty in that from the point of view of the public. The medical students' curriculum was already so crowded that he did not think it wise to attempt to include definite teaching of insanity in it, especially as that subject could not be learnt from books.

Dr. WILLIAM R. DAWSON agreed with what had been said as to the exaggerated ideas which prevailed concerning effects of certification upon patients. His experience was that it had no adverse effect upon them. The relatives were much more upset by certification than were the patients themselves. He referred also to the unsuitability of ordinary hospital nurses for mental cases. With regard to the unification of the specialties of neurology and psychiatry it was much easier for the psychiatrist to become a neurologist than *vice versâ*, for psychiatry could not be learnt from books; there was only one road to knowledge of mental diseases and that was active residence in an asylum and being constantly with mental cases.

Dr. MAURICE CRAIG commented on the regrettable lack of hospital accommodation for acute mental cases in the poorer classes, the need for which was manifested by the great number of applications for admission to the Lady Chichester Hospital which Dr. Boyle was in charge of. On this question of certification a great deal was made of the "liberty of the subject," but the lawyers were really greater opponents of that in this matter than the alienists.

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Dr. J. W. **BALLANTYNE** read a paper on Stillbirths Registration at the meeting of the society in March.[1] The subject was referred to the council for consideration and report. The council recommended the following modifications of Dr. Ballantyne's conclusions:—

1. That, in view of the existing confusion in the terminology of stillbirths and allied states, an attempt to reach uniformity of definition should be made.

2. That an Ante-natal Deaths ("Still-births") Registration Act is greatly needed in this country.

3. That the definitions of dead-birth, live-birth, still-birth, and abortion should be so constructed as to be in accordance with the physiology of the time of life dealt with. The following definitions are suggested:—

(*a*) For *dead-birth*—the complete expulsion from the maternal birth-canals of a child which, during or before birth, has lost the characters of ante-natal life (heart-beat, arterial pulsation, and movement).

(*b*) For *live-birth*—the complete expulsion from the maternal birth-canals of a child which, whilst it loses pulsation in the cord, adds *on to the other characters of ante-natal life* the special sign of post-natal vitality—viz., pulmonary respiration.

(*c*) For *still-birth*—the complete expulsion from the maternal birth-canals of a child which, whilst continuing to exhibit one or more of the signs of ante-natal life (heart-beat, arterial pulsation, movement), fails for a time to assume that of post-natal life (pulmonary respiration), and then either loses even the characters of ante-natal life, or is successfully resuscitated (*transanimated*), *and assumes those of post-natal existence.*

(*d*) For *abortion* or miscarriage—the termination of ante-natal life (by the expulsion of the uterine contents) before the end of the sixth month. A *premature birth* is expulsion of the uterine contents after the sixth month, but before the full term, and it may be a dead-birth, a live-birth, or a still-birth.

Dr. W. **LESLIE MACKENZIE** (Local Government Board) said the Notification of Births Act (1907) simply spoke of notifying the birth of a child, and included every kind of birth. Dr. A. K. Chalmers, medical officer of health of Glasgow, had found it of the greatest value in one respect with regard to stillbirths, and he had supplemented it with the free use of the Wassermann reaction. In Scotland, although the Act had not been adopted under pressure to any great extent by the local authorities, yet the actual population under notification was rather more than 50 per cent.; that was, nearly 2½ millions of people were under notification. He felt that three things hung together: the Notification of Births Act, the proper regulation of midwives, and the whole question of infant mortality. The Local Government Board had practically determined that where the Notification of Births Act was not adopted to have it done by themselves. This Act, on the whole, in spite of the unfortunate exception that the medical profession were not paid for the duties required of them, had been fairly satisfactory. There was a danger of confusion in accepting Dr. Ballantyne's definition of stillbirths seeing that that term had such a deep-rooted association with a dead-born child. Personally he would risk the confusion and raise the standard of the practitioner's knowledge. A vast amount of statistics would be obtained, and even if limited would be of great value in the hands of good medical officers of health. Miss Margaret Bousfield, of the National Women's Guild, in a pamphlet laid stress on the compulsory notification of births and the urgent need of attention to stillbirths.

Dr. J. **CRAUFURD DUNLOP** (superintendent of the Statistical Department, Register House) said he was absolutely at one with Dr. Ballantyne up to a certain point. He quite agreed that more accurate definition was required, and interesting and important information might be got, but he disagreed as to the method of getting it. He disagreed about the use of registration for the purpose instead of notification. Vital statistics were a by-product, but were not the primary function of registration. Registration was producing a register for civil rights and records which were preserved and kept for all time. It would be of no interest to anyone 50 years hence that a father or mother had a dead baby. Registration would produce excellent statistics, but these could be got equally well by compulsory notification. One must look at it from the practical aspect. Registration was done by registrars who in Scotland were a very intelligent set of men, but they had no medical knowledge. They would not know whether a child had lived or not, or the duration of pregnancy; they could not question the mothers about their menstruation. The duties were beyond the capabilities of a registrar, and the registration of these cases did not fit in with the established system of registration in Scotland. He considered that if a child capable of re-animation died it should remain on the stillbirths register, and if it lived it should go on to the live register. The principal object of notification was statistical information in order that the medical officer of health might take action and supervise the cases. The medical officer of health should be directly notified, and it should be done in secret. The medical officer of health had the technical knowledge necessary to appreciate it. Notification would not complicate the present good system of national registration, which system primarily was to establish civil rights.

Professor H. **HARVEY LITTLEJOHN** said the chief function of statistics was not purely civil. The registration of vital statistics had been of the greatest importance in combating disease in various forms; nothing more valuable had been done in the cause of preventive medicine. With regard to the paper, what they wanted to know was whether these were dead-born children. He did not know whether medical men wanted an abortion to be notified. They wanted to know whether a child died from constitutional disease (syphilis) or from some accident. He did not think one could get that information. One could not make a distinction if the child died a week before or an hour before birth. The stillborn child was one who was born without giving any obvious sign of life, the heart was still beating, only the respiration was wanting, it was easily revived and came to life. What was to be gained by knowing the child was silent-born? There were dead-born children and live-born children, and he did not think any more was required.

Dr. D. **BERRY HART** said the object of registration was to gain information as to the health of the nation. They wanted to find out the influence of syphilis in producing premature labours and stillbirths; they wanted also to find out the influence of rickets in producing stillbirths from narrowing of the pelvis. Comparison in future years would show whether the national health was improving, and rickets and syphilis were becoming less. He was a little doubtful about the registration of stillbirths; it was a refinement. As many statistics as possible should be obtained, but they should not ask for stillbirths but for live-born and dead-born. He thought the statistics of abortions would be absolutely worthless if they were asked for.

Dr. G. **KEPPIE PATERSON** considered this notification would be far better to go through the hands of the medical officer of health than through those of the registrar; it should be made compulsory all over the country, and to be of value it must be secret between the medical attendant and the medical officer of health. Dr. Ballantyne had defined an ideal scheme to obtain a wider knowledge for the sake of national eugenics. The definitions were ideal, but some difficulty might arise in the notification. If compulsory, some of it would require to be done by midwives. In maternities and in dispensary practice where they could deal easily with a patient they might get important information to notify; but in private practice it might cause a great deal of trouble if the cause of the stillbirth or dead-birth was hereditary. Many were due to syphilis. This was recognised also in the evidence before the Commission on Venereal Diseases, and yet the majority of those with experience were against the compulsory notification of syphilis. If a medical man was compelled to put in the cause of a dead-birth as syphilis, it might involve him in a great deal of trouble in his practice. The husbands mostly deny it. What was one, then, to do? What was to be done to find out the cause? The husband would not submit to a Wassermann test, and what was to be done? If the cause of dead-births and stillbirths was not to be put in, of how much value were these statistics? It would always be a step in the right direction, but it would involve a very serious difficulty. Many medical men would never enter the cause at all or would insert it in such a way as to be useless.

Dr. A. H. F. **BARBOUR** agreed that it would be well to have "abortions" registered so as to show the tendency to diminution; he did not think, however, they would get any statistics because it would be necessary to show that these abortions occurred in the same family, and also that the frequency of abortion showed that it was related to infection. Premature birth resolved itself into the practical question whether the child was alive or not. The time stated of six months might be better extended to the birth of a viable child. What one wanted to get at was the health of the community. In order to do that two classes of cases must be distinguished—one class in which the child died in the uterus and was expelled subsequently, at what time it did not matter; and another class in which the death of the child occurred during the process of labour. In dealing with the latter the subject became complicated. In the first class there was some constitutional cause affecting the health of the community, while in the second one was at once brought up against the possible bad management of the labour on the part of the midwife or medical man. The management of labour was improving; there was now a better class of midwives. If one could prove that the child died during labour, then one was faced with a number of other causes which had nothing to do with the community. He considered it important to get information as to whether the child died in labour or not.

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[1] THE LANCET, March 28th, 1914, p. 886.

Dr. JAMES RITCHIE considered for scientific purposes it would be desirable to have compulsory notification of all pregnancies and abortions, but he did not think it was possible; they would be so incomplete as to be really impracticable. The more vital statistics that could be got the better for health. Notifications should be compulsory after 28 weeks of gestation and made to the medical officer of health, who would collect the statistics that were described and then forward them to the Local Government Board. Medical men and midwives should be paid for it.

Dr. J. HAIG FERGUSON said the paper from a scientific point of view was all that was to be desired, but from a practical point of view it was far too elaborate for any useful practical purpose. From the popular point of view a stillbirth meant a deadbirth. That was seen in the papers every day, and they could not get rid of it.

Dr. J. LAMOND LACKIE could see no reason whatever for registering stillbirths, but all cases of deadborn children ought to be registered; and a difference should be made with regard to ante-natal deaths and stillbirths.

Dr. BALLANTYNE, in reply, said there was an error in the heading, it should be ante-natal deaths (commonly known as stillbirths) or with stillbirths in inverted commas. The question of the practical value of such a measure was the same criticism as applied to all registration and notification such as in infectious diseases and tuberculosis. It might be optional at first to put in the cause, and after some years the insertion of the cause could be made compulsory after the profession had become accustomed to it. He considered that it would be quite possible to get a good result under notification; he could see difficulties with the registration. He was not conscious that he had asked that stillbirths should be separately notified. There was an actual difference in definition between deadbirth and stillbirth. If so, were they to accept the popular opinion? He considered respiration as the best sign of post-natal life; movement was not as it took place in the uterus. The subject they were striving for was the future health of the nation. They wanted to know about the congenital causes of deaths occurring within a few months of birth. He wished to push back the date of viability, as with the better class of incubator the fœtus had been made to survive at an earlier age.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Congenital Pyloric Stenosis.—Thrombosis of the Internal Jugular Vein.—Operative Treatment of Goitre.

A MEETING of this section was held on May 8th, Mr. A. BLAYNEY being in the chair.

Mr. C. A. K. BALL showed a case of Congenital Pyloric Stenosis in an infant aged 7 weeks treated by gastro-enterostomy. He said that three weeks ago he was called to the hospital to see a child whose bowels had not moved for ten days. The child from birth was said to be healthy. Oil and enemata had no effect, and it vomited when fed, and passed no urine. It was, therefore, considered that there must be obstruction high up, and as the child was in a very serious condition it was decided to open the abdomen at once. The pylorus was found to be greatly enlarged, and this enlargement appeared to extend into the duodenum. The swelling was hard and smooth on the surface. Plastic operation was not possible, as the obstruction seemed to be complete and was very hard. It being apparent that the child would die if nothing was done, it was decided to do a gastro-enterostomy. No difficulty presented itself in doing the operation. The child was very weak for two or three days, but in about 24 hours after operation the bowels moved, and three weeks after the operation it was quite strong and healthy.

Mr. W. PEARSON showed a specimen of Thrombosis of the Internal Jugular Vein removed from a boy, aged 14, who suffered from mastoiditis. One side had been operated upon, and while waiting to have the opposite side done he developed a high temperature, a foul-coated tongue, and rapid pulse. The optic discs were normal, and no mental symptoms were apparent. There was no tenderness over the mastoid, but there was extreme tenderness down the neck over the course of the jugular vein. It was obviously a case of infection of the lateral sinus. He described the operation which was carried out. A clot tapering off to the lower end was discovered. This clot extended down into the innominate vein. Thrombosis was present in all the branches round the vein. The vein was divided at the posterior belly of the omohyoid, and it was determined to remove the clot which was in the vein. A radical mastoid operation was then done, and round the sinus pus was found. Saline was irrigated through, the neck wound was drained, and the sinus packed with gauze. He considered that the infection took place through the lymphatics. The case was not much improved by the operation, and terminated fatally on the fourth day.

Mr. D. KENNEDY discussed the indications for Operation in Goitre and Exophthalmic Goitre, and gave details of the treatment as carried out by him. He advocated early operation in all cases, and always employed general anæsthesia.—Mr. BLAYNEY said he thought the question of operation in cases of exophthalmic goitre was not so easy. He suggested a classification into two distinct types. A patient might have had an enlarged thyroid for years, and in such a case the increase in the rapidity of the pulse was generally moderate and the degree of hyperthyroidism was not great, and with such a patient the operation was attended with no more than the ordinary risk. On the other hand, in cases where the gland was vascular, where there was great rapidity in the pulse and the skin was constantly moist, and there was evidence of sugar in the urine, he considered operation dangerous. If the operator treated cases of the first type it would be quite possible for him to produce good statistics, but in the latter class of cases he thought the death-rate would be higher than 4 per cent. He pointed out that Mayo recommended that the latter class of cases should not be touched. His own experience of exophthalmic goitre was confined to the first type of case.—Sir JOHN LENTAIGNE said he agreed with Mr. Blayney that there were cases of exophthalmic goitre which should be well considered before operation was undertaken, and that there were cases of another type not much more troublesome than cases of simple goitre. He considered that the use of local anæsthesia could hardly be foregone, and that in cases in which there was great dyspnœa etherisation appeared to increase the size of the goitre and thus increase the danger. He suggested that where local anæsthesia was employed a screen should be used to prevent the patient from seeing the blood. He considered that the disease was becoming more common than it was years ago.—Dr. W. M. CROFTON said he did not think the physician was so hopeless in the treatment of these cases as Mr. Kennedy seemed to suggest. If the tumours were causing dyspnœa surgical interference should, of course, be sought, but he had seen several cases in which the exhibition of pituitary and suprarenal extract had made the goitre disappear.—Mr. W. PEARSON said he agreed that sometimes medical treatment in those cases was efficient, but there could be no doubt that medical treatment would not remove a cyst from the thyroid. He disagreed that the physician was the best person to decide when a patient should be operated upon, as there was a danger that he might be opposed to operation until such time as the kidneys, heart, and liver had undergone permanent organic changes, and this should not be waited upon before the operation was undertaken. In all early cases, where the symptoms were mild, he suggested that medical treatment should be given a trial. If a case in which there was no glandular enlargement did not respond to medical treatment, he considered that the right surgical treatment would be pole ligation instead of extirpation; but ligation of the arteries alone would not, he thought, suffice. Post-operative treatment he looked upon as important, the most important thing being to give the patient large quantities of saline for the first 48 hours. Acute thyroidism coming on after operation he thought was largely due to rough handling during the operation, and not to absorption from the cut surface of the gland.—Mr. KENNEDY, replying, said he never advocated operation in all cases of exophthalmic goitre, although he suggested that if all cases were operated upon early no difficulty would be experienced. He thought it was generally admitted that when medicinal means were successful the success was due to the rest rather than to the drugs used. One of the motives of his paper was to call the attention of physicians to the good results of operative treatment in these cases. He considered that the adhesion of the lobe to the trachea was a common reason for dyspnœa. He agreed that post-operative hyperthyroidism was due to rough handling during the operation.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held at the Royal Devon and Exeter Hospital on May 8th, Mr. Ransom Pickard, the President, being in the chair.—Dr. R. V. Solly showed: 1. A case of Actinomycosis of the Jaw in which he had combined vaccine treatment with iodide of potash, the former seeming to have greatly influenced the cure of the case. 2. A girl with Hypertrophy of the Left Side of the Trunk and of the Left Arm and Leg, with lack of power on this side and lowered temperature. Dr. Solly suggested the pituitary body as a possible source of the condition. 3. Cast of Œsophagus from a case of fibrinous inflammation of the œsophagus. 4. Alveolar Sarcoma of Skin. 5. Spleen from case of spleno-medullary leucocythæmia, together with blood films from the same.—Mr. Russell Coombe showed a case of Mucocele of Appendix.—Mr. A. L. Candler read a paper entitled "Experimental Proof of the Value of a Mask over the Surgeon's Mouth during Operations." He said he had experimented with B. prodigiosus for the reasons (1) that it was absent from ordinary air and from the mouth; (2) that it grew in red colonies and therefore could easily be distinguished from other organisms macroscopically; and (3) that it was non-pathogenic. These bacilli were added to water until the mixture was turbid and slightly pink, and Mr. Candler then filled his mouth with the suspensions thus formed, gargled, and immediately proceeded to either breathe, speak, cough, or sneeze, without or with a mask, over a series of sterile agar plates. Any red colonies of micro-organisms found on the plates after incubation must therefore have come from within his mouth. The plates used were of agar in Petri dishes of a diameter of 3½ inches, and the mouth was held in all cases 18 inches away from the plate. Each experiment was conducted in a separate room in order to avoid any air infection of the plate from a previous experiment. The mask used was of fine butter muslin reinforced with plain gauze over the nostrils and mouth. In some tests six layers of gauze were used and in others eight. A table prepared from the results showed that with quiet breathing and speaking no B. prodigiosi left the mouth. Coughing for two minutes caused only a few bacilli to be expelled, and these were controlled by a mask of eight layers of gauze, four being insufficient. One sneeze produced 130 colonies in a circle of 3½ inches at a distance of 18 inches, and Mr. Candler had found even eight layers of gauze insufficient to keep back an organism during prolonged sneezing, although, of course, there was reduction in the infection. Mr. Candler said that in his experiments the mask had been subjected to far more severe tests than would occur in surgical practice, and therefore such a mask was efficient and useful to the surgeon, for with it he could speak, clear his throat, and even cough without fear of infecting the wound. He recognised that objection to masks was sometimes raised by surgeons who wore spectacles, but in the pattern he described (and showed) to the meeting the disadvantages were obviated. Finally, Mr. Candler hoped that he had shown that a mask, such as he had described, was not only necessary, but efficient, and a very safe guard to the patient during surgical operations.—In the discussion which followed the President said he had so far hesitated from using a mask in operations upon the eye, which were usually of brief duration.—Dr. W. Gordon alluded to the carrying power of a sneeze and its importance both from a medical and a surgical point of view.—Mr. Robert A. Worthington was confirmed in his own mind that masks were unnecessary. He excepted operations on bone and in the neighbourhood of joints.—Mr. Russell Coombe adopted a mask in heavy operations, such as removal of ovarian cysts, where free perspiration was likely to be caused to the surgeon.—Mr. Candler, in his reply, said that everything should be done with a view to diminishing infection of wounds and making for the comfort of the patient. If surgeons admitted the necessity of a mask in bone operations it showed a mistrust of their own mouths, which went to support the case he had sought to prove.

ULSTER MEDICAL SOCIETY.—A meeting of this society was held in Queen's University, Belfast, on May 14th, Mr. A. B Mitchell, the President, being in the chair.—Sir John Byers showed a mounted specimen of the Uterus, Ovaries, and Tubes, injected after the Spalteholtz method, by which, through transmitted light, the various parts were clearly displayed, especially the arteries and veins, in a way that no other method yet devised could at all equal. He also exhibited a model of a Female Pelvis with the various organs and structures *in situ* which, he said, was of great value in clinical teaching, as it enabled students to recognise better the landmarks.—Mr. R. J. Johnstone showed a Uterus which he had removed by Wertheim's method for a malignant adenoma from a married woman. He also exhibited an early Ovum from a case of extra-uterine pregnancy, and a very large Tuberculous Pyosalpinx.—Dr. J. M. Gibson read a paper on the Experimental Production of Heart-block. A frog was perfused with a weak solution of yohimbin, a drug obtained from a plant in Central Africa, which caused heart-block by acting on the auriculo-ventricular bundles of His. After a time adrenal solution—which is a stimulant—was perfused, and gradually the condition of heart-block passed off. Under both conditions Dr. J. E. MacIlwaine took records and electrocardiograms, which were shown and compared with the condition of heart-block as it attacks the human being, the various tracings being very much alike.—Professor T. H. Milroy gave an account of hydrogen ion concentration changes in the blood during apnœa, and he and Dr. Gibson also gave an account of changes in the reaction of certain of the body fluids—blood, gastric juice, and milk.—An interesting discussion followed, in which Professor J. A. Lindsay, Dr. J. L. Rentoul, Professor Milroy, Sir John Byers, Dr. MacIlwaine, and the President took part.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on May 1st, Mr. A. Ernest Maylard, the President, being in the chair.—Dr. George A. Allan demonstrated a case of Complete Heart-block in a patient who for the past ten months had been subject at frequent intervals to fainting fits with loss of consciousness. These fits were associated with the inception of a very slow ventricular rhythm, varying from 20 to 40 per minute, and dependent on complete heart-block. No other manifestations of the Stokes-Adams syndrome, such as general convulsions, were present. The Wassermann and luetin tests were positive, and gummata were present on the iris. Polygraph tracings showed complete dissociation of auricular and ventricular contractions, the former numbering 75 to 96 and the latter 22 to 27 per minute.—Professor T. K. Monro, Dr. G. H. Edington, and Dr. J. Shaw Dunn described a case of malignant ganglio-neuroma of the suprarenal in a boy aged 3½ years, and gave a microscopic and lantern demonstration. Post-mortem examination showed a tumour the size of a large orange in the left suprarenal body with metastatic deposits in the retroperitoneal, mesenteric, mediastinal, cervical and inguinal glands, and in the bones of the skull and the ribs. Part of the tumour was firm and pale and was composed of mature nervous tissue—ganglion cells and fibres; part was soft and obviously malignant, and was composed of smaller cells and fibrillæ corresponding to the embryonic nerve cells and fibrillæ which form the sympathetic nervous system in normal development.—Professor Monro and Dr. G. Haswell Wilson reported a case of Malignant Tumour of the Neck which involved the spine and the cervical and brachial plexuses.—Dr. Edington showed a youth, aged 16, on whom he had operated on Oct. 16th last for laceration of the right kidney. The lad had sustained the injury by falling on the deck of a torpedo boat and striking his back against a fixed ring projecting from the deck. Laparotomy by transverse incision was performed, and the right kidney was found in two completely separated parts and was removed. The left kidney appeared normal. Recovery was excellent.—Dr. Edington and Dr. Dunn showed a Partially Pyonephrotic Kidney, with double ureter and pelvis. The specimen was obtained from a married woman, aged 33, who had a history of pain in the right side with bilious vomiting occurring at intervals for the past six years. Latterly there had been swelling in the right flank disappearing coincidently with free flow of muddy urine; the urine contained pus. The patient sweated at night and had lost flesh. Nephrectomy was performed through a transverse incision through the anterior abdominal wall; the other kidney appeared normal, and the patient made a good recovery. The excised kidney proved to have a double ureter and pelvis; the pyonephrosis affected the lower pelvis. The upper ureter led to a normal pelvis and kidney perched on the upper surface of the cyst. There was nothing to indicate the cause of development of the obstruction; no calculi were found in the pelves or ureters.—Mr. Henry Rutherfurd showed: 1. A Colon with Ulceration and Perforation of the Root of Volvulus of Sigmoid after operation for reduction. The patient was a man aged 65, bedridden and paralysed. 2. The parts concerned in a Fracture of the Femur by direct violence, where gangrene resulted from pressure by the lower fragment on the femoral artery and vein at the lower end of Hunter's canal. The vessels were not torn but had been hooked round to the outer side of the femur by displacement of the lower fragment. 3. Water-colour drawing of a case of Gangrene of the Penis in a man aged 32, from causes so far unexplained. There was no evidence of gonorrhœal infection. 4. A fresh specimen of Chorion-epithelioma of the Uterus.

Reviews and Notices of Books.

La Geographia Medica de la Peninsula Iberica.

By Dr. PH. HAUSER. Three volumes. Madrid: Eduardo Arias. 1913. Pp. 633 + 611 + 364.

IN his preface to this monumental work on the demography of the Iberian Peninsula Dr. Hauser speaks of Spain as his adopted country, and alludes with feeling to the 40 years he has spent there in professional and literary work. Spain has reason to be grateful to her naturalised son, for Dr. Hauser has striven with unwearied energy and conspicuous literary ability to convince the Spanish authorities, national and municipal, of the appalling amount of mortality and unnecessary suffering directly due to apathy in matters of hygiene and sanitation, and of the urgent necessity for sanitary reform and for efforts to provide a pure and abundant water-supply in the many towns and districts in which the water at present available is both scanty and contaminated. In 1883 Dr. Hauser published his "Estudios Medico-topographicos y Sociales de Sevilla" in two volumes, and followed later, in 1903, with a similar work on Madrid, "Madrid bajo el Punto de Vista Medico-social."[1] Again, in 1887 there appeared from Dr. Hauser's pen a work in three volumes based on the experiences afforded by the great cholera epidemic in Spain in 1885, "Estudios Epidemiologicos Relativos a la Etiologia y Profilaxia del Colera." The interest excited by these essays in demography, both in Spain and beyond her borders, inspired Dr. Hauser with the design of dealing fully with the climatology and medical geography of Spain and Portugal, and the present work is the result.

The first volume is devoted chiefly to a detailed study of the climatology of the peninsula. Among the various factors determining climate Dr. Hauser rightly regards physical geography as of fundamental importance, and accordingly he devotes Part I. of the volume, comprising Chapters I. to VII., to a description of the general surface contour of the peninsula, its mountain and river systems, its geology, and the geotectonic evolution of the peninsular mass. All this might sound more fitted to a technical work on geography than to a medical treatise; its bearing, however, on the lives and health of the human inhabitants of the regions described is never lost sight of. Part I. closes with an interesting chapter on the mineral waters of Spain in relation to the evolution and geological structure of the Peninsula, in which the author marshals a mass of facts which help towards an understanding of the relation existing between the chemical and mineralogical character, physical action, and temperature of the various medicinal waters and the geology of the districts they traverse and in which they issue to the surface. The second part of Vol. I. deals with climatology proper, opening with a chapter on the influence of the soil on climate. The combined influence of the soil and of atmospheric conditions on the flora of the peninsula is next discussed, this section containing an interesting description of the steppes of Spain, which with Hungary is the only European country outside Russia possessing true steppes. In the remaining chapters of Part II. rainfall, humidity, evaporation, and atmospheric pressure in the above zones are dealt with, and the section closes with a brief account of the powerful effects of solar radiation and a final chapter on the volcanic areas of Spain and on earthquake action. Part III. deals with the ethnic evolution of the Iberian peninsula from prehistoric to modern times and the bearing thereon of its geological development, an interesting account being given of the anthropometry of the different zones and the distribution over the peninsula of brachycephalic and dolichocephalic types. The volume is enriched by a large number of excellent maps and plans, and a series of elaborate meteorological charts.

The second volume is devoted to demography proper. Part I. deals with the movement of population in Spain and Portugal, with birth, marriage, and mortality rates *en gros*, and with emigration, and concludes with an interesting account of the beautiful but almost uninhabited region, the Alpujarras, and of Las Hurdes, an isolated district in the centre of Spain, whose miserable inhabitants live under conditions of unimaginable squalor, compared with which the worst conditions prevailing in the west of Ireland in the worst times of last century can be regarded only as luxurious. Part II. deals with the hygienic and sanitary conditions of the towns and provinces of Spain, and gives a detailed survey of the vital statistics of Spain as regards the chief infective fevers during the years 1900–06. This survey is followed by chapters on tuberculosis, cancer, and paludism, which are of special interest.

The third volume deals with the slowly developing infections—leprosy, pellagra, syphilis, goitre, and ankylostomiasis—and discusses the distribution of arthritism and alcoholism, and the influence of the physico-chemical characters of the soil of certain regions in Spain in the etiology of such diseases as cholera, enteric fever, rickets, and arterio-sclerosis, with its pendant cerebral hæmorrhage. Several chapters are devoted to the distribution of disease throughout the peninsula, as shown in tables of mortality, and the work concludes with a full and interesting account of suicide in Spain.

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[1] Reviewed at length in THE LANCET, Feb. 21st, 1903, p. 523.

We cannot speak too highly of Dr. Hauser's work as a whole; it is a monument of enlightened industry. The work, moreover, is admirably got up, and both the printing and the reproduction of maps, plans, charts, and tables are deserving of every praise.

Handbuch der Tuberkulose.

In fünf Bänden. Herausgegeben von L. BRAUER, G. SCHRÖDER, F. BLUMENFELD. Vol. I. With 116 illustrations, curves, coloured plates, and photographs. Leipzig: J. Barth. 1914. Pp. viii. + 792. Price, paper, 35 marks; bound, 37 marks.

TEN years ago Schröder and Blumenfeld published their well-known text-book on the treatment of chronic phthisis. They have decided to issue its second edition in the form of a massive "Handbook of Tuberculosis" in five volumes, of which the first has just appeared. In addition to the three editors, 45 contributors are mentioned on the title-page, almost all of them Germans.

The first volume is divided into two sections, the first given up to general considerations, the second beginning the description of pulmonary tuberculosis. There are nine contributors to the first section, which leads off with a historical review of tuberculosis by Predöhl, perhaps a rather perfunctory account of a subject that this well-known historian of tuberculosis might have made much more illuminating. The pathological anatomy of the disease is described by Tendeloo; the tubercle bacillus itself is the subject of a very thorough article of 160 pages by Much, who also contributes 94 pages on the subject of immunity to tuberculosis. He agrees with Römer in believing that the tuberculous infection during infancy or childhood, which is so common as to be an inevitable incident of life in civilised countries, affords a most valuable degree of acquired immunity to subsequent infections with tubercle bacilli. Inherited immunity to tuberculosis, handed on from mother to child, he believes to be of but trifling and transient importance. Some account of tuberculosis in animals and the way in which it must be combated is contributed by C. Dammann, and this article contains a quantity of interesting information usually to be met with only in veterinary works. In the second section of the volume are half a dozen articles on various aspects of the diagnosis of pulmonary tuberculosis and on the clinical forms of this disease. An excellent account of the clinical significance of the various tuberculin reactions is given by J. Ritter, who comes to the conclusion that the results yielded by these tests are often not in themselves enough to enable the question, "Does the patient require treatment?" to be answered; it is often necessary to keep the patient under observation for a time in order that clinical evidence as to his condition may be obtained, and his social condition must also be taken into careful consideration.

It is not possible in a short review to do justice to the many excellences of this encyclopædic work. It is well written, though naturally somewhat uneven in merit; countless references to the literature are given; the illustrations are well chosen, and many of them are very good. Full justice is done throughout to the work of the German school of medicine and pathology; the French, American, and English writers on tuberculosis, though not wholly neglected, appear generally to receive scantier notice in this volume than they deserve. The "Handbook" promises to be by far the most complete account of tuberculosis in existence.

Defective Ocular Movements and their Diagnosis.

By E. and M. LANDOLT (Paris). Translated by ALFRED ROEMMELE, M.B., Ch.B. Glasg., and ELMORE W. BREWERTON, F.R.C.S. Eng. London: Henry Frowde and Hodder and Stoughton. 1913. Pp 99. Price 6s. net.

Dr. E. Landolt has long been an authority on the ocular muscles. He has repeatedly written on the subject both in French and German. In this small volume, in which he has associated with his son, Dr. M. Landolt, a lucid and accurate résumé of the chief facts of the anatomy, physiology, and derangements of the extrinsic ocular muscles is given. So small a book devoted to so large a subject can be little more than a notebook of the more prominent facts, but, as is often the case in French works, it reads less like a précis than might be expected. We note that very little space is allotted to concomitant strabismus, and such as it is, the reference is chiefly to the differential diagnosis from paralytic strabismus.

This brochure is, indeed, so condensed that it can be commended rather as a useful reference book than as a guide to the student. A sound diagnosis in the cases met with clinically cannot be formed without an accurate knowledge of the symptoms and signs of paralysis of individual muscles, and such knowledge is concisely and clearly stated here. Clinical experience, however, shows that what may be called the academic paralyses occur relatively seldom and offer little difficulty. The really difficult cases are those of partial paralysis, often showing an unexpected grouping of muscles. When these are combined with latent squints, rendered manifest by the abnormal paresis, great difficulty may be experienced, and it is to be regretted that writers on the subject do not pay more attention to these, which are perhaps the most important cases.

The book has been well translated, but is not free from misprints. A table of contents would have been advantageous, for the arrangement of the sections is somewhat unusual.

Manual of Obstetrics.

By JOHN OSBORN POLAK, M.Sc., M.D., Professor of Obstetrics and Gynæcology in the Long Island College Hospital; Professor of Obstetrics, Dartmouth Medical School, &c. London: D. Appleton and Company. 1914. Pp. 468. Price 12s. 6d. net.

THE object of this book is to place the essential facts and principles of obstetrics within the easy grasp of the student. It is intended as a systematic introduction to more elaborate treatises, and as the author points out in his preface his experience has shown him that if the student can be made to master the elements of a subject, complete and systematic knowledge of it becomes a matter of easy growth. Practical topics have received most attention and emphasis is given to them by the use of italics.

In the chapter on reproduction we notice that the statement is made that some of the male sex cells acquire two accessory chromosomes during maturation: these spermatozoa give rise to female offspring, while the spermatozoa which develop without the accessory chromosomes give rise to male offspring. We were not aware that this fact had been definitely proved in man, although it has been shown to be probably the case in some other animals. In a book which is intended to be primarily practical it seems rather anomalous to devote nearly 80 pages to anatomy and development and some five pages to a list of anomalies.

The section on the management of labour is well written and full. We cannot, however, agree that the membranes should be preserved until they protrude at the vulvar orifice; when this occurs it practically always means that the amnion and chorion have been separated from one another, and this certainly encourages retention of a portion of the chorion. Nothing is said of the danger to the fœtus of giving morphia and scopolamine for the production of "Dämmerschlaf." In the section on the treatment of labour in flat pelves with a conjugate of 2¾ inches or less, Professor Polak says that at full term Cæsarean section or the Porro operation is indicated; we presume he really means supravaginal hysterectomy after Cæsarean section, as we note that on p. 411 he points out that the classical Porro operation is now practically superseded by the modern supravaginal amputation. The section on the treatment of placenta prævia is entirely in accord with the best English teaching at the present time, and it is interesting to note that the author is not very enamoured of the treatment by Cæsarean section. In any condition in which it is necessary rapidly to terminate the pregnancy and the cervix is undilated and rigid, vaginal Cæsarean section is recommended. In the prevention of ophthalmia neonatorum the fact that when the eyes are properly treated with silver nitrate or argyrol the immunity is practically absolute is well borne out by the experience during the past year of one of the largest extern maternities in London. During the year only one case of ophthalmia occurred, and in that instance the student attending the case had forgotten his bottle of silver nitrate.

This is a good book, much better than many more pretentious manuals, and the teaching is practical and based on sound principles.

Materia Medica, Pharmacology, Therapeutics, Prescription Writing, for Students and Practitioners.

By W. A. BASTEDO. London: W. B. Saunders Company. 1913. Pp. 602, with 60 figures. Price 15*s.* net.

THIS workmanlike volume is an adaptation, for the most part, of lectures delivered at Columbia University. It is divided into three parts. Part I. gives an introduction to the study of pharmacology, its objects, methods, and scope. Part II., occupying 470 pages, is devoted to the consideration of all the various drugs in common use, grouped according to their special therapeutic properties. Lucid descriptions of the way in which the various drugs act are given, particularly from the point of view of experimental physiology. An excellent characteristic of the book is the fulness with which the more important drugs are considered, such as digitalis, nux vomica, and belladonna. The author is thoroughly up to date, and offers his readers good résumés of current views upon the actions of these and many other drugs. He is perhaps a little severe on smokers, quoting with apparent approval the highly coloured statement that "it is generally conceded that the use of tobacco by college students is closely associated with idleness, lack of ambition, lack of application, and low scholarship." Part III. is an account of how to write prescriptions. The author advises that these should be written in Latin. The United States Pharmacopœia, and the National Formulary ("N.F.") of the American Pharmaceutical Association, which attempts to standardise some of the non-pharmacopœial preparations commonly used in America, are naturally the pharmaceutical authorities to which Dr. Bastedo chiefly refers.

The book is well got up and well printed; it has an excellent index and but few misprints. It may be pointed out, however, that the spellings "anidrotics" and "anhydrotics" (pp. 386, 565) are both incorrect, and therefore inferior to "anhidrotics," as applied to remedies designed to diminish sweating. Dr. Bastedo's book is not written with the object of getting students through formal examinations; it contains a large amount of sound practical advice, and may be recommended to the attention of all practitioners of medicine who wish to know what drugs to give and why to give them.

Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India.

New Series, No. 60. *Studies on the Mouth Parts and Sucking Apparatus of the Blood-sucking Diptera.* No. 4. By Captain F. W. CRAGG, M.D., I.M.S. Calcutta: Government Printing Department. 1913. Pp. 78. Price 1*s.* 9*d.*, or Rs. 1.2.

WE have recently noticed other contributions to this useful series, and among the authors of those contributions Captain Cragg has appeared more than once. The present memoir is the fourth of the "studies," and deals with the comparative anatomy of the proboscis in the blood-sucking Muscidæ, with the genera Musca, Philæmatomyia, Stomoxys, Hæmatobia, Hyperosia, and Glossina. The text is illustrated by five plates in which the mouth parts are clearly displayed in large and therefore readily intelligible figures. But the work is of a purely technical character, serving as a contribution to anatomical entomology; it deals with more general matters only in an incidental way. The whole question, however, of the habits of these flies, so closely associated with the transference of parasitical disease, cannot be entirely evaded, even in the most technical of memoirs of the character of that which we notice here. And in fact Captain Cragg has a not uninteresting section upon the development of the blood-sucking mode of life in the Muscidæ.

He points out that the non-biting flies of the genus Musca are mostly omnivorous in habit, and particularly affect animal juices; it is a matter of common observation that they are especially attracted by wounds, upon the exudations from which they feed; they will also form temporary associations with actual blood-sucking flies, taking advantage of the wounds which the latter have caused and filling themselves with the flowing blood after the Hæmatobia or other biting form has become replete and flown away. Furthermore, it seems possible that the "teeth" upon the prestomium may at least clear away a clot and permit access to the blood or other animal juice beneath. It seems therefore reasonable to suppose that an accentuation of these teeth combined with other structural changes in the mouth parts may have succeeded to such habits, and in course of time have converted an omnivorous muscid to a purely blood-sucking form. It would follow from this that the parasites originally belong to the flies and not to the vertebrates which the modified forms bite.

Physiological Histology of Man and Mammalian Animals.

Illustrated by Microscopic Preparations, with Explanatory Text and Drawings. By Professor Dr. FR. SIGMUND, Teschen (Austria). English edition by C. LOVATT EVANS, University College, London. In ten parts, each consisting of a case of specimens and text. Price, single parts 10*s.* 6*d.*; by subscription 10*s.*, with postage extra. London: English Agents, Messrs. Carl Zeiss, Limited.

THE complete work, of which we have received parts 1 to 6, will consist of ten "parts." Each part comprises (1) a case of 10 to 13 microscopical preparations mounted on 10 slides—each slide is labelled, the names being given in German, French, and English; and (2) an explanatory text of 16 to 24 pages with 20 to 30 figures in black and white after original drawings by the author.

It is claimed that the text and preparations will be useful to the biologist, zoologist, botanist, physiologist, and medical practitioner. There are, however, few medical practitioners who can afford to pay £5 for 100 microscopic preparations; and, as a matter of fact, in every well-equipped medical school where animal histology is well taught each student at the end of the course possesses a collection of microscopical specimens of normal tissues and organs, partly prepared by himself, and partly sections made for him by well-known laboratory methods. It is no uncommon thing for each student of histology in this country to make a collection of 200 specimens or even more, including not only sections prepared by the ordinary methods, but also specimens showing the terminations of nerves in the cornea, motor plates in muscle, the cochlea, and the central nervous system stained by the well-known Golgi, Cajal, and Weigert methods. We, therefore, doubt whether such sections, however well prepared and arranged, will be required by medical practitioners who were well grounded in histology during their student days. The preparations, we should add, are neatly mounted.

LIBRARY TABLE.

A Digest of the Law and Practice Relating to Local Government in England and Wales (including London). By ARTHUR D. DEAN, F.L.G.A., Solicitor of the Supreme Court, and E. J. RIMMER, of Lincoln's Inn and the Northern Circuit, Barrister-at-Law. London: Butterworth and Co. 1914. Pp. 333. Price 5s. net.—The joint compilers of this work profess to have aimed at providing a work suitable for students, officials, and councillors alike, and generally speaking they have done so. The subject, however, is a very large one, and the task of analysing and extracting the essential parts of statutes and of presenting them with clearness and accuracy is not lightly to be undertaken. We do not profess to have checked every detail in this book, but from what we have seen in portions likely to be of interest to the medical profession more meticulous care might have been exercised with advantage. We are, for example, not inclined to accept the definitions given of the coroner's powers, either where it is stated that his duty in the City in relation to fires is only "to inquire into incendiary fires," or that his principal duty is to hold an inquest over the body of "any person who has been killed, or who has died in prison, or who has died suddenly if the cause of death be unknown." The section under which coroners hold inquests would indeed be a puzzling one if it was so worded. Again, on consulting the index we are referred to p. 19 for the powers of a medical officer (presumably a medical officer of health) as to factories and workshops. At the page named, however, the regulation of hackney carriages is the subject treated. Misprints in an index are often very inconvenient, more so, of course, than unimportant literal errors in a paragraph of the text. We have not checked the "Table of Statutes," but glancing at it in connexion with subjects of medical interest we find no reference in it (or in the paragraph on medical inspection of school children) to the Local Education Authorities (Medical Treatment) Act, 1909. It is difficult to include everything in a comparatively brief synopsis, but we see no reason to omit this Act if the subject is to be dealt with, and conclude that the absence of reference to it is accidental.

Lectures on Medical Diseases for Nurses. By DAVID FORSYTH, M.D., D.Sc. Lond., F.R.C.P. Lond. London: Baillière, Tindall, and Cox. 1914. Pp. 222. Price 3s. 6*d.* net.—This little work does not deal at all with nursing, but aims only at giving such an account of medical diseases as shall be intelligible to nurses and add to the interest of their cases. It is clearly and simply written and seems well adapted to the end in view. The author believes, we think rightly, that those nurses are keenest to learn about the nature of disease who best appreciate the limits of their own province. Some general remarks are made on treatment, prescriptions, and dietaries, and then the chief diseases of the various organs are considered in order, their causation and principal features being described and the main lines of treatment indicated. Dr. Forsyth emphasises the fact that not the disease alone but the patient has to be treated. The experienced nurse knows this well, and it is very necessary that from the beginning of their training the probationers should fully realise that such is the case. In the chapter on hysteria and psycho-neuroses the author deals adroitly with a very difficult subject. Throughout the book there is a considerable use of anatomical and pathological terms which no doubt would receive oral explanation in a lecture.

Notes on Midwifery, especially for Midwives. By C. F. LASSALLE, M.D., C.M. Edin., D.P.H. Oxon., Government Medical Officer, Port Health Officer, Port of Spain, Trinidad. Edinburgh: William Bryce. 1913. Pp. 126. Price 2*s.* 6*d.* net.—This little book is a reproduction of the lectures on midwifery given by the author to nurses at the Colonial Hospital, Trinidad. It is a series of notes, expressed in clear and simple language, of just those facts which nurses require to know, and should prove useful to the class for whom it is intended. The rules of the Midwives Board are added, and there is also a useful glossary of terms in common use.

JOURNALS AND MAGAZINES

Journal of Anatomy and Physiology. Conducted by Sir WILLIAM TURNER, K.C.B., ALEX. MACALISTER, ARTHUR THOMSON, ARTHUR KEITH, and ARTHUR ROBINSON. Vol. XLVIII. Third Series, Vol. IX., Part III. April, 1914. London: Charles Griffin and Company, Limited. Published quarterly at 6*s.*; annual subscription 21*s.*, post free.—This issue contains an unusual number of interesting contributions, and is especially welcome for the fact that nearly every branch of anatomical study is represented.—Professor Peter Thompson contributes to the study of embryology an interesting paper on the Development of the Lobus Quadratus of the Liver. This paper is well illustrated by reconstruction models, &c., and it confirms in many ways the findings of Cantlie upon the limits of the right and left hepatic lobes.—Professor J. T. Wilson, of Sydney, records some Observations upon Young Human Embryos, illustrated by photomicrographs of sections of an embryo of 1·64 mm. The plates which are to make this article complete are held over until next issue.—Dr. F. Wood Jones briefly describes the condition of the Lower Ends of the Wolffian Ducts in a Female Pig Embryo, the note being illustrated by a series of photomicrographs.—The study of anomalies is represented by a most useful paper by Mr. A. Ralph Thompson, upon the Congenital Abnormalities of the Upper Urinary Tract, and Some Points in the Surgical Anatomy of the Kidneys, Ureter, and Bladder. The paper is for the most part statistical, but there are several points in gross anatomy well worth further attention. Mr. Thompson sounds a warning note concerning the ready teaching and the ready acceptance of the doctrine of the free stripping of peritoneum from the anterior surface of the distended bladder. There seems to be little doubt that we are over-estimating this peritoneal stripping in our teaching, and consequently are making too light of the risks of penetrating the peritoneal cavity in suprapubic operations.—Professor A. Francis Dixon contributes a note on two cases of well-marked Suprasternal Bones. These rudiments are admirably shown in X ray pictures; their morphology is not discussed.—Mr. D. Davidson Black, of Cleveland, Ohio, describes two cases of Cardiac Malformation, and this paper is rendered more than usually interesting by some discussion of the relation of these cardiac anomalies to the cardiac functions.—Dr. Harold Rischbieth, of Adelaide, communicates a paper on an Anomaly of the Inferior Vena Cava. The anomaly, which consists of duplication of the post-renal segment, is well illustrated and fully discussed.—To physical anthropology Professor F. G. Parsons contributes an elaborate study of the Characters of the English Thigh Bone, which is a useful addition to our knowledge, since it has evolved, at any rate, a standard femur for Midland Englishmen of the Middle Ages. The results are obtained from exhaustive measurements of 300 femurs from the bone crypt of Rothwell in Northants, and the utility of such a standard for the purposes of anthropological comparisons is obvious. —An interesting study of the Inter-relationship of some Trunk Measurements and their Relation to Stature, by Dr. Rupert Downes, of Melbourne, brings out several noteworthy points, among them the fact, long insisted on by artists, that the pelvis of the male is absolutely broader than that of the female.—Mr. Bernard Coen, of Sydney, communicates a paper showing that at times diploic veins may contribute to the meningeal venous grooves upon the inner surface of the parietal bone.

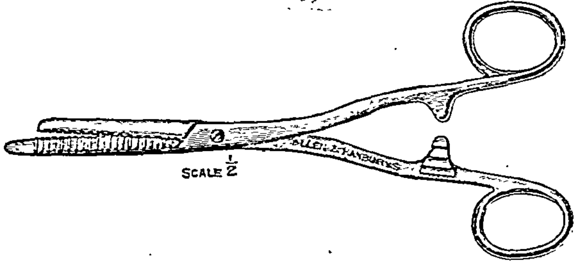
British Dental Journal.—To the issue dated May 1st of this publication Mr. F. St. J. Steadman contributes a thoughtful paper on the Treatment of Dental Caries in Children, based on his experience in the treatment of nearly 7000 children. He is a strong supporter of the free removal of all septic teeth, and ably answers the criticisms that have been brought against this method of treatment.—Dr. J. Stuart Ross gives an account of the method adopted at the Edinburgh Dental Hospital of inducing anæsthesia by means of nitrous oxide and oxygen combined with a small dose of ethyl chloride.

BIRMINGHAM GENERAL HOSPITAL.—At a meeting of the election committee on May 22nd Dr. A. Stanley Barnes, senior assistant physician, was elected honorary physician for a term of 15 years in place of Sir Robert Simon, M.D., resigned. Dr. Barnes was appointed assistant physician to the hospital in June, 1906. He is honorary curator of the pathological museum of the Birmingham University, and a Fellow of the Royal Society of Medicine. He formerly held the posts of assistant demonstrator of physiology at Mason's College, resident medical officer at the National Hospital for the Paralysed and Epileptic, Queen-square, and pathologist at the Queen's Hospital, Birmingham. He was recently elected a Fellow of the Royal College of Physicians.

New Inventions.

PERFORATING FORCEPS FOR LIGAMENTARY SUSPENSION OPERATIONS UPON THE UTERUS.

I HAVE designed a perforating forceps for those operations in which the round ligaments are employed for suspension of the retro-displaced uterus, more especially for that known as the "sling" operation. In this operation the round ligaments are drawn through an opening made in the broad ligaments and stitched to the posterior uterine wall. The instrument is in the form of a modified pressure forceps which has attached to one blade a small cutting edge that easily perforates the broad ligament, the clamp portion being used for grasping the round ligament and drawing it through the opening in the broad ligament and attaching it in position prior to stitching it to the uterine wall. In the performance of the sling operation much delay may occur through difficulty in perforating the broad ligament by blunt forceps, the tissue sometimes having to be incised with scissors, and frequently an unnecessary amount of damage may occur to the tissue. With the above instrument there is no delay and the technique is greatly improved. The instrument can also be used in Gilliam's and other intra-abdominal suspension operations upon the uterus.



The instrument has been made for me by Messrs. Allen and Hanburys, of Wigmore-street, London, W.

Glasgow. A. LOUISE MCILROY, M.D. Glasg.

THE REPORT OF THE INTER-DEPARTMENTAL COMMITTEE ON SLEEPING SICKNESS.[1]

THE work of Surgeon-General Sir David Bruce, chief of the British Sleeping Sickness Commission, led him to believe that wild animals in Nyasaland were infected with the human parasite of sleeping sickness. As a result of other researches in Central Africa he came to the conclusion that wild game constituted the main, if not the only, reservoir of the virus from which the tsetse fly derived its infectivity; and a somewhat similar opinion was expressed by Dr. Allan Kinghorn and Professor Warrington Yorke, who investigated the sleeping sickness problems in Rhodesia. One of the chief recommendations of these experts was that the effects of destruction of game in a limited area should be tried experimentally with a view to eradicate the local endemicity of the infection. These opinions were not universally accepted, and objections were at once raised against any proposal for exterminating wild game. Demands were also made for further investigation of the subject before any action was taken, and accordingly the Secretary of State for the Colonies in August of last year appointed a committee of 16 members, of whom the medical representatives were Sir John Rose Bradford, Sir William Leishman, Professor Charles J. Martin, Dr. W. A. Chapple, M.P., and Dr. A. W. G. Bagshawe, the Earl of Desart acting as chairman. The terms of reference were to report on (1) the present knowledge available as to the parts played by wild animals and tsetse flies in Africa in the maintenance and spread of trypanosome infections of man and stock; (2) whether it is feasible to carry out an experiment with regard to game destruction in a localised area; (3) whether it is advisable to attempt the extermination of wild animals locally or generally with a view of checking trypanosome diseases; and (4) whether any other measures should be taken to obtain means for controlling these infections. The report now presented is signed by all the members, but attached to it is a supplementary memorandum by Dr. Chapple and Mr. J. Duncan Millar, M.P., who, agreeing with the general conclusion that wild animals form one of the reservoirs of trypanosomes pathogenic to stock, wish to express their decided opinion that these wild animals form also one of the reservoirs of trypanosomes pathogenic to man.

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[1] Report of the Inter-Departmental Committee on Sleeping Sickness. Presented to Both Houses of Parliament by Command of His Majesty. Printed under the authority of H.M. Stationery Office by Eyre and Spottiswoode. London. 1914. Pp. 26. Price 3*d.*

Trypanosomes and Trypanosomiasis.

The committee considered the subject under three heads: (1) the Uganda form of sleeping sickness, of which T. gambiense is the parasite, and which is spread by glossina palpalis; (2) the Nyasaland form of the disease, also occurring in Rhodesia, caused by T. rhodesiense and spread by G. morsitans; and (3) trypanosomiasis of stock transmitted by several species of glossina. Fortunately, the Uganda form of the malady is not now epidemic in that country, though from 1898 to 1906 it carried off some 200,000 of the native population. The Nyasaland variety of sleeping sickness is a more virulent disease, but at the present time it does not appear to be extending. As regards the trypanosomiasis of stock, it is found practically wherever tsetse flies of any species exist. Some experts look upon T. rhodesiense and T. brucei, the parasite of nagana in animals, as being identical, though other authorities deny this identity. It appears that there may be mechanical transmission of these trypanosomes by other sorts of flies, but the tsetse fly plays the preponderating part in the maintenance of both human and animal trypanosomiasis in Africa; these flies are not merely passive carriers of an existing virus, but are living "culture-chambers" in which the virus multiplies indefinitely. The habits of Glossina palpalis are fairly well known and its haunts recognised, but less has been ascertained respecting G. morsitans, which, moreover, has a much wider distribution.

The Reservoirs of the Virus.

The tsetse flies live on the blood of vertebrates, and G. palpalis especially attacks man with avidity. In nature this species, partly from its association with water, has special opportunities for feeding on aquatic animals, such as hippopotamus or crocodile. In this connexion it may be remembered[2] that the late Professor Koch, while investigating sleeping sickness around the shores of the Victoria Nyanza, was led to suspect the crocodile for a time of being a reservoir of the virus owing to his finding crocodile's blood in the stomach and intestines of almost every tsetse fly he examined. Dr. G. Bouffert, the French expert, mentions that along the Bani river, a tributary of the Niger, there is a region long abandoned by the natives which continues to be a focus of sleeping sickness, this being due in his opinion to the crocodile or the hippopotamus acting as a reservoir of the T. gambiense infection. The scientific case for regarding wild animals as the reservoirs of the virus of trypanosomiasis in certain parts of Africa rests mainly on the observations of Sir David Bruce, Dr. Kinghorn, and Professor Yorke.

These observers found trypanosomes resembling T. rhodesiense in the blood of wild animals, and especially in various kinds of antelope. Many foreign investigators do not believe, however, that wild animals are reservoirs of T. rhodesiense, and among these is Dr. Taute, the German expert, who regards this trypanosome as distinct from T. brucei, and who made an unsuccessful attempt to inoculate himself with the latter organism. It is therefore not yet settled whether the wild animals which are known to be a reservoir of the disease affecting stock are in reality a danger to man in Nyasaland and Rhodesia. But while the exact relationship between human and animal trypanosomiasis cannot be said to be fully established, the committee think that the evidence indicates that game may also serve as a reservoir of the human form of the disease.

The Suggested Experiment of Game Destruction in a Localised Area.

As knowledge of this disease, its cause and its remedies, is still in the making, any hasty and imperfectly considered action of a drastic kind, such as general extermination of game, is in the opinion of the committee not justified so far by the evidence brought forward; but they recommend that until direct means of checking the fly have been discovered, the food-supply of glossinæ and the chances of infection should be lessened in the vicinity of centres of population and trade routes by the removal of wild animals; and for that purpose freedom should be granted to settlers and natives to hunt and destroy the animals within the prescribed areas, subject to certain conditions. The proposed experiment of removal of wild animals from a selected area may be instrumental in producing valuable results both as regards our knowledge of the habits of the tsetse fly, and as to the extent to which the infectivity of the fly, and subsequently the infection of man or stock, is derived from the wild animals. The committee think that there are sufficient grounds to justify an expectation of useful results, and they recommend that if a suitable locality can be found where an experiment can be carried out at a reasonable cost it should be undertaken.

Other Measures Suggested.

Meanwhile other measures should not be delayed pending the result of the above-mentioned experiment, which would necessarily take time, probably two or three years, before definite results could be obtained. These other measures include clearing of growth, especially in the neighbourhood of water and other places where the fly seeks shelter. There is a general consensus of opinion that if land in a fly country is cleared of bush it will cease to be the permanent habitation of glossinæ, though the fly may occasionally follow men or animals into cleared areas. The committee regard the question of the possibility of removing the fly from the neighbourhood of villages, settlements, or roads, by the clearing of bush, as being one of high importance. They strongly recommend that wherever practicable clearing should be undertaken, as it would tend to check the spread of the disease and render life in settlements and travel by road safe for man and stock. The extensive clearing of areas near villages would bring some material return by an increase of tillage land or additional pastures where cattle could be safely kept. Whether for tillage or pasture the cleared land would need to be enclosed by substantial fencing to prevent the intrusion of wild animals. The committee have no doubt that the settlement and cultivation of land on a considerable scale will result in the disappearance of the tsetse fly. If this fly could be eliminated or removed from contact with human settlements, sleeping sickness would practically disappear. For this reason great importance is also attached to a proper and sufficient equipment of entomological research into the bionomics of the incriminated tsetse flies, this form of research not having been sufficiently pursued in the past. Different views were taken by various witnesses as to the prospect of dealing with the fly; but some believed, and in this the committee concur, that in this form of research there is a large element of chance; that accident may at any time lay bare a secret which may lead to the solution of the problem, and that the multiplication of workers is the multiplication of these chances. It is also urged that medical research as to the treatment of trypanosomiasis and the production of immunity should be continued.

The Supplementary Memorandum.

Dr. Chapple and Mr. Duncan Millar support the view that wild animals form one of the reservoirs of trypanosomes pathogenic to man, and appear to be of opinion that the preventive aspect of the problem has not received sufficient prominence in the general report. Having regard to the havoc wrought amongst domestic stock by trypanosomiasis and to the obstacle thereby placed in the way of settlement and of the opening up of trades routes in all regions where game and fly are found, they think that on this score alone there is urgent need for immediate preventive operations. The presence of game and fly in all areas inhabited by whites and natives carries with it the dangers of infection of man. They therefore advise that in addition to the clearing measures urged in the main report further means should be taken for the destruction or driving off of wild animals in the vicinity of settlements within prescribed limits; that complete freedom should be afforded to all whites and natives to hunt, drive back, or destroy game; and that the operation of the game laws should be altogether suspended within such limits. The opinion is also expressed that no game reserves should be formed in fly-infested areas where there is any native population or in their immediate vicinity. While recommending these measures, they are opposed to any scheme for the general destruction of game outside prescribed areas.

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[2] See THE LANCET, Oct. 30th, 1909, p. 1292.

THE LANCET.

LONDON: SATURDAY, MAY 30, 1914.

Cancer Houses.

IN an address delivered by Sir THOMAS OLIVER before the Insurance Institute at Newcastle-on-Tyne, and printed recently in THE LANCET, certain passages occurred dealing with the subject of alleged "cancer houses" which caught the lay imagination at once. Considerable prominence was given to Sir THOMAS OLIVER'S observations by the *Times* in an article which quoted extracts from our columns, and was interpreted, we believe, as an invitation for correspondence on a subject which has always interested deeply the public, especially that section of it which delights to be made to shiver. It may be well to preface these remarks, therefore, by saying that recent scientific inquiry has made available no evidence approaching to satisfactory proof as to the existence of this alleged phase of a cancer infectivity. It is clearly a phase proof of the existence of which must be accompanied or preceded by evidence of a more general dissemination of the disease by infection. At present the position would seem to be summarised by two sentences in Sir THOMAS OLIVER'S own address: "The subject of cancer houses has periodically attracted attention. ...... Many medical men are of opinion that cancer germs lurk in houses"; though here we should like to point out that though many individual medical men may have expressed some belief of the sort, the proportion of medical men holding the view is small. The opinions of medical men upon such a subject are entitled to all respect, so long as the data upon which they are founded can be shown either to be facts observed by themselves or statements so thoroughly inquired into, if they are in the nature of hearsay, that they seem to be beyond reasonable question. Such data can be compared with others from equally trustworthy sources. The whole subject of cancer, however, owing to the position which it occupies in the public mind, is so prolific in rumours and stories founded upon inaccurate lay observation that inquiries which seem sufficient to one inexperienced in the necessary precautions of research may only serve to mislead, and the disease is in itself one in which the room for error, even when the observer is a medical man of some experience, has to be taken into account. There has been a recent illustration of lay credulity in the case of the infamous quack, DELVINE, who has been sent to prison upon his own plea of guilty for obtaining money by false pretences from persons to whom he used to display fragments of offal purchased from butchers as cancerous growths removed from their bodies by his agency. DELVINE may have roused the indignation of some of his victims throughout the country, who felt that they had been robbed, but his counsel before he was sentenced stated that he had eight people present in court who would have been ready to testify on oath that the prisoner had cured them of cancer if he had chosen to face the evidence against him and submit his case to a jury. This example of willingness to be duped may be extraordinary, but between it and the statements of witnesses which will stand close scientific investigation there are many degrees of self-deception, of prejudice, and of lack of accuracy, not confined to the classes from which DELVINE'S victims were drawn, and medical men, like others, may be deceived in making inquiries of a kind outside the scope of their daily routine.

In view of the prominence that is now being given to supposed retention by certain dwellings of a special cancer virus, we would ask our readers to consider the whole matter from the point of view of evidence. Those who allege that "cancer houses" exist have the onus laid upon them of proving that certain successive cases of cancer proved to have occurred in certain houses have been due to the persons affected becoming tenants of those houses and to no other cause. The facts established must lead us to the conclusion that infection preserved in the houses has been responsible and our reason must be compelled to arrive at such a verdict. The facts must point directly to the responsibility of the building in which the patients lived, and not merely be consistent with an infected building. A man is not tried and sent to prison upon the proof of facts which are merely consistent with his guilt, except upon the stage—at least, when such a thing does occur in real life a haunting sense of possible judicial error remains. Conviction before the tribunal of public opinion is liable to be obtained by looser and easier methods than before a court jealous to observe and trained to apply the laws of scientific evidence. The difficulty is to obtain a series of houses in which the requisite series of cases of cancer can be found to have occurred, and to eliminate from those cases the possibility of their having been due as much to hereditary tendencies, which in the sifting of evidence cannot be ruled out, or to industries causing a predisposition to cancer, or to other influences. That successive cases of cancer should appear in a single house or in a group of houses is not in itself surprising, for it is not a rare disease, population has increased, and there are crowded areas and houses in which many persons will be found who are of the age with which the development of cancer is associated, so that the element of coincidence is not easy to eliminate. Unfortunately, the romantic mind never will try to eliminate it; the romantic mind revels in the trouble caused by coincidence.

Meanwhile, experiment tends to discredit rather than to confirm the existence of cancer houses, just as the sifting of the evidence connected with individual buildings brings about in many instances a similar result. In the article in the *Times*, to which we have already referred, there was a description of results said to have been observed with regard to mice confined in a cage the inmates of which were stated to have developed cancer with a frequency pointing to infection. We believe the observation has been recorded on several separate occasions. If this had actually occurred owing to the infection of the cage by diseased mice, further experiments should long ago have proved up to the hilt the existence of "cancer houses" so far as mice are concerned. But neither the experiments made under the auspices of the Cancer Research Fund, nor those of Professor EHRLICH, have shown anything of the kind. Mice have been so bred from cancerous parents that a strain has been produced in which cancer is more frequent than in families of mice in which no attempt has been made to concentrate the hereditary factor. This confirms the view that a hereditary factor may coöperate in the causation of cancer, and may be responsible for the ill-fame of some alleged cancer houses. Mice, however, have been confined in cages in which they had every opportunity to develop cancer by infection from their companions or from their cages without any apparent increase in their liability to the disease. The result, in short, has been the same as if the cages had been beyond suspicion of infection, and experiments deliberately planned and carried out must be regarded as conclusive in comparison with isolated phenomena into which an element due to chance or some unknown factor may have entered. In the present condition of things it is not likely that unanimity will be obtained or that all will accept the views of those responsible for the investigations of the Imperial Cancer Research Fund, who, however, are known not to leave any clue uninvestigated which examination may show to be worth following up. Unanimity, even upon such a question as that of the alleged general increase of cancer, is not at present attainable. Scientific investigation and proof should always precede statements which are liable to alarm the public unnecessarily. Among these we would include allegations of the existence of "cancer houses." They have not yet been proved to exist, and there is no such weight even of opinion in favour of their existence as would warrant alarming the large number of people who now live securely in houses in which deaths from cancer have taken place.

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Subarachnoid Medication for Cerebro-spinal Syphilis.

ONLY a few years have passed since first it was proposed to inject drugs into the subarachnoid space. It was in 1891 that QUINCKE introduced lumbar puncture, and this was the starting point of all the diagnostic and therapeutic work which has been carried out on the cerebro-spinal fluid. For diagnostic purposes lumbar puncture has proved of great value, but therapeutically the removal of a certain amount of cerebro-spinal fluid has been shown to do little good, and indeed when performed for decompression in cases of cerebral tumour the procedure has not rarely been followed by sudden death. Again, the channel of the cerebro-spinal fluid is widely used for the production of anæsthesia of the lower half of the body. This was first employed by CORNING in 1885 and later by BIER, and the practice has been found to possess a distinct though somewhat limited field of usefulness. But the more ambitious attempt of JONNESCO, of Bucharest, to employ the same method for anæsthesia of nearly the whole body by injecting the anæsthetic substance high in the cervical region has met with little favour, at least in this country. Subthecal medication has also been used in the treatment of tetanus, and a certain number of recoveries have followed this procedure; but it is somewhat doubtful whether any of the recoveries were to be attributed to the use of the antitoxin, for in any group of cases of tetanus a certain number will recover, and it did not appear that the percentage of recoveries was greater with this method than with others.

The latest example of the employment of the subarachnoid space for the administration of a remedy has been in the treatment of cerebro-spinal syphilis. It had long been recognised that locomotor ataxia and general paralysis of the insane were somehow connected with syphilis, and although some observers were of opinion that they were the direct result of the disease, it has only been since the spirochæte has been demonstrated in the brain and spinal cord that the correctness of this view could be regarded as proved. The fact that antisyphilitic remedies administered in the ordinary ways had little or no effect on tabes and general paralysis naturally lent much support to those who maintained that these diseases were not syphilitic in nature. Yet the spirochæte has now been seen in the brain and spinal cord; there can therefore be but one explanation of the failure of remedial agents, and that is that the remedy does not pass through into the true substance of the central nervous system. This also holds good in the case of the recent additions to our antisyphilitic armamentarium, salvarsan and neosalvarsan, for at no time after an injection, whether intramuscular or intravenous, can any arsenic be found in the cerebro-spinal fluid. In this connexion we may notice a very important distinction which has been drawn by MCINTOSH between two classes of syphilitic lesions of the brain and spinal cord; he divides them into the "interstitial," in which the meninges, the blood-vessels, and the neuroglia are affected primarily, the neurons only being damaged mechanically, and the "parenchymatous," in which the neurons themselves are first attacked. The distinction is important, for while the interstitial lesions may be benefited by remedies introduced into the blood stream, the parenchymatous are not amenable, since the neurons are surrounded by lymph-spaces which are in connexion with the cerebro-spinal fluid, and this, as we have remarked, does not contain chemical substances introduced into the blood stream. The conclusion, therefore, seems to be obvious that if we desire to influence the spirochætes in the parenchyma of the central nervous system we must introduce the remedy directly into the cerebro-spinal fluid; and in the present issue of The Lancet we publish three papers of no little importance which deal with work in this direction.

Nierenstein, it will be remembered, succeeded in showing that arsenical compounds had no effect on trypanosomes *in vitro*, although the organisms died if some protein were added. It follows from this that the protein forms a compound with the arsenic, and that this compound acts upon the trypanosomes, killing them; and the same is true also of salvarsan and the spirochæte of syphilis. It appears, therefore, to be necessary to combine the salvarsan with a protein before injecting it into the cerebro-spinal fluid, and Dr. Gordon W. Spencer's paper deals with cases in which salvarsanised serum has been injected into the subarachnoid space. The salvarsan is first injected intravenously into the patient, and after an interval some blood is withdrawn; the serum is then separated and is injected through a needle by which an equal quantity of cerebro-spinal fluid has just previously been withdrawn by lumbar puncture. Dr. Spencer has worked out the details of the technique, but necessarily some of the points may be modified as time goes on, such as the period after the intravenous injection when the blood is best withdrawn and the most suitable quantity to employ. These, however, are small points, and the paper is of value, for it contains particulars of 12 cases in which this mode of treatment has been made use of. Seven of the patients suffered from tabes, and five from sclerosis and interstitial cord lesions. The results varied, but in the majority of the cases there was more or less improvement, and in no case did any perceptible harm follow the injection.

Mr. C. A. Ballance and Dr. Harry Campbell deal in their instructive papers with the treatment of intracerebral parenchymatous syphilis. The foundation of the work which they have done is the fact that it is apparently impossible by introducing a drug into the spinal portion of the subarachnoid space to influence the brain above the tentorium cerebelli, for the cerebro-spinal fluid below this does not pass upwards, the stream being in the opposite direction. Mr. Ballance has introduced the remedial agent directly into the lateral ventricle, so that the drug is carried with the stream over the surface of the brain and into all its lymph spaces. As to the results, it may be said that they were encouraging, but it is too early to form any definite conclusions. The authors quote previous attempts which have been made in the same direction, yet their own papers mark a very distinct advance in the therapy of some forms of cerebral syphilis. We have now a means of attacking the disease even in fastnesses where it has hitherto been safe from our efforts at destruction. Doubtless time will show the modifications which the method may need, and will also tell how far success may be counted upon; but enough has already been done to justify us in thinking that a real advance in the treatment of syphilis has been recorded.

Annotations.

"Ne quid nimis."

THE TREATMENT OF INFANTILE PARALYSIS.

The recent advances in our knowledge of the nature of the infecting agent in infantile paralysis have perhaps tended to divert attention from the almost equally important steps which have been taken to improve the treatment of this affection, which we now know to be, after tuberculosis, the most important cause of crippling deformities. Mr. Robert Jones's oration before the Medical Society of London (which will be found at p. 1515 of our present issue) comes not only, as he himself states, from one whose "life has been devoted to the more practical and clinical aspect of surgery," but also from one whose teaching of *simple principles* has done much to advance the treatment of infantile paralysis. In the past the functions of the neurologist and of the orthopædic surgeon have been too far divorced from each other. The principle of the treatment of paralysed muscles by the relaxation of tension, one of the legacies to Mr. Jones from his predecessor, Mr. H. O. Thomas, has brought the two together. Rest in the early stages of the disease no longer means simple rest in bed, but fixation upon a splint in a carefully thought out position, so that the limb may be completely rested, the paralysed muscles relieved from tension, and contractures prevented. When once this principle has secured general acceptance and is universally applied, half the work of the orthopædic surgeon, that involving the correction of deformity, will have gone. It is very doubtful whether it is possible at the present time to differentiate in the early stages of infantile paralysis between those muscles which are irreparably damaged and those which will probably recover their power. The electrical reactions give no certain guide; muscles which exhibit the reaction of degeneration or which even fail to react at all to electric stimulation have been seen to recover. It is as well that, therefore, all paralysed muscles should be treated as if they might regain their power. Mr. Jones would not abandon hope unless there is no sign of return of muscular action after 12 months' "appropriate treatment." By this he means treatment including the support of the affected muscles by a splint, so that they are never placed upon the stretch. To this he gives the first place in treatment; all other methods are subsidiary, and must be carried out in such a way as not to interfere with efficient splinting. Electrical treatment in particular is now given its proper value; its effect is nutritional only. Massage serves the same purpose, perhaps more effectually, for it can be applied gently and with accuracy to definite muscles or muscle groups. Exercises are important in proportion as the muscles are able to carry them out. Attempts to obtain full active movements of the joints whilst the muscles are still too weak to act against the resistance of weight are, however, worse than useless; they not only fail to exercise the muscles, but by stretching them delay recovery. Mr. Jones has rightly achieved a reputation as a pioneer of operative methods in the treatment of infantile paralysis, but it may be predicted that in the future he will be remembered rather for his insistence upon this principle of rest and relaxation of paralysed muscles than for the work he has done to improve the methods and results of such operations as arthrodesis and tendon transplantation. These operations have their use, the former in flail limbs, the latter in paralyses of limited distribution, but they must be reserved until after conservative treatment has been given its trial. There can be no doubt that they have been too widely used. Tendon transplantation is worthless unless the tendon can be securely fixed with a suitable degree of tension, made to work in a good line, and given a reasonable chance of carrying out a useful function in its new position. Arthrodesis and similar operations have an even more limited field. It is interesting to find that Mr. Jones now practically confines this operation to the ankle and shoulder. The subject of nerve transplantation for paralysis is a fascinating one. Up to the present little success has been obtained by workers in this field, although much has been added to our knowledge. In particular Stöffel's investigations into the minute anatomy of nerve trunks, where he is able to recognise the bundles which supply individual muscles, seem to lead on to more accurate methods of nerve crossing. Yet when we remember the comparative uncertainty of suture of a healthy nerve immediately after section, and the fact that in a paralysed limb we are faced with the additional feature of prolonged disuse, the prospects of obtaining a sufficient regeneration of a transplanted nerve to enable the paralysed muscle to become functionally active must be remote. There is still another difficulty, the number of functionally active neurons in the paralysed limb is small; in attempting to transfer some of these to the paralysed muscle we must abstract them from a functionally active muscle. So that the operation is at best a mutilating one, and until we can be sure that there is a reasonable prospect of regeneration of the nerve and of a restoration of function in the muscle it can scarcely be considered a surgical procedure. Still further experiments, particularly upon muscles which have been long disused, are required.

THE HISTORICAL MEDICAL MUSEUM.

A FEW weeks ago we announced that the Historical Medical Museum founded last year by Mr. H. S. Wellcome in connexion with the International Medical Congress would shortly be reopened at 54A, Wigmore-street, London, W., as a permanent institution. During the past six or seven months considerable additions have been made to the collection, and the exhibits have been rearranged and classified under the supervision of the curator, Mr. C. J. S. Thompson. Among the recently acquired objects of interest are a case of chemical reagents and apparatus used by Lister in his early experimental days, and the 12 interesting oil paintings of anatomical subjects attributed to Jacques Gautier D'Agoty, which were described in THE LANCET of Feb. 21st last, p. 557. These latter were purchased only a few weeks ago for the museum; they have been carefully relined and restored, and are well worth a visit. The museum, which was reopened informally on Thursday of this week, has a definite educational value. That it is an object of abiding pleasure and instruction to all students of the historical and archæological aspects of the art of medicine scarcely needs further emphasis in these columns. It will be open daily from 10 A.M. to 6 P.M., closing at 1 P.M. on Saturdays. Members of the medical and kindred professions will be admitted on presenting their visiting cards. Tickets of admission may also be obtained by others interested in the subject on application to the curator together with an introduction from a registered medical practitioner. Ladies will be admitted only if accompanied by a medical practitioner.

THE ESSENTIAL FEATURES OF ACIDOSIS.

SOME new researches into acidosis, together with a review of the whole subject, are contributed to the *Johns Hopkins Hospital Bulletin* for May by Dr. A. W. Sellards. His conclusions are confidently expressed as follows. The essential feature in acidosis consists in a general impoverishment of the body in bases or in substances which readily give rise to bases—e.g., sodium carbonate. This may occur through the loss of bases as such (relative acidosis) or by the neutralisation by acids (absolute acidosis). In either case the end result is the same, and the distinction between relative and absolute acidosis is misleading. In every acidosis there is an increase in the tolerance of the body to fixed bases, a diminution in the titratable alkalinity of the blood serum, and a diminution in the carbon dioxide of the blood. The excretion of ammonia either in its relative or absolute amounts does not afford a definite basis for the detection of acidosis; indeed, ammonia excretion may be normal in acidosis, especially in diabetic cases. In cases of nephritis with diminished ammonia in the urine it is probable that there is no increase in the quantity of ammonia in the blood. This view, we may note, is contrary to the teaching of many authorities in this country. An acidosis of high degree occurs in certain nephropathies; it reaches a maximum in the uræmia of acute and chronic diffuse nephritis. It is not a terminal event, for it is frequently present in a high degree months before uræmia develops. In this type of acidosis there is a normal excretion of ammonia and an absence of disturbance of carbohydrate or fat metabolism and an absence of the salts of any abnormal organic acids. The changes in the titratable alkalinity of the blood which can be detected by phenolphthalein afford a ready means for the prompt diagnosis of acidosis, and the method is particularly applicable in renal disease. In this condition it furnishes a definite indication of the amount of bicarbonate that will be required for the relief of the acidosis. The determination of the tolerance of the body to sodium bicarbonate also affords a delicate method of general application for the detection of acidosis. Even when massive doses of this salt have been given there is no excretion of it in the fæces. Some of the toxic symptoms of uræmia are due, not to the presence of a toxin, but to the absence of a normal constituent of the blood—namely, carbonates. Therefore, to bleed in order to remove toxins from the circulation causes a still further diminution in a substance of which the blood is already seriously depleted. This disadvantage can be obviated by injecting bicarbonate solution at the time of bleeding. In the selection of carbonates for therapy the bicarbonate meets the essential requirements; the use of sodium carbonate is unnecessary and inadvisable.

THE HARDSHIPS OF HARD WATER.

THERE can be little doubt that a soft water drinking supply, apart from the question of whether hard water is injurious to health, is invariably appreciated, and yet nowhere is really soft water supplied in the immediate metropolitan area. The hardness of the metropolitan water-supply varies, of course, according to its source. The water drawn from the rivers is hard, but nothing like so hard as the water drawn from the chalk wells in Kent. It is true that for organic purity the water supplied from the chalk wells surpasses that drawn from the rivers, although now that storage and filtration are the rule the latter water maintains a remarkable and desirable standard of purity. The public, however, who enjoy the privilege of a water-supply showing the very high degree of purity of that drawn from the chalk wells of Kent labour under the great disadvantage which it presents through being extremely hard. Their share of the water rates is increased by the expense of having to employ the plumber at short intervals to remove the calcareous deposit which rapidly accumulates in the pipes and boilers of the hot water service. Pipes of two-inch diameter quickly have their calibre reduced to half an inch or less, and old pipes are frequently taken out with a free way not much larger than would admit a penholder. The economic loss is of course considerable, and this "furring" is attended with some danger owing to the pipes being liable to be choked up altogether. It does not seem reasonable that this real trouble and nuisance should be inflicted upon one section of the community which is part of the same administrative system supplying comparatively soft water to other districts. Further, the comparatively soft water-supplies drawn from the river sources have to go through expensive processes of storage and filtration before they are sent to the consumer. The hard chalk supplies of the Kent wells go through no such process, and therefore are most probably delivered at a much lower distributing cost. Surely, therefore, it is not asking too much that these excessively hard water-supplies should be softened by well-known processes before they are pumped through the main services, thus removing a real reproach to the water as it is at present supplied. It is fortunate for the people of Southend in Essex that there are in their case natural processes at work which automatically soften the water before it reaches the pumps. Here apparently, as shown in an article which we publish this week, the initial subterranean chalk water contains some infiltrated sea water, but in its passage through Thanet sand the calcium and magnesium salts are replaced by sodium salts, and so the Southend water-supply is not only very soft and free from chalk, but contains an appreciable amount of alkaline salts. This state of things will be envied by the inhabitants of Kent, who find their own water-supply a daily inconvenience and nuisance on account of its excessive hardness. Finally, it should be remembered that whether it is a natural or artificial softening process the resulting water attains a higher degree of purity than ever. We think that a strong appeal might be made to relieve the districts served with excessively hard water from the hardships which its use entails in many directions.

THE APPLICATION OF ABDERHALDEN'S REACTION TO THE STUDY OF NERVOUS AND MENTAL DISEASE.[1]

IT is well known that before any alimentary substance can reach the cells of the organism it must pass the intestinal mucosa, where it undergoes considerable modification. Proteins, for instance, are decomposed by intestinal ferments, and subsequently undergo a synthesis into proteins differing from those in the food substances as introduced, but analogous to those circulating in the blood plasma. In this way the tissues never come in contact with substances foreign to the particular animal species concerned. The tissue cells of the body are supplied with ferments rendering them capable of assimilating the albuminoids, carbohydrates, and other foodstuffs contained in the plasma. The question then arises whether the plasma might not acquire fresh properties if foreign substances are introduced into the body avoiding the alimentary canal. Abderhalden has shown that it is so, and that the organism can produce new ferments in response, for instance, to the injection of certain sugars, such as saccharose, lactose, or of such substances as the nucleins and nucleic acids. The exact origin of these defence-ferments ("abwehrfermente") is still obscure. From this discovery Abderhalden was led to suppose that in pregnancy new ferments might be discovered existing in the blood as a defence-reaction to the albumin of the placenta, and it now seems thoroughly established that this is the case, and that from about the eighth day after fecundation to some 14 or 20 days after the expulsion of the placenta these specific ferments are present and their presence can be demonstrated as a specific test for pregnancy. Whether the ferments of Abderhalden are or are not identical with, or analogous to, antibodies is a matter for further investigation. But the applicability of the method of Abderhalden to other conditions may soon become of paramount importance. Already considerable progress has been made in connexion with its application to the problems of nervous and mental disease by German and French investigators. All agree that normal serums never contain defence-ferments directed against the albumin of the brain or any other organ. Now in dementia præcox it has already been shown by a number of observers that the blood contains ferments to counteract the albumin of the sexual glands; the serum of female cases of the disease acts on proteins of ovarian origin and is inert in reference to proteins from the testis, while the converse is the case in male patients. Further, similar reactions have been found in dementia præcox in regard both to the thyroid and the cerebral cortex, while analogous investigations have been made in such diseases as epilepsy, general paralysis, exophthalmic goitre, paralysis agitans, and in organic and functional psychoses, and interesting results are being obtained. It is true, of course, that we are merely at the beginning of investigation along these new lines, but the data already recorded suggest that from this new sero-reaction appreciable benefits will accrue as far as the etiology, diagnosis, and treatment of certain nervous and mental diseases are concerned.

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[1] See a paper by Dr. S. Mutermilch, of the Pasteur Institute, Paris, in the Archives de Neurologie for April.

THE INVESTIGATION OF OZÆNA.

THE International Collective Investigation of Ozæna, which originated at the Rhino-Laryngological Congress in Berlin in 1911, has suffered by the death of Professor Grabower early this year a serious loss. But the investigation is being steadily pursued, and a fresh impetus has been given to it by the unearthing of the fifteen years old researches of Dr. Fernando Perez, of Buenos Aires. This writer described in the *Annales de l'Institut Pasteur* in December, 1899, a small polymorphous Gram-negative immobile rod as the exciting cause of ozæna; he named it the coccobacillus fœtidus ozænæ, but his communications received no attention. In the *Journal of Laryngology, Rhinology, and Otology* Dr. A. Brown Kelly describes the long-deferred recognition of these researches and the further problems which they suggest for consideration. The Berlin committee, it appears, last year invited Dr. Perez to submit his views to the Institute of Sero-Therapeutics in the University of Vienna, where they were completely confirmed. The organism which Dr. Perez believes to be the specific cause of ozæna is only one out of 11 which he has found in the nose in cases of that disease: the others are all well-known members of the nasal flora. It stains with aniline dyes, but is Gram-negative. On the usual media it grows well at body temperature; it does not liquefy gelatin, never curdles milk, and produces ammoniacal fermentation of urine. All cultures of this coccobacillus give off a characteristic odour exactly similar to that of ozæna itself. Inoculation of $\frac{1}{4}$ c.c. of a bouillon culture into the circulation of a rabbit leads to death in 24 hours; the outstanding post-mortem change is inflammation of the nasal mucous membranes, whence the organism can be recovered. If the animal recovers from inoculation it suffers from a chronic nasal discharge, in which the organism is again found; in time atrophy of the anterior turbinal develops. Dogs also can be infected with the cocco-bacillus, and indeed it occurs normally in the dog's nose, increasing in those which have distemper. It is not found in the nasal cavities of other domestic animals; the dog alone, and particularly the diseased dog, can transmit it. This discovery raises very important questions as to the method of infection. Dr. Perez shows that in many cases it exists in more than one member of the same family, and is therefore probably contagious; but when a solitary case occurs the possibility of canine infection has to be thought of. These results have been confirmed and extended by Hofer[1] and Koller,[2] who have used vaccines of the organism therapeutically with marked success. Sufficient time has not yet elapsed to show whether the improvement amounts to permanent cure, but optimistic accounts are given. The collective investigation is so much impressed by these results that further researches are being carried on under its auspices in Berlin, Vienna, Budapest, Prague, Königsberg, Posen, Christiania, Turin, and Glasgow. At the Hamburg Congress to be held in 1915 a review will be presented of all the reports received from the different countries in which the investigations have been carried on; this and everything bearing on the subject will be published in a special volume. Intimation of papers, mentioning subject and length, are asked for by the Berlin committee by July 1st next; and papers themselves (as far as Great Britain and the Colonies are concerned) should be in the hands of Dr. Brown Kelly, of Glasgow, not later than Dec. 1st next.

AN EARLY MEDICAL REVIEW.

IN an annotation on "One of our Predecessors," published on Nov. 3rd, 1906, we drew attention to the fact that as long ago as June 17th, 1684, a single number of what is perhaps the earliest instance of an English medical periodical was issued under the title of "Medicina Curiosa, or a Variety of New Communications in Physick." Subsequent research has failed to discover any purely medical English predecessor to this journal, for the "Zodiacus Medico-Gallicus"[1] was a Genevese periodical. But both the "Zodiacus" and the "Medicina" were preceded by publications, not specifically medical, which still dealt largely with medicine. Thus perhaps the earliest scientific review to make its appearance in England was the "Weekly Memorials for the Ingenious: or An Account of Books, with other Curious Novelties." It appeared as early as Jan. 23rd, 1681, and was issued every "Munday" by Faithorne and Kersey at the Rose in St. Paul's Churchyard, being reprinted as a volume in 1683 with a dedication to the Hon. Robert Boyle, the popular man of science of the period. Unlike modern critical journals it was uniformly complimentary in tone, and aimed only at giving a clear account of books of interest to the learned or the curious. Doubtless, its inspiration was drawn from the "Zodiacus Medico-Gallicus," published by Nicolas de Blegny, of which it gave some account in its fourth number, Feb. 6th, 1681. It is only in a sense correct, however, to regard the "Zodiacus" as the pioneer of all medical journals, for its publication dates only from 1679, and it seems to have been suggested to the ingenious de Blegny by our own "Philosophical Transactions," first appearing in 1665, and by the "Journal des Scavans" of the same date, as well as by the "Miscellanea Medico-Physica" (1670) and "Acta Eruditorum" (1682), both of Leipsic, and the "Acta Medica et Philosophica" of Copenhagen (1671). All these early learned periodicals reviewed medicine, but the "Weekly Memorials" are almost exclusively devoted to it, and supply much information, which, though quaint, is manifestly put forward in the best interests of science. Thus of Peyer we read that "the anatomical knowledge of the stomach and guts, gives so great an insight into the natures and operations of aliments, medicines, and several diseases, that this curious and industrious anatomist has been encouraged thereby to bestow much time, and pains in the search and discovery of those parts," but in view of the previous labours of Willis and of Wepfer, he has specialised in the "glandules." Two reviews are devoted to a description of the patches named after him. In a review of the Comparative Anatomy of Gerard Blasius the great importance of the dissection of animals is insisted upon as leading to a knowledge of the human body. Finally, immense calculi are described, and marvellous stories of drugs and their action, accidents, cures, and so forth, are recounted for the delectation of a credulous if intelligent generation.

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[1] Berliner Klinische Wochenschrift, No. 52, 1913.

[2] Wiener Klinische Wochenschrift, No. 42, 1913.

[1] See THE LANCET, Nov. 30th, 1907, p. 1542.

A NEW PREPARALYTIC SYMPTOM IN ACUTE POLIOMYELITIS.

WITH the fuller knowledge that has been gained of acute poliomyelitis, and with the possibility now before us of inoculating protective cultures for this condition, any sign which is clinically recognisable as premonitory has a warning value of especial importance; and more especially is this the case since it has not been proved up to now that such an inoculation, when once the disease is definitely present, has any effect in either limiting the extent of the paralysis or checking the subjective associated symptoms. Only in the preparalytic stage can benefit from such inoculations be anticipated. Dr. John Colliver, during a recent epidemic of infantile paralysis in Los Angeles, in which a hundred cases occurred, states in the *Journal of the American Medical Association* (1913, vol. lx., p. 813) that in 16 cases he was able to observe certain signs which were definitely premonitory of severer attacks. Such signs were in the nature of a tremor or convulsion of certain groups of muscles; the movements last from a few seconds to less than a minute; usually they affect a part or the whole of one or more limbs. At the commencement such movements are easily missed, but later they last longer and occur at shorter intervals. The movement is associated with a cry which resembles that of the hydrocephalic. Occasionally lapses of consciousness occur which may not be associated with movements. Further observations of this nature, if confirmatory, may enable an early diagnosis to be made, and with the improved methods of treatment, especially of a prophylactic character, a notable lessening of poliomyelitis may be hoped for.

THE PHARMACEUTICAL SOCIETY.

THE Pharmaceutical Society at the end of 73 years of existence finds itself in a more flourishing condition than it has ever been. The report of the council which was presented at the annual meeting last week shows that during the year considerable progress was made in all departments and that a numerical strength of about 8000 has been reached. This on a register of 16,000 pharmacists may be regarded as satisfactory, since it is probable that between 5000 and 6000 of the qualified chemists who are not members of the society are acting in the capacity of assistants, or at any rate are not in business on their own account. To a large extent the increased activity in pharmaceutical circles is due directly or indirectly to the National Insurance Act, which has impressed upon pharmacists the need for greater vigilance and a lively interest in the developments of national health insurance. In nearly every part of the country local organisation has been raised to a high pitch of efficiency, and about 60 new local associations have been formed. A few years' experience of the value of direct representation of pharmacy in the House of Commons has convinced the council of the need for ensuring that such representation should be as far as possible permanent, and accordingly a Pharmaceutical Parliamentary Fund was established during the year to be utilised for the purpose of maintaining the present representation, and if possible increasing it. In the domain of education the only noteworthy development of recent date was the dropping of Latin from the compulsory part of the preliminary examination. This step was taken after mature consideration and no doubt regretfully, but the report shows that the decision was justified, for almost immediately the change had been made there was a large increase in the number of persons applying for registration as students. When Latin was a compulsory requirement at the first examination it was found that owing to the decrease in the number of secondary schools in which Latin was taught a large number of eligible persons who had not contemplated entering pharmacy while at school had not taken Latin, with the result that possible recruits to the ranks of pharmacy went into other callings. A knowledge of Latin is still required for the qualifying examination so far as it relates to the translation and interpretation of prescriptions. On the whole the report seems to convey the impression that the prospects of pharmacy are much brighter than they were a few years ago.

APPENDICITIS AND LEAD POISONING DUE TO INGESTION OF SHOT.

AMONG the foreign bodies which have been found in the appendix are shot. In the *Journal of the American Medical Association* of April 25th Dr. F. W. Hitchings and Dr. H. G. Sloan have recorded a case which is remarkable in several respects. A single woman, aged 21 years, was seen at midnight on Jan. 3rd, 1914. She said that 48 hours previously she had four teeth extracted under nitrous oxide anæsthesia. Twenty-four hours later she had a chill with vomiting which persisted almost until she was seen. She complained of severe pain all over the abdomen with occasional paroxysms. On examination the abdomen was generally tender, slightly more so over the appendix than elsewhere. The pulse was 74 and the temperature 98·9° F. On questioning the patient the following history was obtained. About Christmas, 1912, a number of cases of an eruption termed "Cuban itch" occurred in the town in which the patient lived. She contracted it and was treated without effect by several practitioners. A friend advised her that bird-shot was a "sure cure," and she took from 15 to 20 small bird-shot every morning until she had ingested about half a pound in all. The eruption disappeared, but some time later symptoms of lead poisoning—headache, colic, blue line on the gums, and digestive disturbances—appeared. In July, 1913, she suffered from severe convulsions, which almost proved fatal. They lasted a week and recurred at intervals until September. After this she had almost constant attacks of colic, nausea, vomiting. In spite of this experience she began to take shot again in November for a new kind of eruption on the face. This time she chose large shot. The dose was five or six every morning until a tablespoonful was taken. She asserted that she passed all she took. On Jan. 4th, 1914, the abdominal tenderness had increased and was great over the appendix. The pulse was 100 and the temperature was 99·3°. Acute appendicitis was diagnosed. A long median incision was made and the appendix was found to be inflamed, particularly at the tip, and heavy. It weighed 125 grains and contained eight shot. About a week after the operation 40 shot were passed per rectum and were much eroded. The urine contained a trace of albumin and a few hyaline and granular casts. The abdomen was radiographed but no more shot could be seen.

THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE, UNITED STATES ARMY.

WHEN reviewing the eighteenth volume of the second series of the Index Catalogue of the Library of the Surgeon-General's Office, United States Army,[1] we took occasion to state that the assiduous and patient labour of the army medical officers who produce that storehouse of remarkably accurate bibliographical, antiquarian, medico-historical, scientific, and professional lore—for by its arrangement and methods it is much more than a mere inventory of books—lays all medical scholars under a debt of gratitude to the Government of the United States. It is with something like dismay, therefore, that we learn through the protests now appearing in the American medical press that it is proposed this year to deprive this great library (which owes its world-wide eminence to the organising capacities and indefatigable energy of the late Dr. John Billings) of its independent status, and to transfer it to the library of Congress, constituting it a subordinate department thereof. Whatever may be the non-medical advantages expected to accrue from such a course, we fear that its results would be most regrettable for medical literature throughout the world. We cordially sympathise, therefore, with the protests of our American contemporaries, and trust that wiser counsels even yet may prevail.

THE PASTEURISATION OF MILK IN NEW YORK.

Dr. W. H. Guilfoy, Registrar of Records in the Department of Health, New York City, has recently compiled from the official statistics of his department a table of the mortality rate of children under 5 years of age in the boroughs of Manhattan and the Bronx, formerly the "Old City," one of the most insanitary districts in New York. In the year 1891, before the first Nathan Straus's pasteurised milk station was opened, the death-rate of children under 5 years of age was 96 per 1000. Within five years the corresponding mortality rate was reduced from 96 to 69; in another five years to 60, and in the next quinquennial period to 55. Last year the death-rate was reduced to the satisfactory level of 37. The fall in the death-rate of children under 5 years of age shows still more satisfactory results when the statistics for the fatal months of June, July, and August are taken separately. During these months before the year of introduction of pasteurised milk the mortality from epidemic diarrhœa was very high. In 1891 the rate was as high as 125 per 1000 per annum; in 1913, 22 years after the introduction of pasteurised milk, it fell to 38—truly a remarkable result. It naturally cannot be claimed that this gratifying improvement is exclusively due to the pasteurising of the milk, for many simultaneous and important improvements in sanitation and mothercraft generally have been introduced during this period. But it does seem to point to the fact that pasteurisation of milk is not incompatible with a low death-rate among young children as well as among infants. These statistics are on a large scale and at any rate should receive consideration from those enthusiasts for raw milk who maintain that the cooking of milk, not only has an injurious influence on the nutrition of infants under one year, but that it also has far-reaching influence in the same direction during the succeeding years of life.

THREE former students of King's College Hospital hold at the present moment the important posts of Director-General Navy Medical Department (Surgeon-General Arthur W. May, C.B.), Director-General Army Medical Service (Surgeon-General Sir Arthur T. Sloggett, C.B.), and Medical Inspector H.M. Prisons (Sir Herbert Smalley, M.D.). It is proposed to commemorate this unique occasion by entertaining them at dinner on Tuesday, June 16th, at the Waldorf Hotel. Viscount Hambleden, chairman of the committee of management of King's College Hospital, will take the chair at 7.30 P.M.

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A NEW WATER RESERVOIR AT SOUTHEND.

(FROM A CORRESPONDENT.)

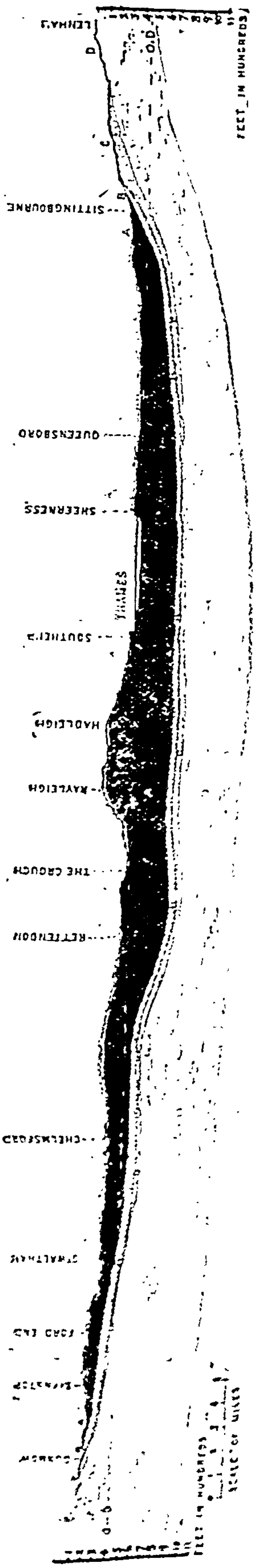
AT Vange, some 10 miles distant from Southend, there has recently been completed the first half of what will be eventually one of the largest covered reservoirs in the United Kingdom. This section is capable of storing not less than 17 million gallons of water. The population of Southend and the adjacent district is multiplying rapidly, and those who realise the difficulty attendant upon obtaining a large quantity of water suddenly for a community will appreciate the foresight of the water company.

Though the reservoir is an underground one, the bottom is above the drainage level of the neighbouring watercourses, thus reducing the risk of local pollution. The clay from the excavation has been used to form the puddled embankment necessary to impound this huge volume of water, covering some 4 acres to a depth of 25 feet. The floor is of concrete, while the sloping sides of the retaining embankments are lined internally with artificial stone slabs. A series of dividing walls formed of brick arches cross its width, to support the longitudinal girders carrying the roof, which last is formed of reinforced concrete. The pumping-house, inspection chamber, and provisions necessary to ensure immunity from possible pollution have been carefully considered, to secure a supply of pure water for a population never less than 100,000, and during the summer months probably 150,000. The old reservoirs at Thundersley and elsewhere, containing 7½ million gallons of water, have been retained, and all water is supplied direct to the consumer without previous treatment. There are in all 26 wells, some being of great depth, passing down to the chalk to a total depth of 900 feet. In order to obtain the necessary supply these wells are placed at great distances apart, covering in all a radius of about 20 miles, necessitating some 160 miles of mains, trunk and distributory. Each well has a separate pumping station.

The Cause of the Softness of the Water.

The expense connected with obtaining such a large supply under these difficult conditions has been very great. The overlying clay mantle in many places is known to be 500 feet thick, and is, of course, impervious to water. It is this unfavourable geological formation, together with the chemical peculiarities of the water, that give special interest to this particular water-supply. The chalk, from which some of the water is drawn, is overlain by the Thanet sands, forming the bottom bed of the London tertiaries. It is therefore only at its outcrop, on the north round Colchester and Braintree, and on the south in the neighbourhood of Grays and in Kent, that the rainfall can find access and maintain the supply to this great reservoir of the London basin. The rain water, charged with carbonic acid falling upon the chalk, dissolves calcium carbonate to an extent that produces in wells near the outcrop a hardness of 31·0, while the same water when reaching mid-Essex and the south-eastern district is almost alkaline, having but 1·8 degrees of hardness, due to the presence of sodium carbonates and sulphates. Now it is known that sea water percolates through fissures in the chalk, so much so that certain wells at a distance from the coast have had to be abandoned owing to the excess of sodium chloride present in the water. This percolation from the sea is thought to account for the large amount of sodium chloride frequently present in mid-Essex water, varying considerably in different localities. However, unlike the calcium salts of the hard water, which seem to be replaced by salts of sodium (carbonate and sulphate) in the soft water, the sodium chloride bears no relation to the other salts present. The point of interest is the gradual increase in the softness of the water as it approaches the point of greatest depth of clay. Dr. J. C. Thresh, medical officer of health to the Essex county council, who has devoted great attention to the subject, accounts for this by the following theory. The immense mass of clay compresses the chalk in proportion as it approaches its greatest depth, rendering the chalk impervious to water or nearly so. Thus water falling on the outcrop at first dissolves the chalk-forming fissures until the acid is exhausted. The water

Section Illustrating the Geological Conditions on which Dr. Thresh bases his Conclusions.



A, London clay of varying thickness, excluding the rainfall between Dunmow on the north, and the district round Rochester, Lenham, and Charing on the south, at which places the chalk comes to the surface. The clay is covered with alluvial deposits, boulder clay, Bagshot sands, &c., in varying quantities.
B, The Woolwich and Reading beds, some impervious, others porous to some extent, from 20 feet to 90 feet thick.
C, Thanet Sands. It is thought that in the Eocene epoch these were derived from flints, the composition of which is silica chemically deposited round some siliceous sponge or other similar nucleus. They are associated with glauconite grains whose chemical constituents tend to reduce any hardness due to calcium carbonate.
D, Chalk. This, on the north-west, rises to the higher elevation round Saffron Walden, and is some 1000 feet thick, while towards the south its surface has been denuded, and finally ends abruptly in the south-east in an escarpment overlooking the weald of Kent and Sussex, where it is only some 300 feet thick. Its trend is upwards, and in Eocene times it rose to form the lofty anticlinal over the weald, falling to join the Sussex downs. The denudation of this dome, it is supposed, provided most of the material for the formation of the London tertiaries. O.D., Ordnance datum.

then recedes from the outcrop along the top of the chalk through the Thanet sands towards the centre of the great mass of clay, and owing to increased compression and loss of acid is unable to soak deeper into the chalk and rests in the Thanet sands above. These sands have a varying thickness of 10–40 feet. According to the theory of Dr. Thresh, in which he is supported by Bischoft in his "Chemical and Physical Geology," "calcareous water passing through certain silicates of alumina containing potash and soda become softened." Such silicates are present in the Thanet sands in the form of glauconite, a hydrous silicate of aluminium, iron (in the condition of peroxide), potassium, magnesium, and calcium.[1] Glauconite is the soft earthy substance found in shells of foraminifera, which when present in great quantities forms greensands and glauconite limestone.

Dr. Thresh proved the softening property of these sands by experiment, but found that though the softening power was lost after long contact with a hard water this could be reinstated by contact with a saline water such as would be supplied by infiltration from the sea. In another experiment, by mixing water composed of similar constituents to sea water with one hardened by calcium carbonate, &c., similar in composition to water drawn direct from the chalk and afterwards passing the same through a greensand filter, a water was produced similar in its chemical constituents to the deep well water of central and south-east Essex. This theory seems to prove that the extreme softness of the water supplied to the Southend district is due to two circumstances: the compression of the water in the Thanet sands above the chalk acting as a softening filter, and the renewal of the softening properties contained in these sands by the presence of sea water due to percolation.[2]

The following is an analysis of No. 1: the soft water supplied to Southend. No. 2: ordinary sea water. No. 3: hard water drawn directly from the chalk:—

No. 1.—Southend Water.

	Grains per gallon.
Calcium carbonate	1·2
Magnesium carbonate	0·4
Sodium carbonate	21·0
Sodium sulphate	9·1
Sodium chloride...	22·7
Silica, &c.	0·9
	55·3

No. 2.—Sea Water.

	Per cent.
Sodium chloride...	78·32
Magnesium chloride	9·44
Magnesium sulphate	6·40
Calcium sulphate	3·94
Potassium chloride	1·69
Other substances, including calcium carbonate and silica	0·21
	100·00

No. 3.—Hard Chalk Water.

(Manningtree, North Essex.)

	Grains per gallon.
Calcium carbonate	16·4
Magnesium carbonate	4·5
Magnesium sulphate	5·0
Magnesium chloride	1·3
Sodium chloride	16·0
Silica, &c.	1·2
	44·4

The chalk water at Manningtree undoubtedly contains a trace of sea water, and it will be seen that if most of the calcium and magnesium salts were converted by the action of the Thanet sand into the corresponding salts of sodium, a water identical in character with the Southend water would result. Such soft, alkaline waters appear to be excellently adapted for drinking and general domestic purposes.

A GENERAL TUBERCULOSIS SCHEME FOR LONDON.

THE Public Health Committee on May 26th presented to the London County Council a complete scheme for the treatment of tuberculosis amongst the uninsured population of the metropolis which it has had in preparation since February, 1913. In the interval, as we have noted from time to time,[1] the relations between the County Council, the Metropolitan Asylums Board (as the infectious diseases authority in London), and the London Insurance Committee have been defined, and a beginning has been made with the organisation of dispensary treatment, several local schemes having been approved.

In outlining its scheme the Public Health Committee stated that it was anxious to encourage the provision of a complete network of dispensaries, as it had been much impressed with the potential value of these institutions as a means of discovering contact cases at an early stage and as a necessary first unit in any complete scheme. The committee had tried also to make the fullest possible use of the many agencies already available, and so to frame the scheme as to secure the coöperation of the great London hospitals. The Council's efforts would be most usefully directed to linking up all the various existing agencies and others to be created. It should use its funds to encourage the provision of fresh accommodation and to keep open institutions which might otherwise be closed, for the committee had come to the conclusion that adequate provision could be made through existing authorities, and that the Council itself need not own or manage institutions. Special attention should be given to the provision of residential accommodation for tuberculous children, for in this direction expenditure in treatment would be most profitably incurred.

Domiciliary treatment the committee dismissed in a few words with an allusion to the provision made under the Insurance Act and the statement that "domiciliary treatment of uninsured persons is provided by private practitioners, district medical officers, and voluntary institutions, and, in so far as it may be incidental to dispensary treatment, by the medical officer of the dispensary." Apparently financial assistance in uninsured domiciliary cases is not contemplated. Dispensary treatment would be provided by the borough councils, the County Council paying half the cost in the case of uninsured persons, subject to a condition, amongst others, that the dispensary would be linked up with a hospital. (The whole of these conditions were published in THE LANCET of Nov. 22nd, 1913, p. 1481.) Arrangements would be made by the County Council for the provision of residential accommodation for (1) observation, (2) hospital, (3) sanatorium, and (4) chronic or advanced cases.

An Honorary Tuberculosis Advisory Board.

For the purpose of selecting patients (uninsured) for residential treatment there should be established an honorary advisory board consisting of—

(a) One representative appointed by each of the teaching and other general hospitals and children's hospitals which are acting in any capacity under the scheme.

(b) Two representatives appointed by each of the three special chest hospitals.

(c) The medical superintendent appointed by each of the sanatoriums with which arrangements have been made by the Council.

(d) Two representatives of the tuberculosis dispensaries.

(e) The medical officer and deputy medical officer of health appointed by the County Council.

The board would be empowered, with the consent of the Council, to coöpt persons possessing special medical or surgical knowledge. The representatives appointed by the teaching and general hospitals should be physicians and assistant physicians actively engaged in hospital practice. The honorary advisory board would be asked to prepare a memorandum as to the types of cases suitable for the various forms of institutional treatment, this to be circulated to the medical officers and institutions dealing with the cases. The board should advise as to forms for medical reports and generally as to all matters upon which uniformity was desirable or upon which the Council might desire to have its opinion. The advisory board should appoint from its own body, or, if thought desirable, from outside, a rota of two or more physicians to act as medical referees and to examine all cases referred to them by the medical officer of the county in accordance with conditions to be prepared by the advisory board and approved by the Council. These physicians would attend as required at a limited number of convenient centres for the purposes of examining cases, advising the county medical officer and recommending as to the action to be taken. Each physician while on the rota would be paid an honorarium of one guinea for each case. Representatives on the advisory board of sanatoriums, dispensaries, and the County Council would not be eligible to serve on the rota.

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[1] For analysis see "Report on the Deep Sea Deposits," Challenger Reports, 1891, p. 387.

[2] THE LANCET, Feb. 3rd, 1912, p. 315.

[1] THE LANCET, Feb. 15th (p. 478), March 15th (p. 785), and Oct. 25th (p. 1205), 1913.

The committee anticipated that the advisory board would be of great assistance in advising the Council generally on all matters necessary to secure smooth working and useful coöperation amongst the different institutions taking part in the scheme. Although this proposal was new to the Council, the committee had had the advantage of conferring upon it with representatives of the principal London hospitals, and a resolution was passed by a large majority in which the representatives expressed general approval of the proposals and their intention to advise their several hospitals to appoint members on the advisory board.

Organisation of Treatment.

It should be referred to the dispensary medical officer to classify the cases clinically as suitable for home treatment, consultative reference to hospitals, in-patient hospital treatment or sanatorium treatment, and to forward to the medical officer of health for the borough a report on each case. The local medical officer of health would then classify the cases as to home conditions in three classes—(*a*) satisfactory, (*b*) unsatisfactory, and (*c*) removal urgently necessary. In cases recommended for in-patient hospital treatment or sanatorium treatment, the papers would be forwarded to the county medical officer, and he would refer to the rota all cases in which the advice of the referees was required. The judgment of the medical referees would not be subject to clinical review by the Council. Children suffering from tuberculosis would be grouped under the following classes: those suffering from (1) bone and joint tuberculosis; (2) pulmonary tuberculosis; (3) tuberculosis of the skin, glands, and other organs; and (4) suspects—i.e., cases noted by bacteriological methods to be tuberculous or found on medical examination to be predisposed to the disease and presenting signs pointing to the possibility of the disease in an incipient form. About 1500 children of the first class were in attendance at schools for the physically defective, and the remainder might be classed as in-patients or out-patients at London hospitals. Some pulmonary cases could be dealt with in open-air day schools; those cases which needed residential treatment might be met by making arrangements for the children to sleep at night at open-air schools. The glandular cases presented little difficulty; a small number would require a stay in the country, the others could be dealt with in open-air schools and tuberculosis dispensaries. In this matter the school medical work must be coördinated. In the course of medical inspection all cases of tuberculosis not notified to the local medical officers of health should be notified to the county medical officer. Arrangements must also be made for after-care and the preservation of records.

In regard to the general provision of residential accommodation, the Public Health Committee considered that, as most of those for whom the Insurance Committee made provision were males, the Council would find that most of the adults for whom it would be responsible would be women. It was more difficult in the case of adults than of school children to frame a reliable estimate of numbers, but probably by April, 1915, for adults 160 beds would be required in hospitals and 240 beds in sanatoriums, with an initial provision for children of 150 beds in residential institutions. So far as hospital beds were concerned there was accommodation at reasonable prices almost sufficient for the needs of the immediate future, but this was not the case with sanatorium beds either for adults or children. The Council should encourage existing institutions to increase their accommodation. Subject in some cases to adjustment of questions still under discussion, beds could be obtained at the Brompton, City of London (Victoria Park), King's College, Metropolitan, Royal Chest (City-road), Royal Free, St. Bartholomew's, St. Mary's, University College, and Westminster Hospitals, and the Fairlight (Hastings), Frimley, Whitmead (Surrey), and Maltings Farm (Suffolk) Sanatoriums. The authorities of King's College Hospital were prepared to place at the Council's disposal when ready a new ward containing 24 beds, the cost to the Council being £1600 a year. This offer the committee proposed to accept. The sanatorium accommodation available was considerably below the Council's requirements, but it was hoped that a number of additional beds would be obtained from institutions which at present asked more than 30*s.* a week for a bed. Even then many more beds would be needed, and the Metropolitan Asylums Board had been asked on what terms it could provide 150 beds, which would be a suitable initial provision. There were in Poor-law institutions about 2300 advanced or chronic cases of tuberculosis. If the Council provided for these cases one-half of the cost would be borne by the Exchequer instead of by the rates as at present. On grounds of convenience the committee had asked the Metropolitan Asylums Board to deal with these cases on its behalf, and perhaps to take over some of the infirmaries. The committee had fixed 20*s.* as a proper weekly charge in respect of residential accommodation for tuberculous children. Arrangements were pending with the East Anglian Sanatorium, Nayland, for 50 beds and the Victoria Home, Margate, for five beds, and the Metropolitan Asylums Board had been asked to provide accommodation. The East Anglian Sanatorium would provide 50 additional beds, and offered to supply 50 beds in tents until permanent structures were ready. Negotiations were proceeding with the authorities of the Alexandra Hospital for the erection of a children's convalescent home near London. As explained above, the greater part of the accommodation required for children would be supplied by the children's hospitals and the physically defective schools.

In regard to after-care the scheme provided that the local medical officer and the private practitioner should be notified of the discharge of an adult patient from a sanatorium. In all cases in which a patient or the person legally responsible for a patient was in receipt of an income of £160 a year or over, and the circumstances appeared to justify the demand, a charge should be made for treatment received. As a condition of receiving residential treatment a patient would be required to give an undertaking to remain under medical supervision on his discharge. On the question of cost the committee gave the following estimate:—

	Cost for 1914-15.	Cost for 1915-16.
Hospital beds (160)	£ 8,928	£12,480
Sanatorium beds (240)	13,439	18,720
Children's beds (150)	5,454	7,650
Travelling and incidental expenses, including fees of medical referees ...	1,100	1,400
	28,921	40,250
	(Say) 29,000	(Say) 40,000
Government contribution	14,250	20,000
Fees of medical referees, payable by borough councils	500	—
Net estimated expenditure	£14,250	£20,000

Discussion.

After a short debate the Council approved the scheme. Mr. O. E. WARBURG, chairman of the committee, emphasised the point that the intention to make the dispensary the essential unit of the machinery was in accord with the report of the departmental committee. Whenever a patient attended a dispensary a visit would afterwards be paid to his home to see the conditions under which he was living. In the second unit of the scheme—residential accommodation—it was intended to make full use of the *knowledge* already possessed by the great hospitals, but the attempt was made to provide machinery by which the various agencies might be linked up.

Mr. J. A. DAWES, M.P., chairman of the London Insurance Committee, said that the one great blot on the scheme was that it dealt with uninsured persons only. Other counties and large boroughs had taken a broad view and had undertaken the treatment of the whole tuberculous population, the Insurance Committees handing over their patients and available funds to the county councils. Only thus could a comprehensive and entirely satisfactory scheme be prepared for London. It was unfortunate that for dispensary purposes there were 29 "ring-fence" areas—the boroughs—in some of which there were municipal dispensaries and in others dispensaries provided by voluntary effort, whilst in some the borough councils had refused to deal with the matter at all. In 10 or 12 boroughs nothing had been done beyond the passing of pious resolutions. The general scheme was a very great step in providing residential accommodation, but he was afraid the committee had seriously underestimated the number of beds required in hospitals and sanatoriums.

THE INFECTIVITY OF PULMONARY TUBERCULOSIS.

THE STATEMENT BY THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

IN our issue of April 11th, 1914, in the report of the meeting of the Comitia of the Royal College of Physicians of London, we referred to the adoption of the report of a subcommittee of five members upon the infectivity of tuberculosis. This report, of which we gave a summary, has been issued by the College in the form of a statement which is designed to render assistance to those having administrative duties in connexion with tuberculosis. At the request of several correspondents we now print the statement in full. It has been drawn up in the hope that medical men in private practice will base on it a common procedure in giving advice and instruction about the infectivity of tuberculosis, and that medical officers of health may find it useful in connexion with administration. The statement is specifically issued by the Royal College of Physicians "in view of the exaggerated fear of the infectivity of pulmonary tuberculosis entertained by the public." Copies may be had on application to the Registrar of the College, Pall Mall East, London, S.W.

The Infectivity of Tuberculosis.

1. Tuberculosis is an acquired disease, but certain constitutional types may be inherited which render the patient specially susceptible to infection, and there is reason to think that such susceptibility is an inherited character.

2. The infective agent is the tubercle bacillus. This may be contained in the various discharges and excreta of the patient, and especially in the sputum of those suffering from pulmonary tuberculosis. No discharge is infective unless it contains the tubercle bacillus.

3. Cases of tuberculosis of bones, glands, and internal organs from which there is no discharge or which do not furnish any excretion, and cases of arrested pulmonary tuberculosis, have never been proved to be infectious.

(By arrest is here meant that all the symptoms and physical signs of activity have disappeared, and the sputum has either ceased or no longer contains tubercle bacilli.)

4. The means by which tubercle bacilli may enter the body are:—

(*a*) *By inoculation* through a wound or abrasion of the skin. This has occasionally occurred to workers in laboratories, post-mortem attendants, and others dealing with tuberculous material, and is presumably the way in which lupus is acquired.

(*b*) *By inhalation.* Susceptible animals are readily infected by the inhalation of air containing tubercle bacilli, whether in droplets or suspended as fine dust, but in the spread of the disease among human beings the latter appears to be the more important means of infection. The sputum or other discharges, whether on soiled handkerchiefs, linen, garments, or elsewhere, when dried, may become pulverised, and in this condition may be readily dispersed in the air of a room. That droplets of sputum are less important agents of infection is suggested by the fact that the incidence of consumption upon the staff, nurses, and others engaged in hospitals for the treatment of tuberculous disease, where all discharges are carefully disposed of, is not above the average in the general population.

(*c*) *By swallowing.* Dust infected by the tubercle bacillus may be conveyed to food and so enter the alimentary canal; or infection may occur more directly in the act of kissing or by consumptive and healthy persons using the same food utensils. As about 10 per cent of the milk supplied to large cities contains tubercle bacilli derived from infected cows, this avenue of infection is particularly important in the case of children. The bovine tubercle bacillus is more commonly responsible for tuberculosis in young children than in adults, but the proportion of cases due to it varies very much in different localities.

There is no evidence that tuberculosis can be conveyed to others either by the breath alone, or by emanations from patients, or by their garments, unless soiled by dried sputum or discharges.

5. The spread of tuberculosis is favoured by uncleanliness, overcrowding, and imperfect ventilation, and is hindered by the opposite conditions. Experience in hospitals and other institutions where the following precautionary measures have been thoroughly carried out indicates that by such measures the risk of infection is reduced to a minimum, namely—

(*a*) The careful disposal and disinfection of the sputum and other discharges.

(*b*) The disinfection or destruction of soiled handkerchiefs, clothes, and linen.

(*c*) The removal of dust by frequent moist cleansing of the floors, walls, &c., of the rooms.

(*d*) The supply of abundant air space, and free ventilation with fresh air.

No risk is incurred by living in the immediate neighbourhood of institutions for the treatment of tuberculosis which are properly conducted.

ROYAL COMMISSION ON VENEREAL DISEASES.

EVIDENCE was given at the thirty-sixth meeting of the Royal Commission on Venereal Diseases by Sir T. Clifford Allbutt, Regius Professor of Physic in the University of Cambridge.

Sir Clifford Allbutt, whose evidence related mainly to arterial disease, stated that syphilis was by far the gravest of the infectious diseases of the arteries, and that it was particularly grave in its tendency to cause aneurysms of which probably 95 per cent. were syphilitic. He thought it probable that, if infection with syphilis were dealt with at an early stage and by the most modern methods of treatment, the occurrence of these syphilitic diseases of the arteries might be avoided. In cases where syphilitic disease of the aorta did occur it was of enormous importance that it should be dealt with at the earliest possible moment and with the greatest and promptest vigour.

At the thirty-seventh meeting evidence was given by Mrs. R. P. Wethered and Miss Amy Hughes, representing a large and representative meeting of ladies interested in rescue work which was held some time ago under the presidency of Her Royal Highness Princess Christian. At this meeting the following resolution was passed:—

> That this meeting, consisting of rescue workers, matrons of hospitals and workhouses, district nurses, lady guardians, and others, advocates a system of confidential notification (by doctors) to a specially appointed sanitary authority as the only means of altering the law of libel and so ensuring proper precautions being taken against danger to the community, and especially to innocent persons.

Mrs. Wethered submitted to the Commission particulars of a number of cases which had occurred in her experience illustrating the necessity of telling the truth with regard to this matter and of recognising the infectious nature of these diseases.

DONATIONS AND BEQUESTS.—The Hospital for Consumption and Diseases of the Chest, Brompton, has received a donation of £500; the Prince of Wales's General Hospital, Tottenham, £250; and the Chelsea Hospital for Women £500 towards its rebuilding fund, and £100 towards the funds of its convalescent home at St. Leonards-on-Sea from the trustees of Smith's (Kensington Estate) Charity. The same charity has sent £200 to Queen Charlotte's Hospital, Marylebone-road.—The late Mr. Frederick Burton, of Hopefield, Pendleton, and Gwaynynog, Denbigh, and treasurer of the Salford Royal Hospital, has left £2000 to the Salford Royal Hospital, £1000 to the Manchester Royal Infirmary, £1000 to the St. Mary's Hospitals, Manchester, and £500 to the Denbigh Infirmary.—Mr. Edward Graham Wood, of Salford and Southport, has presented to the Southport Infirmary £1000 to endow a bed, to be called the Kenneth Graham Holden Bed. This is the fifth hospital bed which Mr. Wood has endowed in Lancashire.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 8500 births and 4834 deaths were registered during the week ended Saturday, May 23rd. The annual rate of mortality in these towns, which had declined from 15·1 to 14·1 per 1000 in the four preceding weeks, further fell to 13·9 per 1000 in the week under notice. During the first seven weeks of the current quarter the mean annual death-rate in these towns averaged 14·5, against 13·6 per 1000 in London during the same period. Among the several towns the death-rate last week ranged from 5·1 in Ealing, 6·2 in Leyton, 6·4 in Reading, 6·9 in Ilford, and 7·5 in Eastbourne, to 20·2 in Oxford, 20·5 in Sunderland, 21·0 in Middlesbrough, 21·1 in West Hartlepool, and 22·0 in Stockton-on-Tees.

The 4834 deaths from all causes were 71 fewer than the number in the previous week, and included 468 which were referred to the principal epidemic diseases, against numbers declining from 453 to 421 in the three preceding weeks. Of these 468 deaths, 144 resulted from whooping-cough, 143 from measles, 83 from infantile diarrhœal diseases, 51 from diphtheria, 34 from scarlet fever, and 13 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·3, against 1·3 and 1·2 per 1000 in the two preceding weeks. The deaths attributed to whooping-cough, which had been 139, 146, and 143 in the three preceding weeks, were 144 last week, and caused the highest annual death-rates of 1·5 in Stoke-on-Trent, 1·6 in Barrow-in-Furness and in West Hartlepool, and 1·7 in Walsall and in Newport (Mon.) The deaths referred to measles, which had been 155, 146, and 138 in the three preceding weeks, rose to 143 last week; the highest death-rates from this disease were 1·2 in Blackburn, in Middlesbrough, and in Newport (Mon.), 1·4 in Bootle, 2·0 in Dudley and in Sheffield, 2·1 in Warrington, and 2·8 in Rochdale. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 59, 59, and 69 in the three preceding weeks, further rose to 83 last week; of this number 17 were recorded in London, 10 in Liverpool, 9 in Manchester, and 3 each in Bristol, Birmingham, Salford, Sheffield, and Middlesbrough. The deaths attributed to diphtheria, which had been 50, 44, and 31 in the three preceding weeks, rose to 51 last week, of which 12 occurred in London, 5 in Birmingham, 4 in Leeds, and 2 each in West Ham, Walthamstow, Bradford, and Middlesbrough. The deaths referred to scarlet fever, which had been 35, 27, and 33 in the three preceding weeks, were 34 last week, and included 6 in London, 5 in Liverpool, 4 in Manchester, and 2 each in Birkenhead, Oldham, Sheffield, and Newcastle-on-Tyne. The fatal cases of enteric fever, which had been 15, 13, and 7 in the three preceding weeks, rose to 13 last week, of which 3 occurred in London.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 2876, 2901, and 2862 at the end of the preceding three weeks, had increased to 2909 on Saturday last; 415 new cases were admitted during the week, against 377, 398, and 349 in the three preceding weeks. These hospitals also contained on Saturday last 1125 cases of diphtheria, 363 of whooping-cough, 100 of measles, and 47 of enteric fever, but not one of small-pox. The 1097 deaths from all causes were 59 fewer than the number in the previous week, and corresponded to an annual death-rate of 12·7 per 1000. The deaths referred to diseases of the respiratory system, which had been 185, 221, and 190 in the three preceding weeks, further declined to 188 last week, and were 9 below the number recorded in the corresponding week of last year.

Of the 4834 deaths from all causes in the 97 towns, 169 resulted from various forms of violence, and 363 were the subject of coroners' inquests, while 1433 occurred in public institutions. The causes of 37, or 0·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and in its 14 suburban districts, in Manchester, Sheffield, Leeds, Bristol, Bradford, Hull, and in 55 other smaller towns. Of the 37 uncertified causes of death, 8 were registered in Birmingham, 6 in Liverpool, 3 in Portsmouth, 2 in Leicester, and 2 in Nottingham.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1258 births and 709 deaths were registered during the week ended Saturday, May 23rd. The annual rate of mortality in these towns, which had been 15·2, 16·2, and 15·3 per 1000 in the three preceding weeks, rose to 16·1 per 1000 in the week under notice. During the first seven weeks of the current quarter the mean annual death-rate in these towns averaged 16·0, against a corresponding rate of 14·5 per 1000 in the 97 large English towns. Among the several towns the death-rate last week ranged from 3·1 in Falkirk, 8·8 in Kilmarnock, and 10·5 in Clydebank, to 16·9 in Perth, 17·8 in Glasgow, and 24·3 in Hamilton.

The 709 deaths from all causes were 36 in excess of the number in the previous week, and included 62 which were referred to the principal epidemic diseases, against 64 and 55 in the two preceding weeks. Of these 62 deaths, 27 resulted from measles, 14 from infantile diarrhœal diseases, 10 from whooping-cough, 7 from scarlet fever, 3 from diphtheria, and 1 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·4, against 1·3 per 1000 in the 97 large English towns. The deaths attributed to measles, which had been 19, 31, and 20 in the three preceding weeks, rose to 27 last week, of which 17 occurred in Glasgow, 4 in Dundee, 2 in Edinburgh, and 2 in Hamilton. The deaths of infants (under 2 years) referred to diarrhœa and enteritis, which had been 17, 4, and 6 in the three preceding weeks, further rose to 14 last week, and included 10 in Glasgow. The fatal cases of whooping-cough, which had increased from 9 to 15 in the four preceding weeks, declined to 10 last week, and comprised 7 in Glasgow, 2 in Coatbridge, and 1 in Dundee. The deaths attributed to scarlet fever, which had been 2, 4, and 4 in the three preceding weeks, rose to 7 last week, of which 3 occurred in Glasgow, 3 in Edinburgh, and 1 in Motherwell. The deaths referred to diphtheria, which had declined from 9 to 5 in the four preceding weeks, further fell to 3 last week, and were recorded in Glasgow, Aberdeen, and Paisley. The fatal case of enteric fever was registered in Glasgow. In addition to the above a death from typhus occurred in Glasgow.

The deaths referred to diseases of the respiratory system, which had been 90, 116, and 104 in the three preceding weeks, slightly rose to 107 in the week under notice; and 32 deaths were attributed to various forms of violence, against 16 and 23 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 630 births and 438 deaths were registered during the week ended Saturday, May 23rd. The annual rate of mortality in these towns, which had steadily declined from 25·3 to 18·2 per 1000 in the four preceding weeks, rose to 18·9 per 1000 in the week under notice. During the first seven weeks of the current quarter the mean annual death-rate in these towns averaged 20·6 per 1000; in the 97 large English towns the corresponding rate did not exceed 14·5, while in the 16 Scotch towns it was equal to 16·0 per 1000. The annual death-rate last week was equal to 19·3 in Dublin (against 12·7 in London and 17·8 in Glasgow), 17·9 in Belfast, 19·7 in Cork, 16·5 in Londonderry, 24·4 in Limerick, and 19·0 in Waterford, while in the 21 smaller towns the mean rate rose to 19·5 per 1000.

The 438 deaths from all causes were 17 in excess of the number in the previous week, and included 46 which were referred to the principal epidemic diseases, against numbers declining from 75 to 43 in the five preceding weeks. Of these 46 deaths, 18 resulted from measles, 10 from infantile diarrhœal diseases, 7 from whooping-cough, 6 from scarlet fever, and 5 from diphtheria, but not one from enteric fever or from small-pox. The mean annual death-rate from these diseases last week was equal to 2·0, against corresponding rates of 1·3 and 1·4 per 1000 in the English and Scotch towns respectively. The deaths attributed to measles, which had been 45, 30, and 21 in the three preceding weeks, further declined to 18 last week, of which 16 occurred in Dublin. The deaths of infants (under 2 years) referred to diarrhœa and enteritis, which had been 8, 3, and 9 in the three preceding weeks, were 10 last week, and included 7 in Dublin and 2 in Belfast. The fatal cases of whooping-cough, which had declined from 14 to 8 in the five preceding weeks, were 7 last week, of which 5 were registered in Belfast. The 6 deaths attributed to scarlet fever were 2 above the average in the earlier weeks of the quarter, and comprised 5 in Belfast and 1 in Dublin. The 5 deaths referred to diphtheria, which were all recorded in Dublin, were 3 above the average in the earlier weeks of the quarter. In addition to the above, 5 fatal cases of typhus were registered in Belfast.

The deaths referred to diseases of the respiratory system, which had been 57, 74, and 85 in the three preceding weeks, fell to 79 in the week under notice. Of the 438 deaths from all causes, 153, or 35 per cent., occurred in public institutions and 9 resulted from various forms of violence. The causes of 20, or 4·6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes did not exceed 0·8 per cent.

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING APRIL, 1914.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1914.	NOTIFIED CASES OF INFECTIOUS DISEASE.												DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.									Deaths from all causes.	Death-rate per 1000 living.†
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Poliomyelitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Enteric fever.	Diarrhœa and enteritis (under 2 years).	Total.	Annual rate per 1000 persons living.		
LONDON...	4,510,612	—	1283	510	—	45	1	8	315	12	1	2195	6·3	—	74	19	38	106	9	63	309	0·9	4789	13·8
West Districts.																								
Paddington	142,065	—	40	13	—	1	—	1	7	1	—	63	5·8	—	—	1	—	1	—	1	3	0·3	128	11·5
Kensington	170,817	—	61	9	—	1	1	1	11	—	—	84	6·4	—	—	1	—	—	—	2	3	0·2	160	12·8
Hammersmith	124,750	—	45	9	—	—	—	—	14	—	—	68	7·1	—	1	—	1	—	1	—	3	0·3	110	11·4
Fulham	158,849	—	51	12	—	2	—	1	10	—	—	76	6·2	—	—	1	1	6	1	2	11	0·9	159	13·5
Chelsea	63,701	—	9	5	—	1	—	1	—	—	—	16	3·3	—	—	—	1	2	—	—	3	0·6	70	13·6
City of Westminster	162,340	—	37	10	—	3	—	1	6	1	—	58	5·0	—	1	—	1	1	—	—	3	0·3	140	13·2
North Districts.																								
St. Marylebone	112,892	—	18	9	—	4	—	1	3	—	—	35	4·0	—	—	1	—	4	1	2	8	0·9	123	14·5
Hampstead	86,731	—	23	10	—	1	—	—	3	—	—	37	5·6	—	—	—	—	1	—	1	2	0·3	73	11·6
St. Pancras	212,497	—	63	17	—	5	—	1	13	—	—	99	6·1	—	2	1	—	9	1	2	15	0·9	230	14·1
Islington	324,764	—	94	40	—	4	—	2	12	—	—	152	6·1	—	3	—	1	12	—	6	22	0·9	329	12·9
Stoke Newington	50,454	—	8	9	—	—	—	—	3	—	—	20	5·2	—	—	—	—	1	—	1	2	0·1	62	12·7
Hackney	223,724	—	44	46	—	2	—	2	19	—	—	113	6·6	—	1	—	3	8	—	7	19	1·1	240	14·1
Central Districts.																								
Holborn	45,801	—	21	7	—	—	—	—	—	—	—	28	8·0	—	—	—	—	2	—	—	2	0·6	59	16·0
Finsbury	83,212	—	28	8	—	—	—	1	20	1	—	58	9·1	—	8	1	1	5	—	4	19	3·0	123	19·1
City of London	17,129	—	2	—	—	—	—	—	—	—	—	2	1·5	—	—	—	—	—	—	—	—	—	23	18·2
East Districts.																								
Shoreditch	108,869	—	26	8	—	—	—	1	11	—	—	46	5·5	—	—	—	2	5	—	—	7	0·8	143	17·7
Bethnal Green	127,662	—	27	24	—	—	—	1	22	—	—	74	7·6	—	2	1	2	6	—	3	14	1·4	167	17·8
Stepney	275,265	—	59	31	—	2	—	2	27	1	—	122	5·8	—	9	1	3	12	2	2	29	1·4	363	18·0
Poplar	160,222	—	35	23	—	1	—	4	11	—	—	74	6·0	—	5	1	5	1	—	3	15	1·2	175	14·1
South Districts.																								
Southwark	186,941	—	81	26	—	1	—	2	27	4	—	141	9·8	—	1	3	3	6	—	5	18	1·3	243	17·0
Bermondsey	124,213	—	32	12	—	2	—	1	2	1	—	50	5·2	—	6	1	—	1	—	6	14	1·5	176	18·5
Lambeth	298,724	—	108	38	—	10	—	2	16	1	1	176	7·7	—	3	1	6	4	3	4	21	0·9	305	13·1
Battersea	167,338	—	35	16	—	—	—	1	11	—	—	63	4·9	—	5	—	1	1	—	2	9	0·7	164	12·9
Wandsworth	338,008	—	78	22	—	2	—	—	16	1	—	119	4·6	—	6	—	1	7	—	7	21	0·8	259	10·0
Camberwell	262,020	—	84	29	—	1	—	—	21	1	—	136	6·8	—	6	2	3	4	—	3	18	0·9	266	13·0
Deptford	109,182	—	51	15	—	—	—	—	11	—	—	77	9·2	—	4	2	—	—	—	—	6	0·7	101	12·0
Greenwich	96,037	—	26	14	—	—	—	—	9	—	—	49	6·7	—	8	—	—	—	—	—	8	1·1	126	16·8
Lewisham	172,433	—	47	20	—	2	—	1	5	—	—	75	5·7	—	1	1	1	1	—	—	4	0·3	134	9·9
Woolwich	122,836	—	49	28	—	—	—	1	5	—	—	83	8·8	—	2	—	2	6	—	—	10	1·1	138	16·0
Port of London	—	—	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup. † The death-rates are corrected for variations in sex- and age-constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard.

VITAL STATISTICS OF LONDON DURING APRIL, 1914.

In the accompanying table will be found complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the ten diseases specified in the table was equal to an annual rate of 6·3 per 1000 of the population, estimated at 4,516,612 persons in the middle of the year; in the three preceding months the rates were 8·3, 8·5, and 7·4 per 1000 respectively. The lowest rates last month were recorded in Chelsea, St. Marylebone, the City of London, Battersea, and Wandsworth; and the highest rates in Holborn, Finsbury, Southwark, Deptford, and Woolwich. Scarlet fever again showed a decreased prevalence as compared with other recent months; this disease was proportionally most prevalent last month in Holborn, Southwark, Lambeth, Deptford, and Woolwich. The Metropolitan Asylums Hospitals contained 2826 scarlet fever patients at the end of last month, against 3543, 3328, and 3138 at the end of the three preceding months; the weekly admissions averaged 312, against 400, 379, and 337 in the three preceding months. Diphtheria was less prevalent than it had been in any of the seven preceding months; among the several metropolitan boroughs the greatest proportional prevalence of this disease last month was recorded in Stoke Newington, Hackney, Bethnal Green, Poplar, Southwark, Deptford, Greenwich, and Woolwich. The number of diphtheria patients under treatment in the Metropolitan Asylums Hospitals, which had been 1225 and 1305 at the end of the two preceding months, declined again to 1121 at the end of last month; the weekly admissions averaged 114, against 153, 166, and 158 in the three preceding months. Enteric fever was rather more prevalent than it had been in the previous month; the greatest proportional prevalence during April was recorded in the City of Westminster, St. Marylebone, St. Pancras, and Lambeth. There were 55 enteric fever patients under treatment in the Metropolitan Asylums Hospitals at the end of last month, against 65, 82, and 66 at the end of the three preceding months; the weekly admissions averaged 7, against 15 and 6 in the two preceding months. The 28 cases of puerperal fever notified during the month included 4 in Poplar and 2 each in Islington, Hackney, Stepney, Southwark, and Lambeth. Of the 12 cases of cerebro-spinal meningitis, 4 belonged to Southwark; and the only case of poliomyelitis reported occurred in Lambeth.

The mortality statistics relate to the deaths of persons actually belonging to the several boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided; the death-rates from all causes are further corrected for variations in the sex- and age-constitution of the population of the several boroughs. During the four weeks ending May 2nd the deaths of 4789 London residents were registered, equal to an annual rate of 13·8 per 1000; in the three preceding months the rates were 18·4, 14·8, and 15·2 per 1000 respectively. The death-rates last month ranged from 9·9 in Lewisham, 10·0 in Wandsworth, 11·4 in Hammersmith, 11·5 in Paddington, and 11·6 in Hampstead, to 17·7 in Shoreditch, 17·8 in Bethnal Green, 18·0 in Stepney, 18·2 in the City of London, 18·5 in Bermondsey, and 19·1 in Finsbury. The 4789 deaths from all causes included 309 which were attributed to the principal infectious diseases; of these, 74 resulted from measles, 19 from scarlet fever, 38 from diphtheria, 106 from whooping-cough, 9 from enteric fever, and 63 from diarrhœa and enteritis among children under two years of age. No death from any of these diseases occurred last month in the City of London; among the metropolitan boroughs they caused the lowest death-rates in Paddington, Kensington, Hammersmith, the City of Westminster, Hampstead, Stoke Newington, and Lewisham; and the highest rates in Finsbury, Bethnal Green, Stepney, Southwark, and Bermondsey. The 74 fatal cases of measles were 172 below the corrected average number in the corresponding period of the five preceding years; this disease was proportionally most fatal last month in Finsbury, Stepney, Poplar, Bermondsey, Battersea, Deptford, and Greenwich. The 19 fatal cases of scarlet fever were slightly in excess of the corrected average, and included 3 in Southwark, 2 in Camberwell, and 2 in Deptford. The 38 deaths from diphtheria were 2 above the corrected average number; this disease was proportionally most fatal last month in Hackney, Shoreditch, Bethnal Green, Poplar, Southwark, Lambeth, and Woolwich. The 105 fatal cases of whooping-cough were 37 below the corrected average number; the highest death-rates from this cause were recorded in St. Pancras, Holborn, Finsbury, Shoreditch, Bethnal Green, Stepney, and Woolwich. The 9 deaths from enteric fever were 3 in excess of the corrected average number, and included 3 in Lambeth and 2 in Stepney. The mortality from diarrhœa and enteritis among children under two years of age was proportionally greatest in Hackney, Finsbury, Bethnal Green, Southwark, and Bermondsey.

In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases, excluding diarrhœa, was 45·2 per cent. below the average.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet-Surgeon: E. G. E. O'Leary to the *Queen*, on recommissioning. Staff-Surgeon: N. J. Roche to the *Sutlej*, for voyage out and home. Surgeon: F. J. D. Twigg to the *Queen*, on recommissioning.

The undermentioned Staff-Surgeons have been promoted to the rank of Fleet-Surgeon in His Majesty's Fleet:—Henry Cadman Whiteside, Robert Lumley Dickinson, Herbert Wells Bayly Shewell, John Martin, Christian Beverley Fairbank, Francis Frederick Lobb, Harold John Chater, Reginald St. George Smallridge Bond, Charles Clarke Macmillan, D.S.O., Fred Claude Bromley Gittings, Ramsey Martyn Richards, Alan Grant Eastment, and George Ernest Duncan (dated May 23rd, 1914).

ROYAL ARMY MEDICAL CORPS.

Major Robert B. Black retires on retired pay (dated May 27th, 1914).

Colonel R. Kirkpatrick, C.M.G., has been appointed Assistant Director of Medical Services to the Presidency Brigade at Calcutta on transfer from Sialkot Cantonment.

Lieutenant-Colonel A. T. J. Lilly has been appointed to officiate as Assistant Director of Medical Services to the Bombay Brigade. Lieutenant-Colonel E. M. Hassard has been granted six months' general leave of absence home from India. Lieutenant-Colonel J. C. Connor has been appointed Deputy Assistant Director of Medical Services on the Headquarter Staff of the Irish Command. Lieutenant-Colonel H. E. Winter has been appointed to hold charge of the Military Hospital at Colaba, Bombay. Lieutenant-Colonel G. H. Hale, D.S.O., has been selected for appointment as Senior Medical Officer at Sialkot Cantonment. Lieutenant-Colonel N. Faichnie has been appointed to the Western Command. Lieutenant-Colonel M. P. C. Holt, D.S.O., has taken over charge of the Cambridge Military Hospital at Aldershot. Lieutenant-Colonel J. W. Bullen has been transferred from the Military Hospital at Sheffield to Strensall. Lieutenant-Colonel T. du B. Whaite has been appointed to hold charge of the Military Hospital at Lahore.

Major V. J. Crawford has been appointed to the Southern Command. Major H. W. H. O'Reilly has joined at Secunderabad. Major H. M. Nicholls has arrived home for duty from India. Major L. W. Harrison has been appointed to the Royal Army Medical College at Grosvenor-road, S.W. Major F. McLennan has taken up duty at Aberdeen. Major J. Poe has joined at Shorncliffe. Major R. McK. Skinner has embarked for India. Major J. D. G. Macpherson has been appointed Deputy Assistant Director of Medical Services to the West Lancashire Division. Major H. D. Packer has joined at Karachi. Major E. F. Q. L'Estrange has arrived home from Cannanore Cantonment. Major A. E. Milner has been appointed to the Recruiting Medical Staff at Birmingham. Major P. S. O'Reilly has been appointed Medical Officer at the Royal Arsenal, Woolwich. Major H. B. G. Walton has been appointed Specialist in the Prevention of Disease to the Bareilly Brigade and placed in charge of the Bacteriological Research Laboratory at the Military Hospital, Bareilly Cantonment. Major C. J. O'Gorman, D.S.O., has been transferred from the Military Hospital at Calcutta to Barrackpore Cantonment. Major G. J. S. Archer has taken up duty at the Royal Victoria Military Hospital, Netley.

Captain H. V. Bagshawe has been transferred from the Military Hospital at Cyprus to Cairo. Captain T. S. Coates has joined at Meerut Cantonment. Captain A. L. Stevenson has been granted six months' general leave of absence home from India. Captain C. W. Bowle has arrived home from India. Captain A. Irvine-Fortescue has taken up special duty in Japan. Captain E. D. Caddell has been appointed to the Dublin District. Captain J. D. Bowie has arrived home on leave of absence. Captain O. R. McEwen has been appointed to the Irish Command. Captain A. H. Hayes has taken up duty at Ambala Cantonment. Captain W. E. C. Lunn has been appointed to the Aldershot Command. Captain V. P. Hutchinson has been appointed to the staff of the Military Hospital at Potchefstroom. Captain T. H. Dickson has taken up duty at Bareilly. Captain R. J. Cahill has been transferred from the Military Hospital at Londonderry to Belfast. Captain M. B. H. Ritchie has been transferred from Chatham to the Colchester District. Captain M. O. Wilson has arrived home from Aden. Captain T. H. Scott has arrived home from India. Captain P. S. Stewart has been appointed to the Southern Command. Captain H. H. Leeson has been appointed to Khartoum. Captain A. C. Elliott has arrived home from the Military Hospital at Sialkot Cantonment. Captain E. B. Lathbury has been appointed to the Irish Command. Captain A. T. Frost has been transferred from the Military Hospital at Lucknow to Poona Cantonment. Captain C. H. O'Rorke has been appointed to the Military Hospital at Darjeeling. Captain A. D. Stirling has joined the Military Hospital at Cairo. Captain J. R. Forster has been appointed to the Dublin District. Captain M. J. Williamson has been appointed to the Military Hospital at Simonstown. Captain E. W. Vaughan has taken up duty in the Devonport District. Captain R. J. B. Buchanan has taken up duty at the Royal Victoria Military Hospital, Netley. Captain H. H. Blake has joined at Peshawar Cantonment. Captain C. E. W. S. Fawcett has taken up duty at the Military Hospital, Secunderabad Cantonment. Captain W. W. Browne has been appointed Specialist in the Prevention of Disease to the Ahmednagar Brigade. Captain R. A. Bryden has joined at Fleetwood. Captain T. W. Browne has been appointed to the Military Hospital at Cork.

Lieutenant T. E. Osmond has been selected for appointment as Specialist in Dermatology and Venereal Diseases to the Eighth (Lucknow) Division of the Northern Army in India. Lieutenant C. M. Finny has been transferred from the Military Hospital at Ambala Cantonment to the Second (Rawal Pindi) Division. Lieutenant W. L. Webster has embarked for Egypt. Lieutenant W. S. R. Steven has been appointed to the Military Hospital at Quetta Cantonment. Lieutenant F. A. Robinson has been transferred from the Military Hospital at Mhow to Nasirabad Cantonment. Lieutenant R. Davidson has been appointed to the Eighth (Lucknow) Division of the Northern Army in India.

INDIAN MEDICAL SERVICE.

Colonel D. St. J. Dundas Grant has been appointed Assistant Director of Medical Services to the Karachi Brigade.

Lieutenant-Colonel G. J. H. Bell has been appointed Inspector-General of Prisons in Burma. Lieutenant-Colonel E. H. Wright has joined at Tanjore. Lieutenant-Colonel G. G. Giffard has been appointed Superintendent of the Government Maternity Hospital, Madras. Lieutenant-Colonel C. E. Sunder has taken up duty at Patna as Civil Surgeon. Lieutenant-Colonel E. C. Hare has been appointed Sanitary Commissioner in Bihar. Lieutenant-Colonel A. J. MacNab has taken up duty in Kashmir.

Major R. Markham Carter has been appointed to hold temporary Medical Charge of the Prison and Byculla Schools at Bombay. Major A. B. Fry, Special Deputy Sanitary Commissioner for Malaria Research in the Presidency of Bengal, has been appointed to officiate as Sanitary Commissioner during the absence on two years' combined leave of Major W. W. Clemesha. The services of Major W. V. Coppinger, civil surgeon at Lakhimpur, have been placed at the disposal of the Government of Bengal. Major R. M. Corry has been appointed to officiate as Civil Surgeon at Delhi. The services of Major J. W. Greig have been permanently placed at the disposal of the Government of the Punjab. Major G. McPherson has been appointed to officiate as Professor of Ophthalmic Surgery at the Government Medical College, Bombay. Major R. F. Baird has been appointed Civil Surgeon and Superintendent of the Lunatic Asylum at Benares.

Captain F. Palmer has been appointed permanently to the Jail Department in the United Provinces of Agra and Oudh. Captain T. F. Owens has been appointed Chemical Examiner and Government Bacteriologist in Burma. Captain M. Baket has taken up duty in Mardan as officiating Civil Surgeon. Captain J. L. Lunham has been appointed to officiate as Civil Surgeon at Karwar. Captain D. Heron has been appointed Vice-Consul at Seistan and Kain. Captain J. McC. Anderson has taken over civil medical charge at Hoshangabad.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Cadet William McMeekin Chesney, from the Belfast University Contingent, Officers Training Corps, to be Lieutenant, (on probation) (dated April 30th, 1914).

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd East Anglia Field Ambulance, Royal Army Medical Corps: Lieutenant Benjamin Branford Morgan, from the 3rd West Riding Field Ambulance, Royal Army Medical Corps, to be Lieutenant (dated April 18th, 1914).

1st Home Counties Field Ambulance, Royal Army Medical Corps: Lieutenant Arthur P. Draper resigns his commission (dated May 23rd, 1914).

3rd Home Counties Field Ambulance, Royal Army Medical Corps: Lieutenant Edwin A. Houchin to be Captain (dated April 12th, 1914).

Sanitary Service.—Captain George A. Brown resigns his commission (dated May 23rd, 1914).

For Attachment to Units other than Medical Units.—To be Lieutenants: John Chancellor McKenzie (dated April 20th, 1914), and Stanley Southam (dated Jan 3rd, 1914).

Attached to Units other than Medical Units.—Captain Henry A. C. Harris resigns his commission (dated May 23rd, 1914), and Lieutenant John A. West resigns his commission (dated May 23rd, 1914). Major William F. O'Grady is retired under the provisions of Paragraph 116 of the Territorial Force Regulations, and is granted permission to retain his rank and to wear the prescribed uniform (dated May 27th, 1914).

TERRITORIAL DECORATION.

The King has conferred the Territorial Decoration upon the following officers:—

Royal Army Medical Corps.

1st London (City of London) Sanitary Company, Royal Army Medical Corps: Major Lewis Thomas Fraser Bryett.

1st London Clearing Hospital, Royal Army Medical Corps: Lieutenant-Colonel Alexander Barclay Lyon.

Attached to Units other than Medical Units.—Major Andrew Robertson Wilson, attached to the 4th Battalion, The Cheshire Regiment. Major William Doig, attached to the 4th (The Border) Battalion, The King's Own Scottish Borderers. Captain William Turnbull Barrie, attached to the 4th (The Border) Battalion, The King's Own Scottish Borderers.

FIELD SERVICE NOTES FOR R.A.M.C.

Messrs. John Bale, Sons, and Danielsson have issued a list of amendments to "Field Service Notes for R.A.M.C.," by Major T. H. Goodwin, R.A.M.C., in order to ensure that all details as to personnel and equipment and also the marginal references to official publications may be in accordance with the latest editions of "War Establishments" and the "Field Service Manual." The amendments are published separately, price 4*d*.

BRITISH HOSPITAL FOR MOTHERS AND BABIES.—The Charity Commissioners have issued the draft of their scheme for the consolidation and future regulation of the charities hitherto known respectively as the British Lying-in Hospital, Endell-street, W.C., and the Home for Mothers and Babies, Woolwich. The new title of the consolidated charities is to be "The British Hospital for Mothers and Babies," and the ultimate object is declared to be "the establishment and maintenance in the metropolitan borough of Woolwich of a maternity hospital and school for the higher training of midwives." The scheme gives authority for the sale or continued letting of the old premises of the Lying-in Hospital in Endell-street and Nurses' Home in Betterton-street, Long Acre, and empowers the trustees to acquire a site in the borough of Woolwich for the proposed hospital and school and to erect thereon suitable buildings, the cost to be provided, so far as may be, out of subscriptions or grants received by the trustees, and as to the balance out of the funds of the charity. Pending the establishment of the said hospital and school the trustees may carry on, at the cost of the charity, the Home for Mothers and Babies at the premises in Wood-street, Woolwich, where it has hitherto been conducted, or at other suitable buildings in the same borough.

FOURTEENTH FRENCH CONGRESS OF MEDICINE.—This Congress will take place at Brussels from Sept. 30th to Oct. 4th this year at the Palais des Académies under the patronage of the King and Queen of the Belgians. The committee of honour, of which Professor Stiénon, of Brussels, is president, consists of 22 eminent professors. The following subjects are down for discussion: Syphilis of the Cardio-vascular System; Lipoids in Pathology; the Therapeutic Value of Artificial Pneumothorax; and Vaccinotherapy, especially in relation to typhoid fever and cancer. Among the reporters who have promised to attend are Professor Vaquez, Professor Vincent, and Professor Chantemesse, of Paris; Professor Spielmann and Professor Haushalter, of Nancy; Professor Burnand, of Leysin, and many Brussels professors. Many non-French nationalities will also be represented. The detailed programme of work and entertainments will shortly be issued. Subscriptions (20 francs) can now be received, and should be addressed to Dr. Godart-Dantrieux, 9a, rue Montoyer, Brussels. Ladies accompanying members and also students of medicine will be admitted as associate members for 10 francs. Members desiring to contribute papers must communicate before Sept. 1st with Professor René Verhoogen, general secretary of the organising committee, 22, rue Joseph II., Brussels.

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

MANCHESTER.

Furnished Houses for the Very Poor.

THE corporation has approved of a scheme by its sanitary committee to provide as an experiment, subject to the permission of the Local Government Board, a three-storey block of furnished rooms in Rochdale-road for the use of the very poor. The cost will be £8973, and the annual sum for interest and sinking fund is £366. There will be 12 two-room "houses" at 6*s.* 6*d.* per week, and 30 one-room at 5*s.* 3*d.* per week. The estimated net income is £310, leaving £56 to be provided by the rates. Each house will have a living room 15 ft. by 13 ft., with a bed recess 6 ft. 6 in. by 4 ft. 6 in., having a window in an outside wall, a ventilated food cupboard, a ventilated wardrobe, and a projecting window with a permanent seat. There will be an adjacent small scullery with a sink, and a water-closet entered from the outside. The two-roomed houses have in addition a bedroom 14 ft. 9 in. by 9 ft. 9 in. The furniture for each double room is estimated to cost £7, and £5 for each single-roomed house. The articles provided will be a bedstead, mattress, pillows, blankets, chairs, crockery, and a table. The floors will be of concrete, the interior walls will have a good hard plaster finish, and all crevices will be filled up to make the building vermin-proof.

A Conference on Town Planning: Back-to-back Houses.

At a two days' conference held in Manchester on May 14th and 15th about 200 representatives of local authorities of Lancashire and adjacent counties met to discuss the practical administration of the Town Planning Act of 1909. In Manchester much had been done in improving housing conditions without waiting for the Town Planning Act. In fact, the housing conditions have been entirely changed during the last decade. The city council has already provided homes for over 4000 families and lodgings for over 700 people. Over 10,000 back-to-back houses have been demolished or converted to a more sanitary type of dwelling. There are now only 100 back-to-back houses in the city, and these will shortly be abolished or changed.

One Poor-law Union for Manchester.

At present there are three Poor-law unions in Manchester and each has a different rate, and the rate is heaviest in the poorest union and lightest in the richest. As a result of a recent Local Government Board inquiry, from the end of March next year there will be only one Poor-law authority for the whole of Manchester, and the new Poor-law union will be one of the largest in the country.

Flannelette and Inflammable Clothing.

The number of deaths amongst children in Manchester from burns average two per week, and these are due, in Dr. James Niven's opinion, largely to the use of flannelette. The sanitary authorities have decided, under the Fabrics Misdescription Act, to institute legal proceedings against any retailer selling inflammable flannelette as non-inflammable. Retailers, therefore, should obtain a warranty of non-inflammability from the maker or vendor. The purchaser is entitled to demand that the article be tested.

The Radium Fund for Manchester.

I referred in previous letters[1] to the scheme for providing radium for use in Manchester. In addition to the £4584 already promised, the Right Hon. Sir William Mather has promised £1000, Mr. Edward Hopkinson £100, and Mr. Laurence Pilkington £100. Also Bury is seeking to raise £2000, of which over £600 have been promised. A scale of charges for use of the radium will be so adjusted as to secure that the scheme when at work shall be self-supporting. As far as accommodation at the Royal Infirmary will allow, not only will patients sent from the other hospitals be treated, but also private patients sent by medical men. The radium committee will have power to admit to participation in the benefits of the scheme other hospitals, bodies, and persons, in addition to the hospitals named in the scheme.

Probable Settlement of the Doctors' "Strike" in Burnley Union.

Over 16 months ago the nine Poor-law medical officers of the Burnley union resigned on account of inadequate salary. Since then the board of guardians has been able to secure the services of only three medical officers to do the entire work of the union. It has now been decided to divide the union into 12 medical relief districts at a total remuneration of £505 a year, with extras, as compared with £365 two years ago. The nine resigned medical officers will be offered districts.

May 26th.

SCOTLAND.

Medical Inspection and Treatment of School Children in Scotland.

THE recently issued report of the Committee of the Privy Council on Education in Scotland deals to a certain extent with the question of medical inspection, and gives evidence of the progress which has been made during the last few years. Of the immediate perceptible results of the school medical officers' first visits, perhaps the most obvious consists in the more ready appreciation by school authorities of shortcomings in the premises under their charge in regard to such ordinary matters as the ventilation, lighting, heating, and cleaning of classrooms, the pattern of the desks, and, especially in rural schools, the condition of the school offices and the supply of drinking water. A large number of managers in country districts realise the culpable folly of neglecting to make any arrangement whatever for the midday meal of those children who live too far from school to go home for dinner, for which purpose school boards now have ample powers. The committee believe that personal cleanliness is on the increase, and greater attention is given to such plain matters of hygiene as the proper cleaning of the teeth. Regarding medical treatment the committee state that the returns showed a considerable variety in the methods of administration. The majority of school boards realising that to deal systematically with the entire range of ailments would have exceeded their resources, after surveying the whole needs of their district in the light of the school medical officer's report, and taking stock of the existing facilities for meeting those needs, concentrated their attention on some special class or classes of defects—for example, of the eyes or the teeth—in the thorough treatment of which it seemed that the money could be most effectively applied. In the larger towns and cities, where the number of cases involved action on a large scale, clinics were established and supplied with the staff and apparatus required for the particular forms of treatment to be undertaken. Many of the lesser school boards have found their best course to lie in an arrangement with the authorities of the local hospital or dispensary, who undertake all or part of the treatment, and are usually paid by the school board according to the number of cases sent to them.

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[1] THE LANCET, April [illegible], p. 1211, and May [illegible], p. [illegible]

Summer Post-graduate Courses in Edinburgh.

As I announced some months ago post-graduate courses will be held in Edinburgh during the months of July, August, and September, and particulars may be had from the secretary, the Faculty Office, University New Buildings. The University Union will be open during the months of August and September, and gentlemen attending the courses will be eligible for temporary membership. During the September courses accommodation and board may be had in one of the residences of the University Hall. During the last fortnight of July courses will be given on diseases and defects of children and on obstetrics and gynæcology. The course on internal medicine will extend from Monday, August 3rd, to Friday, August 28th, inclusive. The last courses will extend from Monday, August 31st, to Friday, Sept. 25th inclusive.

Dundee Hospital Burned Down.

A new hospital for women in Dundee, which was on the point of completion, was partially destroyed by fire in the early morning of May 22nd. The hospital was to have been opened next week. The damage is estimated at some £2000 or possibly more. The hospital, a two-storeyed building, was erected through the liberality of a number of leading citizens, and was designed to take the place of the present hospital for women in Seafield-road, which falls to be vacated next week. The new hospital was begun nearly two years ago, and every effort was being made to get it ready for occupation. It is generally assumed that the fire was the work of suffragists. Messages such as are common in other incidents of the kind were found. It is believed that six months will be required to get the damage repaired, and although the numbers at the old hospital were being kept down with a view to the removing from one premises to the other, it is probable that temporary accommodation will have to be provided. Fortunately the loss is covered by insurance.

Accommodation for Sick Children in Dundee.

The directors of the Royal Infirmary, Dundee, have intimated that they have decided to set aside a second ward of 30 beds for sick children, thus doubling the present accommodation. This will not in any way interfere with the accommodation for adults. It is hoped that the new ward will be ready in early autumn, when the new nurses' home, which is being erected, will be completed. The arrangement is by no means regarded as final or adequate, but until the movement for a children's hospital in Dundee takes definite shape it seems the best that can be made.

The late Dr. Alexander S. Jameson.

The death occurred at Batavia, Java, on May 17th, of Dr. Alexander Seymour Jameson, son of the late Mr. John Jameson, Powis Lodge, Old Aberdeen. Dr. Jameson was educated at Aberdeen Grammar School, King's College and Marischal College, Aberdeen, graduating M.A. in 1882 and M.B., C.M. in 1886. For eight years he practised in Ellon, and afterwards was for 13 years in practice in Stockton-on-Tees. Some time ago he fell into bad health, and died during a sea voyage to the Far East. Dr. Jameson is survived by his widow and by a family of one son and two daughters.

May 28th.

IRELAND.

The Insurance Act Certification Question.

AN important correspondence between Mr. M. R. J. Hayes, medical secretary of the Irish Medical Committee, and the Irish Insurance Commission has been published. It begins in March, at a time when the conversations which are said to have taken place between the Committee and the Commission came to a stop, owing, it is supposed, to the pressure exerted by the society officials on the Commission in favour of the appointment of medical men as whole-time certifiers. In a letter dated March 25th Mr. Hayes, on behalf of the Irish Medical Committee, informed the Commission that the profession would be willing to carry out certification gratuitously, say, up to June 30th, conditionally on the system of certification by medical advisers being abolished. Mr. Hayes also stated that the Irish Medical Committee had consented to medical men remaining on the panel up to June 30th. This letter received a bare acknowledgment. On May 18th Mr. Hayes asked whether the Commission had yet completed any scheme for dealing with the question, and expressed disappointment that no notice had been taken of the offer of the profession. The secretary of the Commission replied that "proposals for placing certification arrangements in Ireland on a permanent basis are still engaging the attention of the Commission." The Irish Medical Committee has summoned a meeting of delegates from all the county areas to meet in Dublin next Tuesday, June 2nd, to decide on the future policy of the profession. It is believed that the society officials have demanded that certification should be carried out by paid officers of the Insurance Commission, to the exclusion of the medical attendants of the members. Such a policy would rouse the bitter hostility of the profession, and if carried into effect would, like the present system of certification by medical advisers, lead to gross injustice to the insured. Following the meeting of delegates next Tuesday will be a mass meeting of the profession to protest against any system of certification other than by the medical attendant. I am requested to add that at its last meeting the Irish Medical Committee unanimously passed a resolution thanking Dr. C. Addison, M.P., on behalf of the medical profession of Ireland, for his exertions in trying to bring about a settlement of the certification question.

The Irish Medical Association.

The annual meeting of the Irish Medical Association will be held in Dublin on Wednesday, June 3rd, under the presidency of Dr. F. W. Kidd. The annual report shows that the affairs of the association are in a fairly satisfactory state. The membership on Dec. 31st, 1913, was 654. This number has since largely increased owing to the new journal arrangements made by the council. The accounts showed on Dec. 31st a credit balance of £461 16s. 5*d*., and a surplus on the balance-sheet of £819 19s. 5*d*.

Vaccination in Belfast.

A convincing statement has been sent to the Belfast board of guardians from the council of the Ulster Medical Society and from the executive committee of the British Medical Association (Belfast division) in reference to the campaign now being conducted in Belfast against vaccination. Details of local experience and of great importance are given. In the last outbreak of small-pox in Belfast (1904–05) out of 178 cases there were 9 deaths. Of those attacked, 146 had been vaccinated and 2 of them died, while of 32 who had never been vaccinated 7 died. Thus, 1 out of every 5 unvaccinated people who contracted small-pox died, while of every 73 vaccinated only one succumbed. There was not a single case of small-pox in a revaccinated person. Moreover, the medical superintendent of the Belfast Fever Hospital, whose experience extends over 20 years and covers six outbreaks, has never had a case of small-pox in a revaccinated person.

The late Mr. Harry Chestnut.

The tragic death of Mr. Harry Chestnut, of Tralee, has aroused sympathy not only in Kerry but throughout Munster, and wherever he or his family is known. He had been attending several members of a family suffering from septic sore-throats. The mother of the family was affected and had a high temperature. On visiting her in response to an urgent summons he found her bleeding profusely from an incomplete abortion. Having received no intimation of the abortion he was unprepared with gloves, but at once evacuated the uterus with his bare hand, and thus himself got a septic infection of his left forefinger. Realising the serious nature of his condition he consulted one of his colleagues in Tralee and soon after went to the South Infirmary, Cork. In spite of the unremitting care and skill of the staff the infection became general. For three weeks he made a gallant but fruitless fight, for he died on May 21st in the forty-fifth year of his age. Mr. Chestnut was a native of Tralee, the fourth son of the Rev. William Chestnut, minister of the Tralee Presbyterian Congregation. He studied in Cork, Galway, and Edinburgh, and qualified in 1891. Settling down to practise in his native town he soon earned the confidence and esteem of the entire community. He was most conscientious in the discharge of his duties, and spared no pains to keep himself abreast of the times in his work. His professional aid was sought far and wide over Kerry and the adjacent counties. The funeral took place on May 23rd, at which thousands of all creeds and classes attended.

May 26th.

PARIS.

Sentence on "Dr." Macaura.

I HAVE referred previously to the action against "Dr." Macaura, who for two years, by means of extensive advertising and public meetings, exploited an apparatus of his own invention, manufactured in Germany and sold for ten times its intrinsic value, which was to cure all diseases without exception. Judgment in the case has now been given by the Ninth Chamber of Correction, after 27 sittings, condemning him to three years' imprisonment and a fine of 3000 francs.[1] It is true that he left France a long time ago, but 11 persons were included in the action for complicity, among whom are a few medical men who lent themselves to the sale of the apparatus in the Macaura establishments of Paris and the provinces. There was even one who, from an assiduously cultivated personal resemblance, personated Macaura himself and procured for that person a reputation for ubiquity. There was also a Dr. Hacks, whose career was a remarkably mobile one, for he appears to have been successively a pantomime dancer, a ship's surgeon, a publisher of scandalous books, manager of a restaurant, and finally Macaura's secretary. He was condemned to six months' imprisonment and a fine of 500 francs. Another, one Rollinson, was condemned by default to one year in prison and a fine of 500 francs. The others received sentences varying from three to two months' imprisonment and fines of from 500 to 100 francs. Only one, Dr. Prébaut, was acquitted.

Indemnity for Damages due to X Ray Treatment.

Radiologists particularly have been the victims of actions by patients for accidents arising out of treatment, or for failure to cure. Recently a medical man was condemned to pay 18,000 francs damages to a woman who claimed 100,000 francs for a radiodermatitis which caused indelible cicatrices, due to the use of the X rays for removing superfluous hair from the upper lip. The considerations underlying the judgment are of interest, in that they admit the responsibility of the medical man only because the condition calling for treatment was trivial, and the risk far exceeded the possible benefit.

The Congress of Practitioners.

The biennial Congress of Practitioners is being held in Paris this week. It is more numerously attended than ever before, over 800 members being present. The reason for this large gathering is to be found in a certain disquietude among the medical profession at the pretensions of the national and municipal administrations which aim more and more to bring about important reforms, most often from political motives, and to impress the aid of the medical practitioner as a compulsory and unremunerated assistant in the exercise of these undertakings. The situation for many practitioners, especially those in the country, tends to become an intolerable servitude. The medical man certainly would never refuse his coöperation in the application of measures of public health and assistance in which he knows that his services are indispensable. He demands merely to have the effective direction of those services which are placed under his responsibility, or if such control must be kept in the hands of the lay administration and he must consequently play the part of an employee, then he demands to be treated as an employee—that is to say, to receive remuneration and to be the object of certain consideration. Such is the general attitude of the Congress, of which the resolutions—which cannot yet be sent for publication—have a certain importance, for there exists in Parliament a sufficiently large number of medical men, both Deputies and Senators, who rely upon the votes of the medical profession to bring pressure on the Government.

Portable Laboratories for the Army.

The Minister of War has determined on the creation of a special type of laboratory apparatus, enclosed in chests and intended for transportation in case of epidemics in small garrisons remote from an important hospital furnished with the necessary means, to be put at the disposal of specialists.

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[1] THE LANCET, May 23rd, p. 1511.

particularly bacteriologists, when these are sent on a mission by the Ministry to study on the spot the causes of an epidemic and the proper methods for its prevention.

May 25th.

BERLIN.

Congress of the German Roentgen Society.

AT the Congress of the German Roentgen Society, held recently in Berlin under the presidency of Professor Levy Dorn, Professor Krause, of Bonn, read a paper on the biological action of the rays on normal animal tissue. He said that short exposures had an irritating influence on the cells, moderate exposures an inhibiting, and prolonged exposures a destructive influence, the young proliferous cells being especially liable to injury. The hypothesis that the rays produced a decomposition of lecithin into cholin was not yet substantiated. Dr. Reifferscheid, of Bonn, speaking on the influence of the rays on the ovaries, said that experiments which he had made showed that prolonged exposures produced a degeneration of the follicles and hæmorrhage in the ovaries, and that regeneration did not occur. Professor Wichmann, of Hamburg, discussed the Roentgen ray treatment of cancer, saying that in the case of growths in which the Roentgen rays had proved unsuccessful, treatment by means of other rays had sometimes resulted in recovery; the rays did not act at a depth of over 2 centimetres. In the discussion the views expressed by the speakers were far from being unanimous, as some were of opinion that operable cases ought first to be operated on and the Roentgen rays employed only at a later stage as a prophylactic against relapse, whilst others advocated a combined treatment, and others an exclusive treatment by Roentgen or radium rays. Dr. Schmidt, of Berlin, reported that he had treated 100 cases of furunculosis by the Roentgen rays without one unsuccessful case. A relapse had never been observed at the place where the rays had been applied. Dr. Eckstein, of Berlin, drew attention to the analgesic action of the rays which was still very little known. He said that analgesia was produced at once and lasted for a long time; this was especially obvious in cases of pain after operations and spastic conditions. Dr. Fritz Meyer reported good results in cases of chronic eczema and psoriasis. Dr. Hessel, of Kreuznach, described a method of obtaining a radiogram of the œsophagus; a piece of pig's intestine, the lower end of which was closed, was introduced into the patient's œsophagus and filled with bario-radiol by the open upper end. The piece of intestine could be drawn up when required by means of a thread attached to it. Dr. Schwarz, of Vienna, read a paper on the radiodiagnosis of pathological conditions of the colon. He said that chronic colitis was indicated by an increase of peristaltic contraction; in cancer an enema administered during radiographic examination was sometimes valuable for the diagnosis, as a growth either hindered the filling of the intestine or produced an interruption of the continuity of the filling substance. Dr. Graesner spoke on the subject of radiography of spina bifida occulta. He said that he had found this condition in about 70 per cent. of cases of nocturnal enuresis, and also in women suffering from prolapse of the vagina or uterus. Dr. Max Cohn read a paper on the radiographical examination of the appendix. He drew attention especially to the time of filling of the appendix and the time of evacuation of the bismuth emulsion. When after the evacuation residual bismuth was observed some pathological condition was present. Other papers were read before the congress on various physical and technological questions.

Antivaccinationists and the Legislature.

The antivaccination association has petitioned the Imperial Parliament to amend the existing laws concerning compulsory vaccination. It is especially desirous that a clause giving legal recognition to the "conscientious objector" after the British pattern should be enacted in this country, and that a mixed Commission consisting of supporters and of opponents of vaccination should be appointed to consider the whole subject. In the discussion a Socialist member alleged that since the recognition of "conscientious objection" London had remained free from an epidemic of small-pox and that it was more healthy than other cities in which vaccination was compulsory. Dr. Kirchner, the chief of the Government Medical Department, replied that as far back as 1911 the Imperial Parliament had declined to submit a similar petition to the Government for consideration; he asked whether thousands of children had perished since from vaccination or whether an epidemic had broken out. In the year 1913 only 19 cases of small-pox, with 12 deaths, had been notified. During the last 20 years no case of death from this cause had happened in the army. He then described the agitation worked up by the antivaccinationists, who distributed pamphlets in front of the premises where vaccination was performed, and who even induced parents to conceal their children from the vaccination authorities. Dr. Bumm, the President of the Imperial Health Office, said that the English clause concerning "conscientious objection" was a most unwise proceeding. In England in the first year after the introduction of that clause the proportion of unvaccinated children was only 5·8 per cent., but in 1908 the proportion rose to 18 per cent., and at the present time was about 40 per cent. He stated that when small-pox became prevalent in a town or district the objection at once disappeared and everybody wished to be vaccinated. This was observed in Metz at a time when some cases of small-pox had been observed, and many elderly people who had never before been vaccinated, asked quite of their own accord that they might be vaccinated now. The petition that an Imperial Commission consisting of supporters and of opponents of vaccination should be appointed was not agreed to, but a petition that the Government would consider the legal and scientific aspects of the vaccination laws was agreed to. It is noticeable that on this occasion the petitions were not summarily rejected by passing on to the order of the day as in previous years, but that the above decision was agreed to, a course which may be regarded as a kind of concession to the antivaccinationists.

May 25th.

MEETINGS OF CANADIAN MEDICAL SOCIETIES.—The Ontario Medical Association met in Toronto on May 26th, 27th, and 28th. The Ontario health officers met in annual convention in Toronto, May 7th and 8th. The Canadian Medical Association meets in St. John, N.B., on July 7th, 8th, 9th, and 10th. The Canadian Association for the Prevention of Tuberculosis will meet in Halifax, N.S., July 13th and 14th. The Fourth Annual Congress of the Canadian Public Health Association will be held in Fort William and Port Arthur, Ontario, Sept. 10th, 11th, and 12th.

Correspondence.

"Audi alteram partem."

THE PLEA FOR IMMEDIATE OPERATION IN APPENDICITIS.

To the Editor of The Lancet.

Sir,—The point in connexion with the question of immediate operation in acute *appendicitis* that neither Mr. Edmund Owen nor his followers will see is that it is the application of their principle to all cases, no matter what the stage of the disease, that is responsible for the unsatisfactory results that still exist in connexion with surgical interference in the acute phase of this affection. What the profession has to grasp and surgeons have to recognise, is that when acute appendicitis has existed for three or four days, and the possibly perforated and even gangrenous appendix is surrounded by inflammatory adhesions or even pus, but is shut off from the general peritoneal cavity, then the patient has a better chance of recovery under local and palliative measures than by immediate operation. These are the cases which when operated on give the fatal results, and are the cause of that heavy mortality in acute appendicitis which we all deplore. No fault can be found, as regards the results, with the doctrine that immediate operation should be practised within the first few hours of an acute attack of appendicitis instead of using medicinal and other measures; but it is the teaching that the principle holds equally good in all cases, no matter what the stage of the disease, that I take exception to, because I feel it is fraught with great dangers.

I am, Sir yours faithfully,

Glasgow, May 23rd, 1914. George Thos. Beatson.

MASSIVE COLLAPSE OF THE LUNGS.

To the Editor of The Lancet.

Sir,—Exclusive diaphragmatic breathing is the inevitable consequence of experimental, accidental, or pathological absolute disablement of the spinal cord at a high level. It is sometimes temporary and remediable, as in transverse compression, hæmorrhage, or curable disease. When, however, it results from permanently destructive causes it is practically incompatible with a prolongation of life. This is due to the fact that the diaphragm is purely inspiratory. That exclusive type cannot be imitated in health by our "voluntary diaphragmatic breathing"; because in this the expiratory abdominal muscles paired with the diaphragm preserve both their tone, which ensures a rhythmic "passive" expiration by their elastic recoil and that of the abdominal gases, and also their rhythmic "active" contraction, if this should be required. So long as that disablement remains absolute, we have to deal with an unexampled crippling of the respiratory mechanism—namely, an active rhythmic inspiratory force—without any rhythmic expiratory force. There is still a steady "tensive" intra-abdominal pressure; but this can only favour expiration at the cost of opposing the inspiratory efforts of the diaphragm and of gradually wearing them out. The added evil is that the effective work of the diaphragm lies at the back; and that, in the inevitably dorsal decubitus, the weight of the body steadily opposes the expansion of the bases, which are at the time absolutely the only respiratory reserve, and hastens their massive collapse. That trouble might conceivably admit of some alleviation, if we could engineer for those cases a "respiratory bed," to rest the body upon three suitable air cushions: one along the spine, another across the upper thorax, and a third across the lower part of the trunk, thus relieving the posterior and lateral bases from all pressure. At best this would only be an instalment; but, to be of any use, it would brook no delay in its application.

Whenever, in cases not absolutely hopeless, a determined attempt at any life-saving surgical or medical treatment is contemplated, the first essential for success is an immediate resort to respiratory treatment, to preserve as much of the advantage from a still normal basic condition as can possibly be saved. Any continuously acting substitute for the lost abdominal tone, such as the prone decubitus or a light elastic abdominal belt, being out of the question, the main rational indication is to supply the missing rhythmic expiratory force. This leads to a second even more vital consideration. There seems to be no escape from the conclusion that, for any truly thorough treatment of that exclusive diaphragmatic breathing so long as it lasts, there can be no adequate alternative to the application of a rhythmic manual "artificial expiration," to be judiciously kept up day and night by a relay of highly competent hands, in analogy with the digital compression of arteries for hæmorrhage or aneurysm.

These clinical remarks, limited to the extreme fringe of the wide subject now under discussion in the columns of The Lancet, are as much as I can dare ask space for; but they have some practical bearing upon the whole of it. The approved posture in the treatment of the local massive thoracic and pulmonary collapse and the abdominal atony of rickets, of the respiratory urgencies (due to scattered lobular collapse) of broncho-pneumonia and of whooping-cough, and of many analogous instances of disablement by collapse, including phthisis, is still exclusively dorsal. I need therefore only renew the old plea for some revision of the therapeutical question, and for some wider clinical recognition of the practical uses of the prone decubitus, and of its abdominal factors, in the light of the anatomy and physiology of the respiration and of the circulation.

I am, Sir, yours faithfully,

Upper Brook-street, W., May 25th, 1914. William Ewart.

RE-EDUCATION OF THE DEAF.

To the Editor of The Lancet.

Sir,—I have read with interest Mr. Richard Lake's paper in The Lancet of May 23rd, but my experience, so far as it goes, leads me to think that he has formed an unduly pessimistic view of the value of auditory re-education.

I have recently obtained one of the instruments designed by M. Zünd Burguet. I did so for two reasons: first, because I had read in French journals reports of cases which had been remarkably benefited by the treatment; and secondly, because I had myself spoken to one or two patients who had been treated by this method and who felt themselves greatly benefited.

I have, of course, hitherto carefully refrained from recommending or using the treatment in the case of any patient where the question of a fee entered until such time as I was convinced of its value, and so far I am using it only in the case of personal friends or in hospital patients, and I have obtained improvement in the majority of these cases. The improvement, I am convinced, is more than can be accounted for by suggestion or by the optimism engendered in the deaf by any new form of treatment. What proportion of cases will respond and how long the improvement will last remains to be seen. The disadvantages of the treatment, especially in the present state of our knowledge regarding it, are: (1) that a considerable number of séances must be given before we can judge whether it will be of service or not; and (2) that the resulting improvement is not claimed to be permanent. While recognising these points, however, it must be remembered that there is no other known method of treatment which is of the least value in the forms of deafness for which auditory re-education is employed. There is no *a priori* reason why the method should necessarily fail in such cases, and, as apparently good results have been obtained by its use, I submit we should not condemn it without careful trial.

I observe that Mr. Lake speaks of using an instrument different from that issued by Zünd Burguet. Whether Zünd Burguet's instrument differs materially from that used by Mr. Lake I cannot say, but if it does it seems hardly fair from a trial of one variety of instrument to condemn the whole principle as of no value. I understand that Zünd Burguet does not recommend his treatment in congenital deaf-mutes. It is interesting to note that this is the only class of case in which Mr. Lake has obtained any benefit.

I hope when sufficient time has elapsed to enable me to come to a conclusion with regard to this treatment to publish my results in full.

I am, Sir, yours faithfully,
Edinburgh, May 25th, 1914. W. G. PORTER.

THE ABDERHALDEN TEST FOR PREGNANCY AND THE COMMENCEMENT OF GESTATION.

To the Editor of THE LANCET.

SIR,—In the *Edinburgh Medical Journal* for January of this year I endeavoured to prove from clinical facts that in the human female fertilisation may take place at any time during an intermenstrual epoch except during the three days prior to menstruation, and that gestation invariably starts during the three days preceding the first suspended menstruation of pregnancy. Hitherto, as I have already on many occasions observed, no person, either medical or lay, has been justified in suspecting the occurrence of impregnation until and unless a menstrual period has been missed. Because of a lack of more precise data embryologists as a matter of course have been content to reckon the age of every human embryo from the date of the cessation of the last menstrual discharge, as though fertilisation and gestation were not only coequivalent embryological terms, but as though the ovum was invariably fertilised soon after a menstrual period, and was always the ovum belonging to a past menstruation. Embryologists refer to the state of development of the human ovum during the so-called different stages in terms like the following: "In the beginning of the third week a fifth stage is reached"[1]; "About the middle of the third week, that is to say, about 16 or 18 days after the fertilisation of the ovum, various parts of the embryo are becoming rapidly differentiated."[2] From statements of this character one would naturally infer that not only is the fertilisation time definitely settled, but that fertilisation and gestation are essentially coequal phenomena. This, in my opinion, is quite a fallacy. I maintain that gestation, like incubation, is synonymous with vitalisation. It is very evident that the fertilised seed, whether vegetal or animal, is merely endowed with the power of life and is of itself powerless to start its own life. The grain of wheat which has lain dormant in the Pharaohs' tombs for thousands of years possessed during all these years the power of life, but did not display life until activated by favourable external influences. Regarding even the time when the placenta begins to form and when it is fully developed—not, of course, fully grown—our knowledge is most unsatisfactory.

Now in dealing with the defensive ferments of our bodies Abderhalden refers in the following terms to a ferment of pregnancy: "Many of our researches," he says, "and those of various observers have shown that during the whole period of pregnancy defensive ferments circulate in the blood which are able to reduce placenta albumin. These defensive ferments may be demonstrated within about eight days after impregnation."[3] Biologists everywhere must hail with satisfaction this pronouncement of the existence of a ferment peculiar to pregnancy, and if this test for pregnancy is as reliable as Abderhalden and many other authorities allege, then assuredly little or no difficulty should be experienced in settling whether the ovum which is fertilised is that of a past or of an oncoming menstruation, and whether fertilisation and gestation are to be looked upon as synchronous phenomena. The new light thus thrown upon the development of the human embryo may call for radical alterations in our text-books on embryology, but it must never be forgotten that it is the duty of science to unearth the truth.

I am, Sir, yours faithfully,
JAMES OLIVER, M.D., F.R.S. Edin.
Harley-street, W., May 23rd, 1914.

PHAGOCYTIC TREATMENT OF DISEASES OF THE EYE AND EAR.

To the Editor of THE LANCET.

SIR,—May I draw the attention of your readers to the following case? It is one out of many striking cases in my experience in which I have found that the ordinary treatments of eye and ear inflammatory affections were strongly reinforced by the phagocytic action of nuclein, a remedy which does not seem to be known as well as it deserves.

Miss A. B., aged about 65 years, came to me with a large corneal ulcer which seemed upon the point of perforation. She had suffered from it without treatment for about a fortnight. There was severe keratitis over the whole cornea, and hypopyon, filling about one-third of the anterior chamber. The patient was of a highly nervous disposition, and refused to allow either paracentesis or application of the cautery. I had therefore to rely on medicinal treatment by means of a protective bandage, antiseptic lotions, and instillation of eserine drops, to lessen the danger of prolapse of the iris if the perforation, which seemed imminent, should occur. In addition I ordered the patient to take two capsules, each containing 2 grs. of nuclein (supplied by Parke, Davis, and Co.), three times a day. The result was surprising. Perforation did not occur. After a couple of days the ulcer began to clear and heal. The keratitis gradually cleared up, the hypopyon absorbed, and at the end of about a fortnight the ulcer had healed, leaving the cornea clear, with the exception of a dense leucoma on the site of the ulcer. From the bad condition of the eye when I first saw it I have no doubt that the ulcer would have progressed and perforated but for the action of the nuclein.

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[1] Human Embryology and Morphology, Keith, 1913 edition, p. 15.

[2] Ibid., p. 18.

[3] Defensive Ferments of the Animal Organism, English translation, 1914, p. 95 et seq.

This is but one case of many in which I have found nuclein of decided benefit. If taken in time it aborts styes, boils, acne pustules, acute otitis, coryza, influenza, enlarged glands, gingivitis, incipient dental abscess, &c. Even when suppuration has occurred it frequently happens that, under the action of nuclein, the inflammation subsides and the pus absorbs. It has a beneficial action on keratitis, iritis, dacrocystitis, and, in a lesser degree, on conjunctivitis and chronic middle-ear disease.

Nuclein is said to be the chief constituent of the nuclei of cells. It is a complex proteid body containing a large amount of phosphorus in the form of nucleinic acid which is combined with a highly complex basic substance. For medicinal purposes it is prepared from yeast and acts by largely increasing the number of leucocytes in the blood and thus increasing the disease-resisting powers of the body. By the increased number and activity of the leucocytes certain pathogenic micro-organisms are more rapidly destroyed.

Hahn[1] of Munich has shown that nuclein can double the number of leucocytes in a short time, while von Mayer[2] has observed an increase of over 75 per cent. Hahn found also that defibrinated blood from an animal under the influence of nuclein had a greater bactericidal effect upon staphylococcus pyogenes aureus and upon bacillus coli than normal blood from the same animal. Vaughan[3] found that injections of nuclein protected animals against virulent cultures of the diplococcus of pneumonia and that, by the same means, he could render rabbits immune to the tubercle bacillus.

Other observers have recorded its effect in improving general nutrition and increasing resistance to pathogenic germs. Good results have been reported in pneumonia,[4] typhoid fever,[5] cholera,[6] septicæmia,[7] puerperal fever,[8] scrofula,[9] carbuncle,[10] tonsillitis, tuberculosis,[11] indolent ulcers, general debility, &c. Miculicz-Radecki,[12] Renner,[13] Hannes,[14] and Chantemesse[15] have recommended nuclein as a prophylactic against septicæmia after operations. Renner reported that in Miculicz's clinic the mortality in abdominal sections fell under nuclein prophylactic treatment from 31 to 11 per cent. Achard and Redfield[16] found it useful as a surgical dressing. I know myself that there is much more rapid healing of operation wounds and less danger of sepsis if nuclein be administered.

A more powerful preparation for phagogenic treatment is the mycolysin of Dr. Doyen, of Paris. This is stated by Doyen to be "a preparation of phagogenic colloids extracted from a certain number of natural ferments," and has an even more powerful effect than nuclein in producing increased phagocytosis. Its expensiveness, however, precludes it from use in many cases. It is sold in three forms—viz., liquid mycolysin, an agreeable but expensive preparation; extract of mycolysin, cheaper but less palatable; and mycolysin injection for hypodermic use in grave cases. These remedies, nuclein and mycolysin, deserve more extended use than they have hitherto enjoyed in these islands. Nuclein is largely used in America and mycolysin in France, but here both seem to be practically unknown to the profession.

I am, Sir, yours faithfully,
JOHN P. HENRY, M.D., B.Ch. Dub.
Galway, May 25th, 1914.

CONGENITAL DEFECT OF THE ULNA.

To the Editor of THE LANCET.

SIR,—In THE LANCET of May 23rd I see my friend Mr. Paul Roth describes a case of congenital defect of the ulna, and suggests passive movement, a splint at nights, and possibly an operation. I, too, have been troubled with this rare complaint, but owing to my determination to persist with outdoor games, such as tennis, great hypertrophy of the wrist tendons and carpal bones has ensued and greatly relieved the condition—in fact, cured it for all practical purposes. Active movements, therefore, seem the most promising line of treatment. I should be glad to hear from any of your readers who have had practical experience of this complaint.

I am, Sir, yours faithfully,
ARTHUR G. WILKINS, M.B. Vict.
Glenridding-on-Ullswater, Penrith, May 23rd, 1914.

THYROID EXTRACT IN NERVOUS DISORDERS.

To the Editor of THE LANCET.

SIR,—The subject of thyroid therapy is one that has interested me deeply for some time past, and I should be glad to have the opinion of other readers of THE LANCET upon certain cases in which I have prescribed thyroid extract with favourable results.

Recently I was called in to attend a girl of about 7 years of age. She was quite unable to stand, and had extensive paresis of the muscles of the left arm, whilst the muscles of the back appeared to be very weak. I elicited the information from her mother that a few weeks previously the child and her sister had sore-throats, which the doctor in attendance regarded for a time as diphtheritic. There was complete absence of patellar, wrist, and elbow reflexes, and the legs and left arm appeared to be flaccid and useless. The child when placed on her feet simply collapsed on the floor. The weakness had been noticeable for about 14 days, and had come on gradually. Induced by the powerful effect of thyroid extract in clearing up certain sequelæ of diseases of toxic origin I determined to try it in this case. The result is that the child is now, after a period of five weeks, able to walk without assistance and has improved physically in a remarkable degree. I prescribed 1 grain daily of thyroid extract, with 45 minims of syrupus calcii lactophosphatis, three times daily. I have never known a case of diphtheritic paralysis so advanced to clear up in so short a time, and have not seen any records of the use of thyroid extract in this condition.

Another condition in which this remedy has arked beneficial effects, and which has been eferred to by several writers, particularly Dr. eonard Williams, is noctural enuresis in children. n many such cases, notably those showing rickety haracteristics, a very disagreeable concomitant is xcessive blinking of the eyelids. In two cases in hich I employed thyroid extract in conjunction ith syrupus calcii lactophosphatis this symptom isappeared in a few days, and in one of these, in hich the remedy was withheld for a few weeks, the blinking reappeared only to disappear once more under the renewed administration of the drug. Post-diphtheritic paralysis is held to be due to a peripheral neuritis of toxic origin. Probably the blinking is a reflex action set up by some irritation of the nerve-endings in the conjunctiva, and is, therefore, a parallel condition.

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[1] Berliner Klinische Wochenschrift, 1895.
[2] Deutsche Medicinische Wochenschrift, 1896.
[3] Medical News, 1894.
[4] Therapeutical Notes, 1896.
[5] Ibid.
[6] Indian Medical Gazette, 1905.
[7] Medical News, 1897.
[8] Therapeutical Gazette, 1897.
[9] Medical Times, 1897.
[10] Merck's Archiv, 1908.
[11] Medical News, 1897; Medical World, 1906; Texas Medical Journal, 1910; Boston Medical and Surgical Journal, 1911.
[12] West London Medical Journal, 1904.
[13] Scottish Medical and Surgical Journal, 1906.
[14] Centralblatt für Gynäkologie, 1906.
[15] Brit. Med. Jour., 1907.
[16] New York Medical Journal, 1911.

I am, Sir, yours faithfully,

CHARLES W. CRAWSHAW, M.B., D.P.H. Vict.

Low Wood, Green Mount, near Bury, May 22nd, 1914.

EPIDEMIC JAUNDICE AMONG SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—The annotation in THE LANCET of April 4th, under the above heading on the observations of Dr. Cameron R. Gibson in the March number of *Public Health*, has aroused my curiosity to a degree that I would fain ask the following questions: 1. At the time of the outbreak of epidemic jaundice was typhoid fever in endemic or epidemic form in the same district? 2. Were the stools of the cases examined or a blood-test made (Widal's reaction)? 3. Were there prevalent at the time any allied gastro-intestinal affections, such as paratyphoid, influenza with enteric symptoms, dysenteric diarrhœa, gastro-enteritis, and stubborn dyspepsias? 4. Have any of the jaundice cases been examined since their attack with a view to know if they are carriers or not?

My experience of epidemic jaundice is that one form at least is closely allied to typhoid fever, due probably to a direct invasion of bile-ducts and gall-bladder from the intestinal tract. If we keep in mind the direct continuity of the mucous lining of the one with the other, the inference of direct invasion is reasonable and natural. If in a house there appears an outbreak of typhoid fever, there also I expect one or more cases of jaundice; moreover, the appearance of jaundice causes an abortion of the typhoid syndrome. There is a direct statistical relation between epidemic jaundice and typhoid outbreaks; they increase and wane together, the tide is at its height in autumn and commencing winter, depending chiefly on the pollution of surface water. I consider many cases of gallstone and cholecystitis can date their commencement from an attack of catarrhal jaundice or a catarrhal state of biliary system hardly sufficient to cause jaundice, due, in my opinion, to direct invasion by Eberth's bacillus from the intestinal tract.

I am, Sir, yours faithfully,

Argentina, April 29th, 1914. M. A. I.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—There are five vacancies on the Council of the College, which will be filled at the annual meeting of the Fellows on Thursday, July 2nd. Nominations of candidates for these vacancies must be received by the Secretary of the College not later than Friday, June 5th next. A voting paper for the election will be sent to every Fellow whose address in the United Kingdom is registered at the College on June 16th.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

TUESDAY, MAY 26TH.

THE General Council of Medical Education and Registration began its summer session to-day at its offices, 299, Oxford-street, W. Sir DONALD MACALISTER, the President, was in the chair.

New Member.

Sir Lambert Hepenstal Ormsby, F.R.C.S. Irel. (introduced by Sir Henry Morris), took his seat on the Council as representative of the Royal College of Surgeons in Ireland for one year from Feb. 5th, 1914.

President's Address.

The PRESIDENT then delivered his address. He said: The severe illness which prevented me from attending the Council and delivering my customary address last November has enabled me to apprehend more clearly than before two facts of importance. One is that in a time of weakness I may count securely on your active support and sympathy; for this gratifying experience I thank you all from my heart. The other is that when the President is away the Council carries on its work as efficiently as ever; this experience is also most salutary—for the President.

Let me express my deep personal gratitude to the senior treasurer, Mr. Tomes, for undertaking the responsibilities and performing with such acceptance the duties that are incident on the chair; to Dr. Norman Moore and the other chairmen of Standing Committees for their readiness to lighten the acting President's burdens, and so to lessen my own; to Dr. Norman Walker for keeping me informed of the progress of the sessional business from day to day and for acting in many other ways as my helper in matters concerning the Council's interests; to all my colleagues for their most friendly encouragement and coöperation; and to the Registrar and his staff, without whose capable assistance I could not during my convalescence have carried out the various instructions conveyed to me under the resolutions of the Council. In view of all the valuable help extended to me, I venture to hope that the work of the Council will be found to have suffered no detriment from my temporary failure of health.

It falls to me to record with regret the deaths of two old and esteemed friends—Sir John Batty Tuke, who in 1912 retired after 25 years of office as a member of the Council; and Dr. P. H. Pye-Smith, for over six years (1901–07) one of our treasurers. I have also to note the retirement, since I last addressed you, of Dr. Lorrain Smith, consequent on his translation to a distinguished position in the University of Edinburgh; and of Sir Arthur Chance, on the completion of his last term of able service as representative of the Royal College of Surgeons of Ireland. On the other hand, I desire to offer a welcome to the new members—Dr. Elliot Smith from the University of Manchester, a former pupil of mine at Cambridge, of whose scientific eminence I am naturally proud; and Sir Lambert Ormsby, past President of the Irish College, who has already rendered assistance to the Council as one of its examiners in surgery. I would further take the opportunity of congratulating Sir Christopher Nixon on his admission to the Privy Council of Ireland, and of wishing him renewed health to enjoy that right honourable distinction.

Reciprocity under the Medical Act.

His Majesty in Council has issued Orders applying Part II. of the Medical Act (1886) to the Province of New Brunswick in the Dominion of Canada, and to the ancient colony of Newfoundland. In each case the Executive Committee has been satisfied that the educational and other requirements prescribed by law for the local qualification of practitioners are in accordance with the conditions desired by the Council. Under the powers given by your Standing Orders the committee has therefore intimated that practitioners possessing recognised qualifications granted in New Brunswick or Newfoundland, who produce the statutory evidence required under the Act, may be registered in the Colonial List of our Medical Register. Although Part II. of the Medical

Act (1886) has for many years been applied to India, no general law has yet been passed for the regulation of medical practice throughout the Indian Empire. The Council has, therefore, for purposes of recognition and registration, had to deal only with the curricula and degrees of the Indian universities severally. Graduates of these universities applying for registration here have not hitherto had to show, in the terms of the Act, that they were "by law entitled to practise" in any Indian presidency or province, for it appeared that the law imposed no restriction on the practice of anyone, qualified or unqualified. The Secretary of State for India has now informed the Council that legislation for the registration of medical practitioners, in terms similar to those of the Medical Acts, is now operative in the Bombay Presidency, and is contemplated in Madras and Bengal. Such legislation will doubtless be welcomed by the Council in the interest of the people of India, for it should tend to promote medical education in that country, and so to increase the efficiency of medical practice. The Council will be able to coöperate with the provincial governments, as the new legislation takes effect, by requiring Indian graduates applying for registration in the United Kingdom to show, as the Act directs, that they are "by law entitled to practise" in the "British possession" within which their qualifications have been granted.

The Council will remember that relations of reciprocity have also been established between this country and Japan. British qualifications are current in that Empire, and the Japanese degrees corresponding to Bachelor and Doctor of Medicine qualify for admission to the Foreign List of our Register. We have received an official intimation that the Japanese medical laws have now been extended to the Empire of Corea, and a further intimation that at present the only professional qualifications, other than Japanese, conferring a title to practise in Corea are those accepted for registration in the United Kingdom.

Election of Direct Representatives.—National Insurance Act.

The Bill, prepared in the Privy Council Office, for amending the existing provisions relating to the election of Direct Representatives, with a view to greater economy of labour and money, has again been presented to Parliament, this time in the House of Commons. Last year the Bill passed the House of Lords, but failed to reach the Statute Book. I am given to understand that, if conditions are favourable for its consideration this year, it will receive important support from both sides of the House.

Much attention was given by the Council at the end of last year to certain questions arising under the Regulations for National Health Insurance. The correspondence with the Insurance Commissioners on these questions, undertaken by the President at the instance of the Council's special Committee and of the Executive Committee, has been communicated to members of the Council and published in the current Minutes. From these it will appear that, in response to representations made on the Council's behalf, the Commissioners have issued new Regulations. These they believe will remove the misapprehensions entertained by certain local authorities as to the legal status and responsibilities of qualified medical practitioners, and the legal disabilities of unqualified practitioners, in regard to the medical treatment of insured persons. The Commissioners have further intimated to the President that, in framing their official forms and memoranda, every effort will be made to exclude phrases which might seem to afford occasion for any contravention of existing statutes bearing on the subject. There is good reason to believe that the efforts of the Commissioners have been effective in informing local authorities of their duty in relation to the "medical treatment" of insured persons desirous of making their "own arrangements." The recent conviction, for illegal practice, of a person with whom it is alleged that such "arrangements" had for a short time subsisted, will no doubt serve to impress on Insurance Committees the necessity of safeguarding the insured against "treatment" by persons who cannot administer it without breaking the law.

Penal Cases.—Death Certification.

From time to time communications reach the Registrar vaguely alleging that medical men, sometimes described as "panel," and sometimes as "non-panel" practitioners, are disregarding the warning notices of the Council in respect of canvassing or advertising with the intent to attract patients, or of issuing certificates of a misleading or inaccurate character. By direction of the Executive Committee the Registrar has made it widely known that the Council takes a grave view of such practices, and has intimated its purpose to inquire judicially into the conduct of any practitioner against whom a substantiated complaint of the kind may be brought. Certain complaints of this nature will, on the advice of the Penal Cases Committee, be submitted for your judgment during the present session. But it is proper to say that a few general allegations have been sent to the office, which were unsupported by tangible evidence, or were made by persons who declined to take the responsibility of formulating any specific complaint on which even a preliminary inquiry could be based.

The unsatisfactory state of the law in relation to the certification of deaths has frequently been commented on by the Council, and numerous representations have been made to successive Governments in favour of its amendment. The attention of the Executive Committee has again been directed to the subject, partly on account of communications I have had before me from coroners and others pointing out anomalies in the methods of local registration, partly also on account of the efforts of our own Registrar to ensure that local registration authorities shall be provided with proper means of ascertaining that persons signing what purport to be valid certificates are in fact legally registered practitioners. A memorandum setting forth the relevant extracts from the Council's minutes was prepared in the office and forwarded to the present Registrar-General for his information. In acknowledging its receipt the Registrar-General was good enough to inform me that fresh instructions were being issued which would effect certain improvements long desired by the Council. In particular, the local registrars were to be instructed that any death for which no certificate of cause of death is produced from a registered medical practitioner must be reported to the coroner; and further that the expression "medical certificate of the cause of death" means exclusively "the certificate of a registered medical practitioner who was in attendance during the last illness." But in addition to the improvement in registration practice thus contemplated, much remains to be done for the safeguarding both of the public and of the profession, and for the procuring of trustworthy statistics of disease and death. It will probably be found that fresh legislation is necessary. The subject is still under consideration by the Executive Committee with a view to suggesting what steps the Council may properly take in regard to it.

Evidence given at Royal Commissions, &c.

The Royal Commission on Venereal Diseases asked me, as President, to give evidence before it. I was questioned on such matters, within the Council's purview, as the training and testing of the medical student in respect of these diseases, the mischief of "unqualified" treatment of them and how the mischief may be checked, the sufficiency of the existing methods of certification, especially in their bearing on the vital statistics of syphilis, &c. I thought you would deem it my duty to place at the disposal of the Royal Commission the reports, yearly tables, and the like showing the results of qualifying examinations throughout the country, together with recent answers from officials of the examining bodies to particular questions which I sent them at the instance of the Commission. Information obtained by the efforts of the Unqualified Practice Committee was also furnished, and I understand that it has been found exceedingly useful and suggestive. On the question of death certification the memorandum, to which I have already alluded, was of value in showing the action of the Council in this matter before the new instructions were issued. My evidence will no doubt be published by the Commission, and you will be able to judge how far I have correctly represented the knowledge and the judgment of the Council concerning the questions that were raised.

Another Royal Commission—namely, that on the Indian Services—requested me to appear in person, or to name a representative, to testify on questions relating to the Medical Service of India. As such questions have recently been before the Examination Committee, I asked the chairman, Sir Charles Ball, to take my place as a witness, and he kindly consented to do so. It is probable that his committee will present a further report on certain points that have arisen out of communications from the Government of India and the India Office on the qualifications of members of the Subordinate Medical Service.

The Registrar, with my approval, has appeared before a committee appointed by the Board of Education. The committee had to consider a proposal, made by a body of unqualified persons practising dentistry, that their "certificates" of dental soundness should be recognised and accepted by the Board in the case of candidates for employment as teachers. The Registrar supplied the committee with official information relating to dental students, the dental curriculum and examinations, the provisions of the Dentists Act, the legal decisions bearing on dental practice, and the disabilities of unqualified practitioners. He was thanked by the committee for the assistance he had afforded them.

Midwives (Scotland) Bill.

The Midwives Act of 1902, under which certain duties are laid upon this Council, does not apply to Scotland. A Bill "to secure the better training of midwives in Scotland, and to regulate their practice," has on the initiative of Lord Balfour of Burleigh passed the House of Lords, and now awaits consideration in the other House. Having in mind certain improvements on the English Act that have from time to time been desired by this Council, I ventured on your behalf to suggest to Lord Balfour at an early stage that these might advantageously be introduced into the Scottish Bill, and I believe that nearly all of them have now been incorporated. The Lord President has sent us a copy of the Bill as thus adjusted, with a request for our observations. The Executive Committee will in due course be ready to propose a convenient method of dealing with the subject. His Majesty has been pleased to appoint Dr. McVail, Dr. Norman Walker, and myself to be members of a board for improving the medical and nursing services in the Highlands and Islands of Scotland. The board has only begun its work, but already it is impressed with the urgent importance of securing better training for midwives, and of legally regulating their practice in the districts with which it is concerned.

Financial Questions.—The Pharmacopœia.—Inspection of Examinations.

I have dwelt at some length on what I may call the external activities of the Council. Inasmuch as these are mainly exercised during the recess, it is proper that they should be reported to you in full session, that those who have acted on your behalf may be assured that they have rightly understood your directions. Let me now say something about more domestic matters. The finances of the Council are in a satisfactory condition. Although the income last year rose by only £72, the expenditure fell considerably, chiefly owing to our shorter sessions. There is, therefore, a surplus on the annual account of £1645. The net deficit accumulated during the five years 1908–1912 amounted to £1363. At the end of 1913 we were able to pay off this deficit entirely, and to start the present year with £282 to the good. This result is highly favourable to the branch councils; for while in 1908 we had to draw upon their incomes to the extent of nearly 90 per cent., in 1913 the "percentage rate" was under 60. The treasurers report that the current year also may be expected to produce a surplus, but for various reasons it is likely to be of less amount.

The Pharmacopœia Committee and the Editors have been busily occupied in forwarding the preparation of the text and appendices of the British Pharmacopœia. Before the end of the present session the committee will be able to lay on the table of the Council a copy of the revised proof. Subject to typographical and other editorial corrections to be made in the final proof, this will represent the completed work, and the committee hope to have it ready for issue during the summer. Following the procedure approved on the last occasion, you will probably desire to delegate to the Executive Committee, at its regular meeting in July, the duty of formally adopting the British Pharmacopœia, 1914, and of arranging with the Treasury as to cost and price, indicating the conditions under which copies may be made accessible to the public in advance of promulgation, and advertising the date of official publication in the gazettes. I may be allowed here, as chairman of the Pharmacopœia Committee, to express publicly our deep obligations to the editors, Professor Tirard and Professor Greenish, for their skilful and devoted labours, and to the several committees of reference who have aided us in manifold ways to attempt a work worthy to take its place as the official dispensatory of the British Empire.

Turning to other official publications, I would call your special attention to the new and much improved form in which the Medical Register, the Dentists Register, and the Students Register are now produced. Thanks to the ingenuity of the Registrar, and the skill of the Council's publishers and printers, all of these works are now handsomer in appearance, lighter to handle, and easier of reference than ever before; and yet I believe that in a year or so, when the cost of entire resetting is paid off, it will be found that the improvement is accompanied by a considerable economy in the cost of production and publication. The Registrar's constant endeavours to this end deserve to be warmly acknowledged by the Council.

I have suggested to the chairmen of the Education and Examination Committees that it may be well to consider the question of beginning, at an early date, another cycle of inspection of qualifying examinations. Since the reports on the last cycle were considered a number of new licensing bodies have been created by Parliament, and are now fully organised for the work of professional education and examination. It would appear desirable that the Council should possess detailed information, derived from actual inspection, concerning their methods and standards. Such information may at any time be required of us for the use of Government and other official authorities, and it behoves us to procure it in the ways that the law directs us to follow. My own opinion is that in view of recent changes affecting the profession of medicine, and of the prospective demands upon professional knowledge, skill, and practical efficiency, a general inquiry extending to all the bodies, and carried out by inspectors appointed under our Standing Orders, would be timely and useful. But on that head it rests with the two committees, acting jointly, to offer you considered advice.

My address is already unduly prolonged, and I refrain from referring to other matters appearing in the programme. For the most part they speak for themselves; the rest will be spoken to by members who are abler than I am to deal with them fitly.

On the motion of Dr. LITTLE, the President was thanked for his address. Dr. Little also expressed the pleasure of the members of the Council that Sir Donald MacAlister had thoroughly recovered from his late dangerous illness.

Service Tables.

Tables showing the results of competitions for Commissions in (*a*) the Naval Medical Service, (*b*) the Royal Army Medical Corps, and (*c*) the Indian Medical Service were received and referred to the Examination Committee for its consideration.

On the motion of Sir CHARLES BALL it was agreed—

> That the thanks of the Council be conveyed to the Director-General of the Medical Department of the Royal Navy, the Director-General of the Medical Department of the Army, and the Under Secretary of State for India respectively, for the returns which they have again furnished to the Council, with the request that such returns may in the future continue to be furnished to the General Medical Council.

Appointment of Committees.

The Council appointed various committees, the Executive Committee being as follows:—The President (chairman), Dr. Norman Moore, Sir Henry Morris, Mr. Tomes, Dr. Langley Browne, Mr. Hodsdon, Dr. Norman Walker, Sir John Moore, and Sir Charles Ball.

Assistant Examiners.

Sir CHARLES BALL moved—

> That the powers vested in the General Medical Council by Section 5 of the Medical Act, 1886, of appointing from time to time examiners to assist at the qualifying examination, held by a medical corporation for the purpose of granting its diploma, conferring the right of registration under the Medical Acts, be delegated, under Section 6 of the Medical Act, 1858, to the Branch Council for the part of the United Kingdom in which such medical corporation is domiciled.

Sir Charles Ball said that by the Medical Act, 1886, it was ordered that no one should receive a registered qualification unless he had passed examinations in medicine, surgery, and midwifery. Previous to that Act there were several licensing bodies which had power to grant qualifications in medicine only, and others which had power to grant qualifications in surgery only. The result of the Act was that certain bodies combined to give a joint diploma which would fulfil the conditions of the Act. There were other licensing bodies which had certain powers to grant qualifications on one branch only, but were unable to enter into a combination. These bodies under the Act might apply to the General Medical Council to appoint assistant examiners to examine in the subject in which they were deficient. A body which was qualified to give a qualification in medicine might have an assistant examiner to give a qualification in surgery. It came about that the bodies put forward to the Council the name of a gentleman for appointment as assistant examiner. His name was published in the programme of business, and as a matter of fact the gentlemen whose names had thus been put forward were elected by the General Medical Council without question. That seemed to him an unsatisfactory way of proceeding, because it would have been a very invidious thing to criticise the merits of the candidate put forward or to suggest an alternative name. At present there were only two bodies which needed the appointment of assistant examiners—the Apothecaries' Society of London and the Apothecaries' Hall of Dublin. Now all that he asked in his motion was that the election should be made by the Branch Council of the country in which the body was situated. The Branch Council had material to know more than the Council did of the candidate and more of the institution which was requiring the assistant examiner. The representative of the body concerned was a member of the Branch Council. Further, the proceedings of the Branch Councils were held *in camerâ* and there was an opportunity of discussing the name put forward if the members of the Branch Council wished to do so. The General Medical Council had thus the guarantee that the name was put forward in a way in which criticism of the merits was possible. He wished to assure the Apothecaries' Society that the names put forward by it had always been worthy of the confidence of the General Medical Council. He was sure that if the society sent up nominations of the same sort in future they would go through as a matter of course. But by the procedure which his motion suggested he felt that the responsibility of the Council was more sufficiently safeguarded.

Mr. WILKS seconded. He said that on behalf of the Apothecaries' Society of London he was instructed to tell the Council that that society had always been most anxious to assist it in doing anything for the benefit of the medical profession. He was instructed unreservedly to second Sir Charles Ball's motion.

The motion was unanimously agreed to.

The PRESIDENT remarked that this motion freed him from the obligations in regard to the appointment of assistant examiners which the resolution of last year placed on him. He was glad of this as he thought it was better that the Council should take the responsibility itself.

Medical Reciprocity with Newfoundland and New Brunswick.

On the motion of the PRESIDENT the following report was received from the Executive Committee:—

(*a*) The Executive Committee reports that Part II. of the Medical Act (1886) having been extended by an Order in Council to the Colony of Newfoundland, it has considered the conditions under which medical qualifications granted in the colony shall be recognised for registration in the Colonial List of the Medical Register of the United Kingdom, and has adopted the following resolution:—

"That any person who holds the licence of the Medical Board of Newfoundland, granted after examination in medicine, surgery, and midwifery, together with the licence to practise in the colony, shall be entitled to be registered in the Colonial List of the Medical Register, provided he satisfies the Registrar of the General Medical Council regarding the other particulars set forth in Part II. of the Medical Act, 1886."

(*b*) The Executive Committee reports that Part II. of the Medical Act (1886) having been extended by an Order in Council to the Province of New Brunswick, it has considered the conditions under which medical qualifications granted in the province shall be recognised for registration in the Colonial List of the Medical Register of the United Kingdom, and has adopted the following resolution:—

"That any person who holds the licence of the Council of Physicians and Surgeons of the Province of New Brunswick, granted after examination in medicine, surgery, and midwifery, together with the licence to practise in the province, shall be entitled to be registered in the Colonial List of the Medical Register, provided he satisfies the Registrar of the General Medical Council regarding the other particulars set forth in Part II. of the Medical Act, 1886."

Master of Surgery of Punjab University.

On the motion of the PRESIDENT a report was received from the Executive Committee directing the Registrar to add the degree of M.S. of the Punjab University to those granted by that University to which recognition had been previously accorded.

The Finance Report.

Mr. TOMES presented the report of the Finance Committee, which showed that the income of the General and Branch Councils for the year ending Dec. 31st, 1913, was £8332 11*s.* 4*d.* The expenditure was £6687 4*s.* 11*d.*, and consequently there was a surplus of £1645 6*s.* 5*d.* The expenditure, which was £942 less in 1912 than in 1911, showed a further decrease of £486 in 1913. Once more the cost of the sessions was less than in former years. From the foregoing it will be seen that the larger surplus this year results not from increased receipts but from diminished expenditure. The committee notes that the number of students registered during 1913 was 1480. This is an increase of 83 over the number registered in 1912, and compares favourably with the average of 1420 per annum for the past five years. The number of dental students registered during 1913 was 361. The average number registered from 1899–1903 was 197; from 1904–1908 was 240; from 1909–1913 was 313. Mr. Tomes went on to comment on the satisfactory nature of the report. The happy financial position in which the Council found itself was due to the expedition with which recent sessions had been conducted.

It was agreed to receive the report.

The Council then adjourned.

WEDNESDAY, MAY 27TH.

The Council considered the case of Mr. H. Chatterjee, L.R.C.P. and S. Edin., L.R.F.P.S. Glasg., who was charged with infamous conduct in a professional sense, the complainants being the British Medical Association. The Council on adjourning for the day had not concluded its consideration of this case.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.—The report of the council on the Poor-law Institutions Order, 1913, expresses the opinion that this Order inaugurates many valuable changes, among which may be mentioned the exclusion of children from the mixed workhouse, and the better classification of the inmates of Poor-law institutions. The council cannot, however, approve of some of the new medical recommendations. Much additional work is thrown upon indoor Poor-law medical officers without any increase in their salaries, a matter upon which the Order says nothing. The clerical work is enormously increased, while the repeated examination of healthy children will add much to the medical officer's routine work. The chief point where, in the opinion of the council, this Order is retrograde is an old grievance and deals with control. The necessity of medical control in Poor-law institutions for the sick has always been insisted upon by the association; but in this Order the medical officer as regards subordination to the workhouse master is in a worse position than in the past. The old Order, making it the duty of the master to take care that all sick and insane inmates and infants are duly visited by the medical officer, is continued. This is a duty the master is not competent to perform, and the council much regrets that the opportunity was not taken to omit it entirely. The position of the medical officer should be that of a chief official directly responsible to the house committee and the guardians. Further, the council is quite unable to approve of any system that places the control of the sick wards in the hands of a non-medical officer. To subordinate the medical and nursing staff to such an official is, in its opinion, radically wrong, and should not be permitted. The sick wards in workhouses should be separated from the rest of the institution and put under the control of the medical officer, to whom the superintendent nurse must be responsible. The workhouse master should act as steward under the medical officer, but should be relieved from all other administrative duties and responsibilities in the sick wards. The council is of opinion that unless both the status and the remuneration of the workhouse medical officer are improved the existing difficulty of obtaining such officers will be very considerably increased. Again, all drugs and appliances for the sick poor should be provided by the guardians, yet in this latest Order the guardians are still permitted to contract with their medical officers to supply them. Difficulties, too, are likely to arise on account of the compulsion put upon all medical officers to produce books, documents, or accounts whenever required by the clerk.

Obituary.

SIR FRANCIS LAKING, BART., G.C.V.O., K.C.B., M.D. HEIDELB., LL.D. ABERD., M.R.C.P. LOND.,

PHYSICIAN-IN-ORDINARY AND SURGEON-APOTHECARY TO HIS MAJESTY; CONSULTING PHYSICIAN TO THE VICTORIA HOSPITAL FOR CHILDREN AND TO THE GORDON HOSPITAL FOR FISTULA.

Sir Francis Laking passed away in London on May 21st. He was an example of the distinction which character, courtly demeanour, and unusual tact can attract no less than of that which comes to the distinguished scientist.

SIR FRANCIS LAKING, BART.

(*From a photograph by Lafayette, Limited*)

Francis Henry Laking was born on Jan. 9th, 1847. He received his medical education at St. George's Hospital and at Heidelberg. He qualified as L.R.C.P. in 1868. In 1869 he became L.S.A., and also took the M.D. degree at the University of Heidelberg. From 1869 to 1870 he was house physician, and from 1871 to 1874 medical registrar at St. George's Hospital, to which he subsequently became visiting apothecary. In 1872 he became a Member of the Royal College of Physicians. For a time he served on the visiting medical staff of the Victoria Hospital for Children, and was subsequently elected consulting physician. He began practice in partnership with the late M. du Pasquier apothecary to the Royal Household which proved the stepping-stone to his subsequent career as a Court physician. On the death of his partner Dr. Laking succeeded him as apothecary-in-ordinary to Queen Victoria, and held the same office to the Royal Household, the Prince of Wales (afterwards King Edward VII.), and H.R.H. the Duke of Edinburgh, as well as being physician-in-ordinary to T.R.H. the Duke and Duchess of Connaught and to T.R.H. Prince and Princess Christian of Schleswig-Holstein. When King Edward came to the throne Sir Francis Laking, who had been knighted by Queen Victoria in 1893, continued to hold the confidence of his sovereign and retained his post, and he attended the King during his illness in 1902, in conjunction with the other distinguished medical men, Lord Lister, Sir Thomas Barlow, Sir Frederick Treves, and Sir Thomas Smith, who shared with him the care of the nation's anxiety. For this service he was created a baronet in 1902. He remained in constant attendance on the King, and with Sir James Reid was with him through his last illness and was present at his death-bed, continuing to be physician-in-ordinary to Queen Alexandra subsequently. In 1903 he was promoted to the rank of Knight Grand Cross of the Victorian Order, and in the same year received the Grand Cordons of the Portuguese Order of the Immaculate Conception and of the Crown of Italy, to which was added in 1904 that of the Royal Order of the Dannebrog. He became in that year also a Commander of the Legion of Honour, and was in the following year promoted to the rank of a Grand Officer of the Legion. Other decorations conferred on him were the First-class Gold Order of Merit of Turkey, the Grand Cordons of the Polar Star of Sweden and of St. Olaf of Norway, and the Knight Commandership of the Order of the Saviour, of Greece. In 1910 he was created a K.C.B. On the accession of King George Sir Francis Laking was continued in his office of physician-in-ordinary and surgeon-apothecary to His Majesty and surgeon-apothecary to the Household. He had thus the remarkable distinction of being the ordinary medical attendant of three successive sovereigns. His contributions to medical literature were not numerous, but he was the author of a paper on Indican in the Urine which appeared in the St. George's Hospital Reports.

Sir Francis Laking married in 1873 Emma, daughter of Mr. Joseph Mansell, and in 1905 Eleanor Mary Angerstein, daughter of the late Mr. James Hackworth, of Dunedin. He is succeeded in the baronetcy by his son, Mr. Guy Laking, M.V.O., who is a distinguished antiquary, and the Keeper of the King's Armoury.

PHILIP HENRY PYE-SMITH, M.D. LOND., HON. M.D. DUB., F.R.C.P. LOND., F.R.S.,

CONSULTING PHYSICIAN TO GUY'S HOSPITAL.

BY the death of Dr. Philip Henry Pye-Smith, which took place on May 23rd, at 26, Hyde Park-square, London, after a long illness, the medical profession has lost a distinguished member and Guy's Hospital one of the band of scientific physicians who in the later years of the nineteenth century followed in the footsteps of Bright and Addison.

Born in 1840, he was the son of Mr. Ebenezer Pye-Smith, F.R.C.S., and grandson of the Rev. John Pye-Smith, D.D., F.R.S. His early student life was passed at Mill Hill School, and later he studied medicine at Guy's Hospital, subsequently visiting the Paris and other continental medical schools. Having taken the Arts degree of the University of London, he proceeded to the M.D. degree of that University in 1864, taking the gold medals in medicine and surgery, and in the following year was appointed lecturer in comparative anatomy at Guy's Hospital Medical School. He afterwards successively held the posts of lecturer in practical physiology, demonstrator of cutaneous diseases, and lecturer in clinical medicine till 1899, when he retired from the hospital staff. He was appointed assistant physician to Guy's Hospital in 1872, was promoted to full physician in 1884, and was elected consulting physician in 1899. In 1870 he was elected a Fellow of the Royal College of Physicians of London, and on many occasions between the years 1875 and 1888 was an examiner for the College. From 1888 to 1890 he was a member of the Council, and in 1893 he delivered the *Harveian Oration*. In 1894, 1895, and 1899 he served as Censor, and from 1902 to 1908 he was the representative of the College on the Senate of the University of London.

PHILIP HENRY PYE-SMITH.

In 1899 Dr. Pye-Smith was appointed by the British Government joint representative with Sir Heron Maxwell at the International Congress on Tuberculosis in Berlin, and the conclusions,[1] which he appended to the joint report in the form of a memorandum to a Parliamentary paper, are well worth reading as showing the point that had been reached in our knowledge of the causes and conditions of tuberculosis a decade and a half ago. He concluded by saying that "The prospect of improved success in the treatment of tuberculosis in general, and of consumption in particular, by the advance of pathology and the progress of surgery and medicine is a hopeful one, almost as hopeful as that of limiting the spread of the disease by preventive measures."

Dr. Pye-Smith, who was a former Vice-Chancellor of the University of London, was an honorary Fellow of the College of Physicians of Philadelphia and of the Royal Academy of Medicine in Ireland, and a governor of Shrewsbury and St. Paul's Schools. His literary work included a Syllabus of Lectures on Physiology with Tables and Diagrams (1885), an Address to the Department of Anatomy and Physiology at the British Association (1879), the Address in Medicine at the British Medical Association (1900), the Lumleian Lectures on Etiology (1895), and an Introduction to the Study of Diseases of the Skin (1893). He was also joint author with the late Dr. Fagge of an excellent "Text-book of the Principles and Practice of Medicine," the fourth edition of which was published in 1901. "Fagge and Pye-Smith" is now less well known to the younger generation of practitioners, but in its day it deservedly ranked very high, especially as a text-book of medicine for students reading for the higher examinations. Dr. Pye-Smith was the author also of the article on Harvey in the "Encyclopædia Britannica," on Pneumonia in Allbutt's "System of Medicine," and among his other contributions were: An Analysis of 680 Cases of Rheumatism and Allied Diseases; Xanthelasma; Idiopathic Anæmia, with 100 Cases; and on Prognosis (Guy's Hospital Reports, 1874–1887); Observations on Division of the Cervical Sympathetic, in the *Journal of Physiology*, Vol. VIII.; Anæmia Idiopathica Perniciosa, in *Virchow's Archiv* (1875); and Venesection, in the *Medico-Chirurgical Transactions* (1891).

A colleague writes:—"Philip Henry Pye-Smith, although arrived at a good age, has yet, as it might seem, gone from us all too soon, for he was possessed of that clear complexion and open countenance that had withstood well the ravages of time, and his last lingering illness must have come suddenly and unexpectedly to many of his friends. As a teacher his mind was well stored with information; it was firmly based upon experience and observation gained at home and in continental schools, and his method of teaching was precise and dogmatic. Thus he became a successful teacher at the bedside, and he carried through several editions the text-book on medicine written by his colleague, the late Dr. Hilton Fagge, and first published not long before that lamented physician's death. He added moreover considerably to his reputation as a physician by bestowing his attention upon diseases of the skin, of which specialty he took charge for some years as an assistant physician at Guy's Hospital. To this study as well as to general medicine he made many important contributions, and in it his interest never flagged. But although he has thus left his mark upon the medicine of his day, his bent and recreation seemed perhaps more to lie amid scientific subjects of more general interest, and his friends and associates were learned men of that ilk—Huxley, Michael Foster, and Gull, for example, in their day—and this was so more or less throughout his life. He was fond of old authors and old books, and would often quote from them. He was a good speaker, and could always be trusted on an important occasion to say the right thing and to say it well, and being a man of affairs he was one whom his friends might have hoped, had his health not given way, would at some time have been called upon to fill the presidential chair of the Royal College of Physicians. He was always courteous, always genial, a kindly host given to a somewhat old-time hospitality where he was to be seen at his best, and perhaps most endearing of all he was a most unselfish and generous man, ever ready to help a friend or younger colleague in the struggle upwards towards success."

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[1] THE LANCET, vol. ii., 1899, p. 177 et seq.

THE NATIONAL INSURANCE ACT.

THE SOCIETY OF APOTHECARIES AND UNQUALIFIED PRACTICE.

THE following resolution has been passed by the Court of Assistants of the Society of Apothecaries of London:—

> Resolved that this Court regrets that in Paragraph 44 (2) of the regulations dated Jan. 10th, 1914, made by the National Health Insurance Joint Committee, acting jointly with the Insurance Commissioners, and the Memorandum issued in connexion therewith, provision is made whereby insured persons making their own arrangements for medical treatment under Section 15 (3) of the National Insurance Act, are allowed to obtain treatment from unqualified persons. Further, that this Court strongly objects to public money being paid for the encouragement of unqualified medical practice, and begs to draw the attention of the General Medical Council to the matter.

LONDON PANEL COMMITTEE.

The Panel Committee for the county of London have decided that duly qualified medical practitioners and representatives of the medical press shall be admitted to all meetings of the committee, provided that the committee, by resolution, may temporarily exclude such persons whenever such exclusion is advisable. The meetings of the committee are held in the Board Room at the offices of the Metropolitan Asylums Board, Victoria Embankment, E.C., on the fourth Tuesday in each month, at 3 P.M.

A FRIENDLY SOCIETY AND THE ACT.

At the forty-fifth annual meeting of the National Deposit Friendly Society at Sheffield the president, in moving the adoption of the report, spoke of the position of the society as "very satisfactory." Dealing with the position of the society with regard to the working of the Act, he said if they compared the amounts paid out in each branch of the State section with the estimates made by the Government actuary it would be found that the accounts came out on lines completely satisfactory as far as their society was concerned. Statements had been made reflecting upon some of the Approved Societies to the effect that they had gone entirely beyond the actuaries' estimates, and that they were in a hopeless and insolvent position. That was by no means the experience of their society. No doubt the increase in sick pay went on in both the State and deposit sections. He did not attribute it all to malingering, but it was nevertheless no use shutting their eyes to the fact that there had been considerable malingering. Later in his speech the chairman observed that "there was no doubt some degree of laxity and looseness on the part of doctors which required to be carefully watched"; and with regard to the general working of the Act, including no doubt the control of the medical men engaged upon it, it was suggested by him that "the Government would find that the best way was to entrust large and reliable Friendly Societies with the work on proper lines subsidised by the State."

ELGIN AND NAIRN INSURANCE COMMITTEE.

At a recent meeting of the Elgin and Nairn Insurance Committee a protest was raised on behalf of the medical men on the panel against the manner in which they were being subjected to loss owing to the failure of the societies to trace removals. The clerk, in a statement of payments made by the Commissioners in respect of the various benefits administered by the committee, had intimated that the distribution in respect of medical benefit to the panel would amount to 95 per cent. of the funds due and that the full amount could not be paid. The protest was then made by Dr. J. Taylor, who pointed out that the fact that the full amount due could not be paid amounted to an admission of insolvency. This was partly due to the failure of the Approved Societies in connexion with their index slips, the result of which was that medical men expecting a substantial cheque for the heaviest working quarter received instead lists of patients who had been struck off their lists and who were not to be paid for. These were people for whom no index slips had been returned by the societies. He had himself been attending a woman who had lived in the same house for ten years and yet who had been crossed off as unidentified by the clerk of the committee because no index slip had been returned for her. Another patient had been taken off his list whom he had recently operated on in a hospital after attending him about 100 times. Cards were sent out and returned by the post-office undelivered and the patients were struck off. This had happened in the case of his own chauffeur, who had moved to an address 40 yards away from his former one. There were scores of such untraced persons who to his knowledge were still in the town. The chairman characterised the statement made by Dr. Taylor as a moderate one, and Dr. Atkinson added that the medical profession had carried out its side of the bargain, and that the medical men were not responsible for the index slips, which were none of their business. Dr. Taylor further extracted a reply from the clerk to the effect that insured persons even when they had been struck off a list were entitled to medical treatment if they became ill. The matter was dropped without any conclusion being arrived at, but the subject will no doubt be discussed again in other districts. Medical men who accept the remuneration offered by Insurance Committees do so because the payments on behalf of persons who do not consult them compensate them for attendance upon the sick at a rate of pay which would otherwise be unremunerative. Those, therefore, who are taken off their lists because they have not been traced represent a dead loss. If they remain well no payment is made in respect of them; if they become ill attendance upon then at insurance rates is expected.

Hull Insurance Committee.

At a recent meeting of the Hull Insurance Commiteee it was reported that as the result of a conference between members of the Medical Benefit Subcommittee and the Insurance Commissioners payment by way of advance was recommended to medical men on the panel at the rate of 1*s.* 6*d.* for each person on their lists on Jan. 12th, and to druggists of 75 per cent. of their accounts as assessed for the two months ending March 12th, provided that the total amount of such payments did not exceed 95 per cent. of the amount estimated to be available on the provisional credit advised by the Commissioners.

Fife Panel Doctors.

At a meeting of the Fife County Insurance Committee held at Kirkcaldy a statistical report was submitted showing that 8000 insured persons on the medical practitioners' lists had not been paid for by the committee. The clerk was instructed to press the Commissioners for payment.

University College, London.—The title of emeritus professor of clinical surgery has been conferred upon Sir Rickman J. Godlee, President of the Royal College of Surgeons of England, and Mr. Bilton Pollard.

King Edward VII.'s Hospital, Cardiff.—At a joint meeting of the chairmen of the various committees of this hospital, held this week, it was decided to accept the resignations of the three house surgeons at present in residence. Differences had arisen, we are informed, owing to a recent increase of £40 per annum in the salary of the house physician without similar recognition of the house surgeons, who hold a similar status in the hospital.

Hospital for Nervous Diseases, Belfast.—At the annual meeting of the supporters of this hospital held on May 19th the report showed that during the year 33 patients had been treated in the intern department, while in the out-patient department a larger number of cases had been seen than formerly, involving 3830 attendances. Dr. John Thompson has been appointed physician in place of the late Dr. John MacCormac, and Dr. John Rusk assistant physician. Financially, there is a deficit of £573 14*s.*

Medical News.

University of Cambridge.—The following medical degrees have been conferred:—

M.D.—W. L. Murphy, St. John's; and C. H. S. Taylor, Caius.
M.B., *B.C.*—G. Moore, Clare.
M.B.—A. G. G. Thompson, Pembroke.

W. Morley Fletcher, M.D., Trinity, has been approved for the degree of Sc.D. The first and second examinations for medical and surgical degrees will begin on Monday, June 15th, the third examination, Part I., on June 16th, and Part II. on June 17th. The examination for the degree of M.C. will begin on June 18th.

Society of Apothecaries of London.—At examinations held recently the following candidates passed in the subjects indicated:—

Surgery.—W. Bailey Thomson (Sections I. and II.), Aberdeen; A. R. Jennings (Section I.), St. Bartholomew's Hospital; and W. Smith (Sections I. and II.), Durham.
Medicine.—W. Bailey Thomson (Section I.), Aberdeen; M. P. Des Santos (Section II.), Louvain; and G. Mes (Sections I. and II.), Amsterdam.
Forensic Medicine.—W. Bailey Thomson, Aberdeen; L. Baumgarten, Berne and London Hospital; G. Mes, Amsterdam; H. Morrison, St. Mary's Hospital; and B. C. Piercy, Leeds.
Midwifery.—W. Andrew, King's College Hospital; W. Brown, King's College Hospital and Oxford; and R. J. Hearn, Guy's Hospital and Cambridge.

The Diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery:—

B. C. Piercy and W. Smith.

Sir William Osler, Regius professor of medicine in the University of Oxford, will open the new Pathological Laboratory of the Royal Mineral Water Hospital, Bath, on Thursday, June 4th, at 4 o'clock.

St. Thomas's Hospital: Annual Prize Distribution.—The prizes will be distributed to the successful students of this hospital by Sir T. Clifford Allbutt, K.C.B., Regius professor of physic in the University of Cambridge, on Tuesday, June 30th.

Royal Sanitary Institute.—The following medical practitioners have this month been elected members of the institute: Dr. Sydney James Clegg (Newcastle-on-Tyne), Dr. Josephine Letitia Denny Fairfield (Hampstead), and Dr. Alexander L. McQuarrie (British Columbia).

Portsmouth Radium Fund.—The Portsmouth guardians, having obtained the necessary consent of the Local Government Board, have contributed £100 to the Portsmouth *Evening News* Radium Fund. This now amounts to £2134 7*s.* 9*d.*

Kingseat Asylum Extension.—A scheme for the extension of Kingseat Asylum, Aberdeen, has been passed by the Aberdeen District Lunacy Board. This scheme comprises a combined hospital villa for both sexes, at an estimated cost of £12,250, or £139 per bed, this cost being exclusive of furnishings or architect's fees.

A "Royal" Infirmary for East Lancashire.—The King has granted permission to the Blackburn and East Lancashire Infirmary to be known as the Blackburn and East Lancashire Royal Infirmary. The endowment fund investments are now £95,920, which gives a yearly income of £2872. The patients admitted last year numbered 7666.

Medical Sickness and Accident Society.—A meeting of the executive committee of this society was held at 429, Strand, W.C., on May 15th, Dr. F. J. Allan being in the chair. The accounts showed satisfactory progress both in the matter of new claims and new proposals. The new tables were reported as being duly registered, and proposals are already coming in under them.

Presentation to a Medical Man.—The Paignton branch of the Great Western Railway employees of the St. John Ambulance Association at the annual distribution of certificates and medallions held recently at Exeter, presented Mr. Robert Dunstan, M.R.C.S. Eng., L.S.A., with a handsome walking stick in appreciation of his services as honorary instructor.

NORTHERN ASSOCIATION OF MEDICAL WOMEN.—A meeting of this association was held at the Medical Institution, Liverpool, on May 23rd. Delegates were present from Manchester, Leeds, Sheffield, and Preston. After a discussion on the National Care of Maternity the following resolution was passed unanimously:—

> That this meeting is of opinion that it is necessary for the welfare of the working women of this country that efficient pre-maternity and maternity care should be provided, including any necessary institutional treatment; and that for the proper coördination of existing organisations for ante-natal and post-natal care the administration of the maternity benefits should be handed over to the public health authorities.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Workmen's Compensation.

A HIGHLY important announcement that the Government is to set up a Committee to inquire into the Workmen's Compensation Act in all its aspects, and also into its relationship to the National Insurance Act, was made by Mr. ELLIS GRIFFITH, the Under Secretary of State for the Home Department, in the House of Commons on the evening of Wednesday, May 20th.

This announcement was made in reply to a debate on a motion brought forward by Mr. TYSON WILSON to the effect "that in the opinion of this House a Committee should be appointed to consider and report upon the anomalies that have been created in the administration of the Workmen's Compensation Act." In the course of the discussion the subject of medical referees was referred to.

Mr. ELLIS GRIFFITH, in the course of his reply, said that the point which the Labour Members had put was that there ought to be full-time medical referees under the Workmen's Compensation Act. All honourable members would agree in theory that if it was at all practicable that ought to be so. They were anxious to get men who would be full-time medical referees because they would be able to give an absolutely impartial opinion as between employer and employed. At present these medical referees were appointed for each county court district. The first thing that would have to be done if a change were adopted would be to get these areas extended. It would be impossible to get the very best men unless they were attracted by a larger salary than was afforded by a small district. Honourable members knew how careful the Home Office had been in sending out circulars that the medical referee should not be interested in the case, and that he ought to go to it with an impartial and unbiased mind.

Mr. HODGE: Lord Gladstone when he was Home Secretary promised, as an experiment in some of the larger districts, to employ full-time medical referees. It has never been done.

Mr. ELLIS GRIFFITH admitted that that promise had never been fulfilled. He did not see why it should not be possible to do it in a very large district. These points, however, were of relatively less importance than the announcement which he was going to make. He was prepared to accept the motion. The Government thought that a Committee should be appointed to consider not only the administration of the Act but also its alteration. Honourable Members all knew that a new factor had come into existence with the National Insurance Act, and just as Labour members wanted a State paid service of medical referees, so there had been a suggestion on foot that there should be a State insurance of employers against compensation risks of all kinds. That was to say, that instead of insuring in private companies for one class of cases and by their National Insurance contributions for another class of cases there should be some organisation whereby employers could pay once for all and protect themselves against disablement, illness, and all these other matters. The proposal of the Government was that they were going to appoint a Committee to inquire not only into existing anomalies, but also into the relationship between the Workmen's Compensation Act and the National Insurance Act, with the view, if possible, of bringing these two matters into more harmonious relationship.

The Whitsuntide Recess.

Parliament has adjourned for the Whitsuntide recess. The House of Commons is taking a fortnight's holiday, but the House of Lords does not reassemble until June 15th.

HOUSE OF COMMONS.

WEDNESDAY, MAY 20TH.

National Insurance Grants to Ireland.

Mr. CASSEL asked the Chancellor of the Exchequer what proportion of the grants of £1,250,000 for the year 1914–15, and of £2,000,000 for the year 1915–16, for National Health Insurance, tuberculosis nursing and pathological laboratories it was estimated would be attributable to Ireland.—Mr. LLOYD GEORGE wrote in reply: The figures may be stated provisionally as follows:—

	1914–15.		1915–16.
National Insurance	£52,000	...	£65,000
Tuberculosis nursing and pathological laboratories	£22,500	...	£67,500
	£74,500		£132,500

Medical and Surgical Appliances.

Lord NINIAN CRICHTON-STUART asked the Chancellor of the Exchequer whether there were any industries or avocations in which there was particular danger of particular kinds of accidents happening, or diseases being contracted, for which the National Health Insurance Committees were allowed to supply any particular kinds of medical instruments or necessities.—Mr. HOWARD (on behalf of Mr. LLOYD GEORGE) answered: The medical and surgical appliances which Insurance Committees are empowered to supply as part of medical benefit are those specified in the second schedule to the Regulations. These are available in suitable cases for the treatment of diseases or accidents, whether arising as a result of the insured person's employment or otherwise.

Miners' Itch and Industrial Diseases.

Mr. WEDGWOOD asked the Home Secretary whether his attention had been called to the Milroy lectures, delivered by Dr. Shufflebotham before the Royal College of Physicians, dealing with miners' diseases, and whether the Home Office contemplated adding miners' itch to those industrial diseases which were covered by the Workmen's Compensation Act.—Mr. McKENNA replied: I have seen a report of these lectures but have otherwise no information in regard to this ailment. It is not mentioned in the report of the Committee on Compensation for Industrial Diseases, and no representations have been made to me on the subject. If, as I gather from the report of the lectures, the ailment cannot be regarded as specific to the employment in the sense indicated by the committee in their report, I could not add it to the schedule in the Workmen's Compensation Act, but any cases of disablement caused by this ailment will be covered by the National Insurance Act.

Medical Inspectors under the Mental Deficiency Act.

Mr. SNOWDEN asked the Home Secretary whether he was aware that the Board of Control for the administration of the Mental Deficiency Act recently advertised for male and female inspectors who must be registered medical persons, and that the salaries offered were £400 for men and £350 for women, and, if so, would he explain why this difference of payment was made, seeing that the Board stated that there was no difference in the importance of the work of the men and women inspectors; whether the first woman candidate offered the post refused it on account of this difference in salary; whether the second candidate accepted it and then withdrew for the same reason; whether the post was still unfilled; and whether it had hitherto been the practice of Government departments to pay medical officers the same salaries, whether men or women; and, if so, why this practice had been departed from in this case.—Mr. McKENNA answered: The salaries offered were £400, rising to £600, and £350 rising to £550. They were fixed by the Treasury at the rates at which it was believed suitable candidates could be obtained. At that time the report of the Royal Commission on the Civil Services had not been published, but the proposed salaries appear to comply with the recommendation of the Commission that where the conditions of employment are approximately the same the rates of pay should approximate to equality. The first two candidates to whom the post of female inspector was offered declined it on the ground of difference of salary, not because they thought it too small. The post has not yet been filled, but the matter is not at present urgent. There is no rule or practice requiring the salaries of men and women medical officers in the Government service to be the same.

Mr. SNOWDEN: Is it not a fact that in practice the remuneration of women medical officers is the same as men medical officers?—Mr. McKENNA: I am informed not, but I will inquire further into the point.

Mr. SNOWDEN: Are we to infer from the reply just given that the Treasury consider that the services of women will not be equal in value to the services of the men, and is that the reason there is for this difference of salary? The Report of the Royal Commission to which the right honourable gentleman refers recommended equal pay for equal work.—Mr. McKENNA: The Treasury rule was stated by me. Rates were fixed by the Treasury at which it was believed suitable candidates could be obtained. That, I believe, is the practice of the Treasury. With regard to the second point, the work is approximately the same and the rates are approximately the same, but it cannot be said that the work is identical.

Mr. **SNOWDEN**: Seeing it is impossible to get women doctors at these rates of pay, will they now offer the women the same salary as the men?—Mr. **MCKENNA**: I am not sure what appointments have been made.

Mr. **MACCALLUM SCOTT**: Is my right honourable friend aware that a great many distinguished women economists are opposed to the doctrine of equal pay for equal work, and think that it would result disastrously to the interests of women?—Mr. **MCKENNA**: I agree with what my honourable friend says. For my own part, I should be ready to give equal pay for equal work, but I am not convinced the work is equal.

Midwives (Scotland) Bill.

Mr. **BARNES** asked the Prime Minister whether, in view of the passing through all its stages by the House of Lords of a Bill for the training and registration of midwives in Scotland, and in view of the need of such a Bill becoming law, he would favourably consider the question of giving facilities either for the Bill in question or for that standing in the name of the Member for the Blackfriars division of Glasgow.—Mr. **ASQUITH** said in reply: The Government are favourably disposed to the principles of the Bill and will consider whether facilities can be given for its progress.

The Nursing Home at Sierra Leone.

Mr. **MACCALLUM SCOTT** asked the Colonial Secretary whether the Manchester Chamber of Commerce had appealed to the Governor of Sierra Leone requesting that Europeans entering the nursing home might continue to enjoy the services of their own medical attendant, whether native or European; and could he say what reply had been sent to this request.—Mr. **L. HARCOURT** replied: I do not know what reply has finally been returned by the Governor of Sierra Leone to the letter from the Manchester Chamber of Commerce to which my honourable friend refers, but I have decided that the native medical practitioner to whose case the Chamber of Commerce specially referred shall continue to be allowed the same facilities for attending his patients in the nursing home that he has hitherto enjoyed, subject to the privilege being liable to be withdrawn at any time for good cause shown.

Sale of Food and Drugs Bill.

Sir **PHILIP SASSOON** moved for leave to introduce a Bill "to consolidate with amendments the Food and Drugs Act, 1875 to 1899, the Margarine Act, 1887, and the Butter and Margarine Act, 1907." He said that the object of the Bill was to consolidate into one consistent and comprehensive whole all the existing statute law governing the subject with which it dealt. The Bill also proposed certain amendments of the existing law. At present the powers of officers under the Food and Drugs Acts to purchase and to take samples of articles of food or drugs for the purpose of analysis were restricted to articles or drugs which were, or actually had been, exposed for sale. The present Bill gave power to take samples for analysis at any time after the process of manufacture or preparation for consumption was completed. Further, the powers now possessed by the Local Government Board of fixing by regulations the standards of purity of, and use of preservatives in certain articles were extended to all articles affected by the Bill. An even more important change was a proposal to set up a committee of 15 persons of a representative character to advise the Board in the passing of these regulations. The existing provisions relating to the defence of warranty had also been revised with the intention of making it more difficult for the seller of an impure or adulterated article to escape the proper consequences of his act. Additional innovations dealt with the compulsory registration of vendors of milk and butter, the infliction of imprisonment for repeated offences, exemption of officers from the necessity of entering into recognisances, and the granting of analysts' certificates. These changes, he believed, would be for the public benefit.

Leave having been granted Sir **PHILIP SASSOON** brought in the Bill, which was read a first time.

Preservatives in Cream.

Colonel **IVOR PHILIPPS** asked the President of the Local Government Board whether his attention had been called to the risk and loss to which respectable and honest retail traders were at present exposed owing to the uncertainty as to the law regarding the sale of preserved cream; and whether he proposed to take immediate steps to relieve traders from the constant danger to which the present law exposed them.—Mr. **HERBERT SAMUEL** wrote in reply: My attention has been drawn to this matter. The evidence at present available as to the influence on health of the addition of small quantities of preservatives to cream is to some extent contradictory. I have decided, therefore, to nominate a small expert committee to investigate afresh the question which I recognise to be of great and pressing importance to the trade concerned. Pending the completion of this investigation, which should not be prolonged, I would venture to express the opinion that it is inadvisable that local authorities should institute proceedings except in cases where the amount of boric acid in the cream exceeds the amount declared on the label or where the amount so declared is clearly excessive.

Miners' Nystagmus.

Mr. **WEDGWOOD** asked the Home Secretary whether his attention had been called to the evidence given by Dr. Shufflebotham in his Milroy lectures before the Royal College of Physicians that miners' nystagmus was principally due to the bad illumination of mines; whether the Home Office concurred in his views on this subject; and whether any steps could be taken to remedy the evil in connexion with the National Insurance Act or otherwise.—Mr. **MCKENNA** answered: I have seen a report of the lectures referred to. The researches made in recent years appear to point strongly to the conclusion that the working in insufficient light is the main, if not the sole cause of miners' nystagmus, and the point was kept in view when it was decided to impose photometric tests for all types of safety lamps approved under the Coal Mines Act, 1911. I am advised that as a result of these tests and the increasing use of electric lamps the illumination below ground is improving, and I trust that as this improvement continues it will have a substantial effect in reducing the number of cases of nystagmus. Miners' nystagmus is one of the diseases scheduled under the Workmen's Compensation Act.

Operations in Prison.

Mr. **WEDGWOOD** asked the Home Secretary to state under what law or regulation the consent of a prisoner had to be obtained before an operation could be performed by the prison or other doctors.—Mr. **MCKENNA** answered: There is no express provision of the law and no regulation requiring the prisoner's consent, but it is the invariable practice to obtain the prisoner's consent before a surgical operation is performed in prison.

Asylums Officers Bill.

Viscount **WOLMER** asked the Prime Minister whether his attention had been called to the recent unrest among asylum attendants in different parts of the country, particularly in Lancashire; and whether he would afford facilities this session for the passage of the Asylums Officers (Employment, Pensions, and Superannuation) Bill, which had already been approved by the Select Committee appointed to consider it in 1911.—Mr. **ASQUITH** replied: I am informed that there is no widespread unrest, though some dissatisfaction does undoubtedly exist. As regards the latter part of the question the Government are favourable to the principles of the Bill, and will consider whether the business of the House will admit facilities for its progress.

MONDAY, MAY 25TH.

A Complaint before the General Medical Council.

Mr. **ANEURIN WILLIAMS** asked the Home Secretary whether he was aware that about 1200 householders in or about Annfield Plain, county Durham, were members of a medical association who had made with a certain medical man in their neighbourhood an arrangement satisfactory to themselves and to the said medical man; whether the said medical man was threatened with being struck off the Medical Register because he was working for an association which it was alleged had canvassed; whether the alleged canvassing was denied by the association in question; whether the case would be heard before the General Medical Council in London on Wednesday this week; whether the charge against this association and their doctor was being supported by certain other doctors; whether in the event of the view put forward by these other doctors being accepted the doctor of the association would be struck off the medical list without enjoying any right of appeal; whether in these circumstances, and in view of the importance of the matter to the working classes, the Home Secretary would take steps to see that the matter was not decided without a full and impartial inquiry into all the facts of the case.—Mr. **MCKENNA** answered: I have received this morning a letter on the subject from a correspondent in Durham, but I have no other information. Assuming the facts to be as stated by my honourable friend, I do not think *primâ facie* that I have any authority to take action.

Mr. **ANEURIN WILLIAMS**: Will the right honourable gentleman inform me whether there is any power to get an impartial decision on this matter, or whether the powers of the General Medical Council are absolute in a matter which evidently concerns themselves?—Mr. **MCKENNA**: I should think that if the facts are as stated by my honourable friend the remedy can only be obtained by a fresh statute.

An Experiment on an Animal.

Mr. **CHANCELLOR** asked the Home Secretary whether, as stated in the King's Bench Divisional Court on Monday last, the Home Office had expressed entire satisfaction with the conduct of Dr. Yorke in exposing for several days in an open field a donkey covered with sores due to experiments made upon it in the laboratory, and only destroying it after complaint had been made to the police in consequence of the swarm of flies observed from the other side of the hedge to be flying about and settling upon the animal, and what steps he proposed to take to prevent other animals being subjected to similar treatment.—Mr. McKenna replied: The statement reported to have been made in court that the Home Office had expressed itself as entirely satisfied with Dr. Yorke's conduct was incorrect. I expressed no such view. Careful inquiry was made by me at the time; I saw no ground for differing from the conclusion of the justices, who found that the allegations as to the condition of the animal which are repeated in the question were not substantiated, and that the animal was not in fact caused unnecessary pain; but I formed the opinion that Dr. Yorke should himself have visited the animal from time to time, and should have satisfied himself by personal inspection that it was being properly cared for, and I have so informed him.

BOOKS, ETC., RECEIVED.

Baillière, Tindall, and Cox London.

Prevention of Dental Caries and Oral Sepsis. By H. P. Pickerill, M.D., Ch.B., M.D.S. Birm., L.D.S. Eng. Second edition. Price 12s. 6d. net.

Bell, G., and Sons, Limited, London.

The History and Economics of Indian Famines. By A. Loveday, B.A. Price 2s. 6d. net.

Studies in the Minimum Wage (Chain Making Industry). By R. H. Tawney. Price 1s. 6d. net.

Blakiston's (P.) Son and Co., Philadelphia.

The Practice of Medicine: A Textbook for Practitioners and Students, with Special Reference to Diagnosis and Treatment. By James Tyson, M.D., Emeritus Professor of Medicine in the University of Pennsylvania, and M. Howard Fussel, M.D., Professor of Applied Therapeutics in the University of Pennsylvania. Sixth edition, revised and re-written. Six plates, 179 illustrations.

Pathogenic Micro-organisms: A Text-book of Microbiology for Physicians and Students. By Ward J. MacNeal, Ph.D., M.D., Professor of Pathology and Bacteriology in the New York Post-graduate Medical School. 213 illustrations.

Cambridge University Press, Cambridge and London.

Notes on Inorganic Elementary Chemistry. By F. H. Jeffery, M.A. Price 3s. net.

Clarendon Press, Oxford.

Plague and Pestilence in Literature and Art. By Raymond Crawfurd, M.A., M.D. Oxon., F.R.C.P. Price 12s. 6d. net.

Constable and Co., London.

A Text-book of General Embryology. By William E. Kellicott, Professor of Biology in Goucher College. Price 10s. 6d. net.

Outlines of Chordate Development. By William E. Kellicott. Price 10s. 6d. net.

The Doctor's Dilemma: a Tragedy. By Bernard Shaw. With a Preface on Doctors. Price 6d.

Fischer, Gustav, Jena.

Handbuch der Gesamten Therapie. In sieben Bänden. Herausgegeben von Prof. Dr. F. Penzoldt, in Erlangen, und Prof. Dr. R. Stintzing, in Jena. Fünfte Auflage. Lieferung 13 (Band II., Seite 363-528). Price M 3.50. Lieferung 14 (Band II., Seite 529-683). Price M.3.50. Lieferung 15 und 16 (Band III., Seite 321-640). Price M.3.50.

Handbuch der Vergleichenden Physiologie. Herausgegeben von Hans Winterstein in Rostock. Lieferung 42. Band III. Seiten 1447-1592. Price M.5.

Die vitale Karminspeicherung. Von Dr. K. Kiyono Kioto, Japan. Vorwort von L. Aschoff. Price M.16.

Ueber den Mechanismus der Oxydationsvorgänge im Tierorganismus. Von Dr. med. Lina Stern. Price M.2.20.

Das Problem der Geschwulstmalignität. Von Dr. med. Max Versé. Price M.3.

Funk and Wagnalls Company, New York and London.

Exercises for Women. By Florence Bolton, Director of Women's Gymnasium, Stanford University. Price 4s. net.

Longmans, Green, and Co., London and New York.

Lourdes. By Johannes Jorgensen. Translated from the original Danish by I. Lund, with preface by Hilaire Belloc. Price 2s. 6d. net.

Lynwood and Co., 12, Paternoster-row, London, E.C.

Some Principles of Spiritual Healing. By H. Lane, Vicar of Abbots Bickington, North Devon. Price 2s. net.

Maloine, A., Paris.

Guide de Médecine Pratique, Pathologie Interne et Diagnostic. By Dr. R. Hyvert. Second edition. Price Fr.6.

Les Préjugés en Art Dentaire. By Dr. E. Charézieux. Price Fr.3.

Murray and Evenden, Limited, Pleydell-street, E.C.

Queer Patients. By M. Oston, M.D. Second edition. Price 2s. net.

Murray, John, London.

Researches into Induced Cell Reproduction in Amœbæ. By J. W. Cropper, M.B. Liverp., and A. H. Drew. (The John Howard McFadden Researches, Vol. IV.) Price 5s. net.

Stock, Elliot, London.

Keep Breathing: How to Do It and Why. By Mme. M. A. Carlisle Carr. Price 2s. net.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Bramwell, Hugh Ransom, M.B. Edin., M.R.C.S., has been appointed Chief Clinical Assistant in the X Ray Department at the West London Hospital.

Burt, W., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician at the Royal Free Hospital.

Carlill, Hildred B., M.D. Cantab., M.R.C.P. Lond., has been appointed Assistant Physician to the West End Hospital for Diseases of the Nervous System, Welbeck-street, W.

Pitts, Arthur T., M.R.C.S., L.R.C.P. Lond., L.D.S., has been appointed Dental Surgeon to the Hospital for Diseases of the Throat, Golden-square.

Prentice, H. Ridley, M.B., B.S. Lond., M.R.C.P. Lond., has been appointed Physician to Out-patients at the West End Hospital for Diseases of the Nervous System.

Ranken, David, M.S. Lond., B.S. Durh., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Hospital for Sick Children Newcastle-upon-Tyne.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Aberdeen University.—Lectureship in Public Health. Salary £400 per annum.

Auckland Rural District Council.—Medical Officer of Health. Salary at rate of £500 per annum.

Barrow-in-Furness, North Lonsdale Hospital.—House Surgeon. Salary £150 per annum, with residence, board, and laundry.

Bedford County Hospital.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

Belgrave Hospital for Children, Clapham-road, S.W.—House Surgeon for six months. Salary at rate of £75 per annum, with board, residence, and washing.

Birkenhead Borough Hospital.—Senior House Surgeon. Salary £120 per annum, with board and laundry.

Birmingham and Midland Eye Hospital.—Locum Tenens Junior House Surgeon. Salary 4 guineas weekly, with board and lodging.

Birmingham, Central Tuberculosis Dispensary.—Assistant Medical Officer. Salary £350 per annum.

Birmingham, City Fever Hospital, Little Bromwich.—Assistant Medical Officer. Salary £160 per annum, with board and residence.

Birmingham General Dispensary.—Resident Medical Officer, unmarried. Salary £220 per annum, with apartments, fire, lights, and attendance. Also Locum Tenens Resident Surgeon. Salary £5 5s. per week, with apartments.

Birmingham Union, Dudley-road Infirmary.—Resident Assistant Medical Officer. Salary £150 per annum, with apartments, rations, laundry, and attendance.

Birmingham, Yardley-road Sanatorium.—Assistant Medical Officer. Salary £250 per annum, with board and residence.

Boston Rural District Council.—Medical Officer of Health. Salary £110 per annum.

Bournemouth County Borough Education Committee.—Assistant School Medical Officer. Salary £300 per annum.

Bradford City Hospital, Leeds-road.—Assistant Resident Medical Officer. Salary £200 per annum, with board and residence.

Bradford Royal Infirmary.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing.

Brighton, Royal Sussex County Hospital.—Assistant House Surgeon, unmarried, for three months. Salary £30, with apartments, board, and laundry.

Bristol Royal Infirmary.—House Surgeon for Throat, Nose, and Ear Department. Salary at rate of £100 per annum, with board, lodging, and laundry.

Burnley, Victoria Hospital.—Two House Surgeons. Salary £135 per annum, with residence, board, and washing.

Bury Infirmary.—Junior House Surgeon. Salary £100 per annum, with board, residence, and washing.

Cairo.—Resident Physician for Mena House Hotel, Pyramids, near Cairo.

Canterbury, Kent and Canterbury Hospital.—House Surgeon and Junior House Surgeon, unmarried. Salaries £100 and £80 per annum respectively, with board, lodging, and washing.

Cardiff, Glan Ely Tuberculosis Hospital.—Resident Medical Officer. Salary £200 per annum, with quarters and maintenance.

Cardiff, King Edward VII.'s Hospital.—House Surgeon for the Ophthalmic and Ear, Nose and Throat Departments. Salary £100 per annum, with board, residence, and laundry. Also Two House Surgeons for six months. Salary at rate of £80 per annum, with board, residence, and laundry.

Central London Ophthalmic Hospital, Judd-street, W.C.—Assistant Surgeon.

Central London Throat and Ear Hospital, Gray's Inn-road, W.C.—Registrar.

Chesterfield and North Derbyshire Hospital.—House Physician. Salary £90 per annum, with board, apartments, and laundry.

City of London Hospital for Diseases of the Chest, Victoria Park, E.—Clinical Assistant in Out-patient Department.

City of London Lying-in Hospital, City-road.—Pathologist and Registrar.

Cumberland County Council.—Three Assistant County Medical Officers. Salary £350.

Devonport, Royal Albert Hospital.—House Surgeon, unmarried. Salary £150 per annum, with board and laundry.

Durham County Hospital.—House Surgeon. Salary £120 per annum, with board and lodging.

East London Hospital for Children and Dispensary for Women Shadwell, E.—Medical Officer to Casualty Department for six months. Salary at rate of £100 per annum, with luncheon and tea. Also House Physician. Salary at rate of £75 per annum, with board, residence, and laundry.

Eccles and Patricroft Hospital.—House Surgeon. Salary £70 per annum, with board, washing, and lodging.

Egypt, Public Health Department.—Medical Officer, unmarried. Salary at rate of £600 per annum.

Essex Education Committee.—Medical Inspector. Salary £300 per annum.

Evelina Hospital for Sick Children, Southwark, S.E.—House Surgeon for five months. Salary at rate of £75 per annum, with board, residence, and washing.

Fareham, Hants County Asylum.—Third Assistant Medical Officer, unmarried. Salary £250 per annum, with apartments, board, washing, and attendance.

French Hospital, 172, Shaftesbury-avenue, W.C.—Second Resident Medical Officer, unmarried. Salary £60 per annum, with full board and laundry.

Halifax Royal Infirmary.—Second House Surgeon and Third House Surgeon, unmarried. Salary £120 and £100 per annum respectively, with residence, board, and washing.

Hampshire County Council.—Two Assistant County Medical Officers of Health. Salary £300 per annum. Also Tuberculosis Officer. Salary £400 per annum.

Hemel Hempstead, West Herts Hospital.—Resident Medical Officer. Salary £120 per annum, with rooms, board, and washing.

Hospital for Sick Children, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £30, with board, residence, &c.

Hospital for Women, Soho-square, W.—Resident Medical Officer for six months. Salary at rate of £80 per annum.

Huddersfield, County Borough of.—Assistant Medical Officer of Health (female). Salary £250 per annum.

Hull Royal Infirmary.—Honorary Ophthalmic Surgeon.

Kingston, Canada, Queen's University, Medical Faculty.—Two Assistant Professors. Salary in each case £300 per annum.

King's Lynn, West Norfolk and King's Lynn Hospital.—House Surgeon. Salary £150 per annum.

Leeds Public Dispensary.—Junior Resident Medical Officer. Salary £130 per annum, with board, residence, and laundry.

London Fever Hospital, Liverpool-road, N.—Assistant Resident Medical Officer. Salary £150 per annum, with residence and board.

London Homœopathic Hospital, Great Ormond-street and Queen-square, Bloomsbury, W.C.—Physician to Hospital. Also Physician for Diseases of Children. Also Assistant Pathologist (Part-time). Salary £50 per annum.

London Lock Hospital.—House Surgeon to Female Hospital, Harrow-road, W. Salary £100 per annum, with board, residence, and washing.

Macclesfield General Infirmary.—House Surgeon. Salary £125 per annum, with residence, board, and laundry.

Maidstone, Kent County Asylum.—Fourth Assistant Medical Officer, unmarried. Salary £250 per annum, with quarters, board, attendance, washing, &c.

Manchester Ear Hospital, Grosvenor-square, All Saints.—Assistant Anæsthetist. Salary £15 15s. per annum.

Manchester, Hulme Dispensary, Dale-street, Stretford-road.—House Surgeon. Salary £180 per annum, with apartments, attendance, &c.

Manchester, Monsall Fever Hospital.—Fourth Medical Assistant. Salary £130 per annum, with board, lodging, and washing.

Manchester Northern Hospital for Women and Children, Park-place, Cheetham Hill-road.—House Surgeon. Salary £120 per annum, with apartments and board.

Manchester Royal Infirmary.—Medical Officer for Out-patients and Accidents to the Central Branch for six months. Salary at rate of £100 per annum, with board and residence.

Manchester, Township of South Manchester Hospitals, West Didsbury.—Junior Resident Medical Officer. Salary £120 per annum, with rations, apartments, and attendance.

Middlesbrough, North Ormesby Hospital.—Assistant House Surgeon. Salary at rate of £100 per annum first six months and £110 per annum afterwards, with board, apartments, washing, and attendance.

Middlesex County Council, Committee for the Care of the Mentally Defective.—Medical Officer. Salary £500 per annum.

National Hospital for Diseases of the Heart, Westmoreland-street, W.—Resident Medical Officer for six months. Salary at rate of £80 per annum, with board, residence, and washing.

Newark-upon-Trent Hospital.—Resident Medical Officer, unmarried. Salary £120 per annum, with board, lodging, and laundry.

Newcastle-upon-Tyne, University of Durham College of Medicine.—Demonstrator of Anatomy. Salary £200 per annum.

New Zealand, University of Otago.—Professor of Anatomy. Salary £800 per annum.

Norwich, Jenny Lind Hospital for Sick Children.—Female Resident Medical Officer for six months. Salary £50 per annum, with board, apartments, and laundry.

Nottingham, Bagthorpe Institution and Infirmary.—Assistant Resident Medical Officer, unmarried, for six months. Salary at rate of £165 per annum, with apartments, &c.

Nottingham General Hospital.—Assistant House Physician for six months. Salary at rate of £100 per annum, with board, residence, and laundry. Also Locum Tenens for 13 weeks. Salary £4 4s. per week, with board, residence, and laundry.

Notts County Council.—Assistant Tuberculosis Officer. Salary £300 per annum.

Paddington Green Children's Hospital, London, W.—House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and washing.

Paddington Infirmary and Workhouse.—Second Assistant Medical Officer. Salary at rate of £140 per annum, with board, lodging, and washing.

Plaistow Fever Hospital, London, E.—Second Assistant Medi Officer, unmarried. Salary £100 per annum, with rooms and found.

Portsmouth Workhouse Infirmary, Workhouse, and Childre Home.—Second Assistant Resident Medical Officer, unmarrie Salary £140 per annum, with apartments, rations, &c.

Preston, County Asylum, Whittingham, Lancs.—Junior Assista Medical Officer, unmarried. Salary £250 per annum, with boar apartments, &c.

Queen's Hospital for Children, Hackney-road, Bethnal Green, —House Surgeon and House Physician for six months. Salary rate of £80 per annum each, with board, residence, and washing.

Rochdale Infirmary and Dispensary.—Junior House Surgeo unmarried. Salary £110 per annum, with board, residence, an laundry.

Rotherham Hospital.—Senior and Junior House Surgeons. Salarie £150 and £100 respectively, with board, lodging, and washing.

Royal Dental Hospital of London, Leicester-square.—Assistan Dental Surgeon.

Royal Hospital for Diseases of the Chest, City-road, E.C.— Medical Registrar. Salary 100 guineas per annum. Also Addi tional Medical Officer to X Ray Department. Salary 25 guineas pe annum.

St. Albans, Herts County Asylum, Hill End.—Second Assistan Medical Officer, unmarried. Salary £225 per annum, with board, lodging, and washing.

St. Mark's Hospital for Cancer, Fistula, and other Diseases of the Rectum, City-road, E.C.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

Salford Royal Hospital.—Junior House Surgeon and Casualty House Surgeon. Salary at rate of £80 per annum each, with board and residence. Also Honorary Physician and Honorary Assistant Surgeon.

Salford Union Infirmary.—Senior Assistant Medical Officer and Assistant Medical Officer, unmarried. Salaries £200 and £150 per annum respectively, with apartments, attendance, and rations.

Salisbury Infirmary.—Assistant House Surgeon, unmarried. Salary £75 per annum, with apartments, board, lodging, and washing.

Sheffield, Jessop Hospital for Women.—Assistant House Surgeon, unmarried. Salary £80 per annum, with board, residence, and laundry.

Sheffield Royal Infirmary.—Ophthalmic House Surgeon for six months. Salary £80 per annum, with board and residence.

Sheffield Union Hospital, Firvale.—Resident Assistant Medical Officer, unmarried. Salary £120 per annum, with apartments, rations, &c.

Shrewsbury, Salop Infirmary.—House Physician. Salary at rate of £90 per annum, with board and apartments.

Southport County Borough Education Committee.—Medical Gentleman to operate upon cases of Enlarged Tonsils and Adenoids occurring amongst Children attending the Elementary Schools in the Borough. Salary £1 1s. per case.

Southwark Union Infirmary, East Dulwich-grove, S.E.—Second Assistant Medical Officer and Third Assistant Medical Officer. Salary £170 and £160 per annum respectively, with board, lodging, and washing.

Sunderland Royal Infirmary.—Junior House Surgeon. Salary £100 per annum, with board, residence, and laundry.

Swansea General and Eye Hospital.—Two House Surgeons. Salary £125 per annum, with board, washing, and attendance.

University of London, King's College.—Demonstrator of Physiology. Salary £120 per annum.

West Ham and Eastern General Hospital.—Junior House Physician and Junior House Surgeon. Salary at rate of £75 per annum, with board, residence, and washing.

Western Ophthalmic Hospital, Marylebone-road, W.—Honorary Anæsthetist. Salary £25 per annum.

West London Hospital, Hammersmith-road, W.—Two Assistant Anæsthetists.

Westminster Hospital.—Assistant House Physician and Assistant House Surgeon. Board provided in each case.

Wigan, Royal Albert Edward Infirmary and Dispensary.—Senior House Surgeon. Salary £170 per annum, with board, apartments, and washing. Also Junior House Surgeon. Salary £150 per annum, with board, apartments, and washing.

Wolverhampton Education Committee.—Assistant School Medical Officer. Salary at rate of £300 per annum.

Wolverhampton and Midland Counties Eye Infirmary.—House Surgeon. Salary £120 per annum, with apartments, board, and laundry.

York Dispensary.—Resident Medical Officer, unmarried. Salary £140 per annum, with board, lodging, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

Lathbury.—On May 11th, at Chipperfield, King's Langley, the wife of Captain E. B. Lathbury, R.A.M.C., of a daughter.

MARRIAGES.

Wroughton—Stuart.—On April 2nd, at Howick, Natal, John Henry Wroughton, M.R.C.S., L.R.C.P., to Ethel Susan, daughter of G. B. N. Stuart, late D.I., R.I.C., Kingstown, Dublin.

DEATHS.

Busteed.—On April 27th, at "Tregare," 37, Hawke-road, Upper Norwood, Brigade-Surgeon William John Busteed, M.D., late Indian Army, aged 78.

Thorburn.—On April 26th, at Canton, China, by accident, John Melland Thorburn, aged 25, eldest son of William Thorburn, F.R.C.S., of 2, St. Peter's-square, Manchester.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE ETHICS OF EXPERIMENT ON HUMAN BEINGS.

THE following advertisement appeared recently in a lay newspaper: "Young man, strong, offers himself to any doctor for experimental purposes." Such an offer opens up the question as to whether experiments can rightly be made under these conditions, and whether ethical justice would sanction for either party an agreement of this character. In the case of the volunteer subject the question arises as to what extent natural right may allow him to permit injury to be voluntarily inflicted upon him for any other purpose than his own personal benefit, or as an act of self-devotion to the immediate necessity of some other person, as, for instance, in the case of transfusion of blood. Self-experimentation within well-defined limits may under certain circumstances be legitimate, and, as is well known, several investigators have practised it with a specific end in view. Section of the superficial radial nerve at the wrist, for instance, has been done, and has, we suppose, added to the sum total of knowledge. More daring have been certain inoculations from which some experimenters have observed the effects on themselves and others, and some of these investigations have unfortunately been fatal. The risk undertaken in his own person, however, by a competent scientific investigator seeking the solution to some definitely formulated problem to which a chain of previous research has led up, or by one of those associated with him in his work, who is actuated not by personal gain but purely by a scientific enthusiasm and devotion to duty (as was the case of those who voluntarily allowed themselves to be bitten by infected mosquitoes to settle the question whether these insects were or were not the transmitters of the disease, and for which they refused all pecuniary reward), stands on a very different footing from a mere gambling risk for the sake of gain and presumably without any special scientific interest or enthusiasm. But besides the ethical question there is a practical one for the experimenter who should accept such an offer as that advertised. There are, we know, degrees of danger in personal experiments, and there are, no doubt, many observations which could be carried out with little or no risk to the individual. But to what extent would an ordinary jury support the experimenter if the "subject" chose to bring an action for alleged damage, which might be wholly independent of the original investigation? There remains even yet a vague mass of opinion which still regards with suspicion any person who is suggested as "practising upon" anybody. For long this sentiment, which after all has its basis in strong common-sense, militated against the hospitals; and there is little doubt that a jury would require strong proof of innocence on the part of the experimenter, even in the face of the supposed written agreement between the parties concerned. The distinction between *post hoc* and *propter hoc* would be difficult to establish convincingly. Common-sense would be against both parties, but whilst some sympathy might be shown to the scientist, this would possibly be counterbalanced by the feeling that he was taking advantage of a weaker brother, though such weakness were shown only by the nature of the undertaking he had made himself responsible for. The law is jealous of the sanctity of the person, the *corpus*, and it is questionable whether any responsible scientific investigator would be willing to enter into an agreement fraught with such possibilities.

THE EXCRETION OF PHENOL.

IN discussing a recent case of carbolic acid poisoning in the pages of the *Dublin Journal of Medical Science* for May, 1914, Dr. Walter G. Smith takes occasion to review the mode of excretion of this substance and the tests applicable for its recognition. Like other aromatic bodies it has a tendency to combine with the sulphate radicle and with glycuronic acid, and to be excreted in the urine in one or other combination. The salt resulting from the former affinity is potassium phenyl-sulphate, isomeric with a sulphocarbolate, and as the phenyl-sulphate salts of barium are soluble in water it follows that they give no precipitate with barium chloride; hence it has sometimes been erroneously stated that in carbolic acid poisoning the sulphates disappear from the urine. The phenyl-sulphates are less toxic than carbolic acid, and the sulphate radicle thus serves as a protective body. Hence the administration of soluble sulphates is indicated in cases of poisoning, and experiments on animals prove them to have remarkable antidotal power. A comparatively small proportion of the phenol is excreted in combination with glycuronic acid, the resulting salt having some reducing power, while minute amounts also appear as pyrocatechin and hydroquinone, the colour-changes characteristic of the urine in these cases of poisoning being due to the presence of these substances. Beside the familiar violet reaction with liquor ferri perchloridi, the three main tests for phenol are the formation of a white precipitate of tribromphenol on addition of bromine water (Landolt's test); a rose-red colour with Millon's reaction, common to many hydroxyl derivatives of benzene (Plugge's test); and a blue colour on warming with ammonium hydrate, and adding bromine water (Berthelot's test) due to formation of indophenol.

A CASE OF BEE-STING.

To the Editor of THE LANCET.

SIR,—I should be glad if some of your readers could give me some information on the following matter. A few days ago I was called to see a man who had been stung on the forearm just over one of the superficial veins by a bee. I saw him less than half an hour after he had been stung, and found him covered from head to foot with a scarlatiniform rash which he said itched intolerably. The patient described the irritation as being like "pins and needles being stuck into him." The site of the sting had already been treated with weak ammonia. The temperature was normal, pulse full and bounding, rate 90 per minute, the tongue very dry and of a brownish colour. The patient complained of great thirst. I gave him some weak lead lotion for external application and an alkaline mixture. Three hours later I saw him again. The irritation had almost entirely abated, the tongue was moister and cleaner, and the thirst much diminished. The rash had practically disappeared. The patient had vomited about an hour after I saw him first. The pulse was now 76. At 4 o'clock next morning he was feeling sufficiently well to ride round the motor cycle racecourse and spend the rest of the morning attending to his machine. I saw him about midday and he said he felt all right except that he "thought he had a high temperature." His temperature, however, was normal and he had no further symptoms. He is accustomed to handling bees, and has often been stung before. I should be glad to know what the cause of these sudden acute and transitory symptoms is. According to Quain's Dictionary, 1895 edition, symptoms of this sort are not uncommon but appear to last longer than in this case. No information is given as to the cause. Perhaps one of your readers who is a bee expert can give me some information.

I am, Sir, yours faithfully,
LAWRENCE PICK.

Ballaugh, Isle of Man, May 22nd, 1914.

APRIL AT HOME AND ABROAD.

A CORRESPONDENT in British Columbia sends us the following note on the weather conditions in Western Canada during last month: "Perhaps you will print this, although it may be too late for your monthly report of the weather at home and abroad, for the Empire is world-wide, and so are the interests and readers of THE LANCET. In British Columbia the April weather was anticyclonic. Kamloops, in the interior, had temperatures varying between 78° and 25° F. Vancouver, on the lower mainland, had an average temperature of 50°, 155 hours of bright sunshine, and 3·50 inches of rain. Victoria, at the south end of Vancouver Island, had an average temperature of 51° (varying between 64° and 35°), 178 hours of bright sunshine (no day totally clouded), and 1·04 inches of rain; so the month's weather here was pleasant."

THE DANGEROUS PISTOL.

T. H. Spencer, a boy employed as a van-guard, was tried at the Old Bailey recently for the manslaughter of a girl 15 years of age and acquitted of that charge. It was proved that in pulling a pistol out of his pocket in the street he discharged it, killing the child, who at the time was walking away from him. In these circumstances it was hardly to be expected that the lad would be convicted of felony, but the case should serve as a warning to others like him, and should impress on the public mind the dangerous nature of toys of this class. The weapon was one not subject to the Pistols Act, and so could be sold without the formalities required by that not over stringent statute. The evasion practised by traders in this instance is a simple one, and may indeed be said to be invited by a definition of a "pistol," which limits it for the purposes of the Act to one with a barrel 9 inches in length. Anyone who recalls the weapon once more or less familiar to schoolboys as a "saloon pistol" will realise that an extra [illegible] inch in the barrel does not make such a firearm materially less easy for a boy to carry or conceal, and leaves it, as Mr. Justice Rowlatt defined it, a "confoundedly deadly weapon." It has been stated that the Home Secretary contemplates introducing legislation upon the subject of pistols, and it is to hoped that any new Act upon the subject will restrict and regulate the carrying or possessing of any such weapons without regard to the interests of traders or manufacturers.

CARBOLIC ACID INJECTIONS IN TETANUS.

To the Editor of THE LANCET.

SIR,—In the interesting description of a case of tetanus treated with injections of carbolic acid published in your last issue, Mr. Graham Reynolds omitted to state at what intervals the injections were given. I should be very grateful if he would supply this information, as it appears to me a treatment well worth a trial.

I am, Sir, yours faithfully,

Shoreham, Sussex, May 27th, 1914. F. CARDEN BRODIE.

◆

R. B.—Our correspondent inquires "Whether, and if so on what ground, an Approved Society can refuse to pay sickness benefit to a member incapacitated from earning his living by an accident having no connexion with his work?" In two instances cited by our correspondent workmen have been refused sickness benefit after being injured by motor-cars when out at night for their own purposes. Presumably in these cases the benefit has been refused by the societies in accordance with Section II. of the Act, because the societies believe that the men are entitled to damages at common law from the persons responsible for their injuries, and that they are unreasonably neglecting to take proceedings to enforce their claims. Our correspondent is referred to the section mentioned.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital, Tottenham, N.

THURSDAY.—4.15 P.M., *Election of Officers for 1914–15.* Clinical Meeting.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, West London Hospital, Hammersmith-road, W.

FRIDAY.—8 P.M., Members are *invited to show Cases.* 8.30 P.M., Paper:—Dr. J. F. H. Dally: Electro-Cardiography and its Clinical Application (illustrated).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

TUESDAY.—4 P.M., Dr. G. A. Sutherland: Clinique (Medical). 5.15 P.M., Lecture:—Dr. C. O. Hawthorne: Some Visual Fields in Intra-cranial Disease.

WEDNESDAY.—4 P.M., Mr. J. M. G. Swainso : Clinique (Surgical). 5.15 P.M., Lecture:—Dr. W. Hill: Prevalent Misconceptions Concerning the Œsophagus *in Health and Disease.*

THURSDAY.—4 P.M., Mr. A. H. Todd: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. A. McNab: Recent Advances in the Treatment of Glaucoma.

FRIDAY.—4 P.M., Mr. G. H. Whale: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. Dr. Owen: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Mr. B. Harman: Concomitant Squint.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: *Demonstration of Minor Operations.* 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Dr. Simson: Diseases of Women and Diseases of the Eye. 5 P.M., *Lecture*:—Mr. B. Harman: Paralytic Squint.

THURSDAY.—9 A.M., Dr. Bernstein: Bacterial Therapy Department. 10 A.M., Dr. Simson: Gynæcological Demonstration. 12 noon, Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Mr. B. Harman: *Diseases of the Eye.* 5 P.M., Lecture:—Mr. B. Harman: Congenital Cataract.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12.15 P.M., Lecture:—*Dr.* Bernstein: Applied Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Mr. B. Harman: Senile Cataract.

SATURDAY.—10 A.M., Dr. Saunders: *Diseases of Children. Dr. Davis*: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought *Hospital, Greenwich.*

TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. C. E. Zundel: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine. 4.15 P.M., Sir Malcolm Morris: Skin.

WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. H. R. Carlill: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.——2 P.M., Mr. L. V. Cargill *or Mr. Choyce*: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery. 4.30 P.M., Special Lecture:—Mr. C. C. Choyce: Some Tumours of Bone.

THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. H. R. Prentice: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. Dr. A. Davies: Pathological Demonstration. 3.15 P.M., Dr. R. Wells: Medicine. 4.30 P.M., Special Lecture:—Prof. R. T. Hewlett: Infective Endocarditis, its Causation and Results.

FRIDAY.—Out-patient Demonstrations:—10 A.M., Dr. C. E. Zundel: Medical. Mr. Cole: *Surgical. 12 noon, Dr. H. MacCormac*: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford: Medicine. 3.15 P.M., Mr. L. McGavin: Surgery.

SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. H. R. Prentice: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.——10 A.M., Col. Barry: Radiography.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—*Clinics:—10.30* A.M., *Surgical Out-patient* (Mr. E. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Gynæcological (Dr. Banister). 3 P.M., Medical In-patients (Dr. R. M. Leslie).

TUESDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Nose, Throat, and Ear (Mr. H. D. Gillies). X Ray and Electrical Methods (Dr. Metcalfe). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting).

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. Dorell).

THURSDAY.—2.30 P.M., Gynæcological Operations *(Dr. A. E. Giles). Clinics*:- *Medical Out-patient (Dr. A. J. Whiting)*; Surgical (Mr. Carson); X Rays and Electrical Methods *(Dr. Metcalfe).*

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld): Surgical (Mr. E. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. G. P. Chappel).

ROYAL HOSPITAL FOR DISEASES *OF* THE CHEST, Medical School, City-road, E.C.

MONDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Cardiac Department, *Dr. Stott; Out-patient* Department, Dr. Phear, Dr. S. Thompson. 3 P.M., Wards, Dr. Phear.

TUESDAY.—9 A.M., Laryngological Department, Mr. Mant. 1.30 P.M., *Department for the Prevention* of Consumption. 2 P.M., Out-patient Department, Dr. M. Leslie, Dr. B. King; *Operations,* Mr. A. Evans. 3 P.M., Wards, Dr. White. 4 P.M., Wards, Dr. M. Leslie

WEDNESDAY.—2 P.M, Wards, Dr. A. Davies; *Out-patient* Department, Dr. Drysdale, Dr. Kellie. 4 P.M., Wards, Dr. Drysdale. 4.30 P.M., Roentgen Ray Department, Dr. Jordan.

THURSDAY.—9.30 A.M., Dental Department, Mr. G. Thomson. 10 A.M., Cardiac Department, Dr. Stott. 1.30 P.M., Department for the *Prevention of Consumption.* 2 P.M., Out-patient Department, Dr. Phear, Dr. S. Thompson. 4.30 P.M. Laryngological Department, Mr. Mant.

FRIDAY.—1.30 P.M., Department for the Prevention *of* Consumption. 2 P.M., Wards, *Dr. Calvert;* Out-patient Department, Dr. M. Leslie, Dr. B. King. 5 P.M., *Lecture-Demonstration*:—Mr. Mant: The Larynx in Relation to Tuberculosis.

SATURDAY.—10 A.M., Out-patient Department, Dr. Drysdale, Dr. Kellie. 11.30 A.M., Roentgen Ray Department, Dr. Jordan.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY *OF* LONDON), Clinical Theatre, London Hospital, Mile End-road, E.

Course of Lectures on Tuberculosis for *Post-Graduates* and *Senior Students*:—

TUESDAY.—4 P.M., Dr. H. L. Tidy: *Relation of Tuberculosis to* Other Conditions, including Pregnancy.

WEDNESDAY.—2 P.M., Dr. W. J. Hadley: *Diagnosis.* 4 P.M., Dr. P. Kidd: Prognosis.

THURSDAY.—11 A.M., Dr. J. H. *Sequeira*: Cutaneous Tuberculosis. 4 P.M., Dr. F. J. Smith: Medico-Legal Aspects.

FRIDAY.—2 P.M., Dr. W. J. Hadley: Pleurisy. 4 P.M., Dr. C. Wall: Environment.

GUY'S HOSPITAL MEDICAL *SCHOOL*, London Bridge, S.E.

Course of Lectures on Industrial Medicine:—

FRIDAY.—Lecture V.:—Dr. F. Shufflebotham: Anthrax.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4.30 P.M., Lecture:—Dr. Inman: The Technique of the Complement-fixation Test Applied to Tuberculosis.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.

Course of Demonstrations for Post-Graduates:—

FRIDAY.—4 P.M., Dr. G. Lyon: Demonstration *of Cases under Treatment.*

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. K. Wilson: Tics.

FRIDAY.—3.30 P.M., *Clinical Lecture*:—Dr. K. Wilson: Torticollis.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special *Demonstration of Selected Case.*

THURSDAY.—5.15 P.M., Clinical Lecture.

NDON LOCK HOSPITAL, 91, Dean-street, Soho, W.

pecial Course of Instruction in Venereal Diseases, for Post-Graduates and Students, with Practical Demonstrations of the Various Methods of Treatment:—

MONDAY.—Clinics:—1 P.M., Mr. Ryall; 6 P.M., Mr. Gibbs.

TUESDAY.—Clinics:—2 P.M., Mr. Lane; 6 P.M., Mr. Paterson.

WEDNESDAY.—Clinic:—6 P.M., Mr. Shillitoe. 5 P.M., Lecture:— Dr. Phillips: Visceral Syphilis.

SATURDAY.—Clinic:—2 P.M., Mr. McDonagh.

YAL INSTITUTION OF GREAT BRITAIN, Albemarle-street, iccadilly, W.

FRIDAY.—9 P.M., Prof. W. H. Bragg: X Rays and Crystalline Structure.

or further particulars of the above Lectures, &c., see Advertisement Pages.

A DIARY OF CONGRESSES.

e following Congresses, Conferences, and Exhibitions are announced.

n 1914:—

May 1st–Nov. 1st (Lyons).—International Town Hygiene Exhibition.

,, 15th–Oct. 15th (Berne).—Swiss National Exhibition.

May–October (London, Shepherd's Bush).—Anglo-American Exposition.

June 1st–5th (Berlin).—Third Congress of the International Urological Society.

,, 8th–10th (Berne).—Seventh International Dairy Congress.

,, 9th–12th (Birmingham).—National Council of Nurses' Annual Conference and Nursing Exhibition.

,, 15th–18th (Portsmouth).—International Abolitionist Conference (Prostitution).

,, 18th–20th (Newcastle-upon-Tyne).—Fifth Annual Conference of the British Hospitals Association.

,, 18th–24th (London, Church House, Westminster).—International Conference on the Blind.

June–July (Groningen).—University of Groningen 300th Anniversary Celebration.

July 2nd and 3rd (Liverpool).—National Conference on Infant Mortality.

,, 6th–11th (Blackpool).—Twenty-ninth Congress of the Royal Sanitary Institute.

,, 7th–10th (St. John, N.B.).—Canadian Medical Association.

,, 8th–10th (Oxford).—Ophthalmological Congress.

,, 15th–20th (Edinburgh).—Congress of the Royal Institute of Public Health.

,, 21st–23rd (Chester).—British Pharmaceutical Conference.

,, 27th–31st (London).—Fifth Annual Session of the Clinical Congress of Surgeons of North America.

,, 28th–31st (Aberdeen).—Eighty-second Annual Meeting of the British Medical Association.

Aug. 3rd–8th (London).—Sixth International Dental Congress.

,, 10th–15th (St. Petersburg).—Twelfth International Congress of Ophthalmology.

Sept. 7th–12th (Berne).—International Congress for Neurology, Psychiatry, and Psychology.

,, 10th–12th (Fort William and Port Arthur, Ontario).—Fourth Annual Congress of the Canadian Public Health Association.

,, 21st–26th (Victoria, B.C.).—Dominion Exhibition.

,, 21st–26th (Vienna).—Third International Congress on Diseases of Occupation.

,, 30th–Oct. 4th (Brussels). Fourteenth French (de langue française) Congress of Medicine.

Oct. 31st–Nov. 2nd (Berlin).—First Congress of the International Society for Sexual Research.

Nov. 15th–21st (London).—Health Week. (Under the direction of the Health Week Committee appointed by the Royal Sanitary Institute.)

(St. Petersburg).—Third Mendeléeff Congress of Pure and Applied Chemistry and Physics.

n 1915:—

May 31st–June 5th (London, South Kensington).—Sixth International Congress of Social Work and Service.

Sept. 8th (begins) (Manchester).—Meeting of the British Association.

EDITORIAL NOTICES.

IT is most important that communications relating to the itorial business of THE LANCET should be addressed *lusively* "TO THE EDITOR," and not in any case to any itleman who may be supposed to be connected with the itorial staff. It is urgently necessary that attention should given to this notice.

is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

tures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

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WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

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METEOROLOGICAL READINGS.

(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

THE LANCET Office, May 27th, 1914.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
May 21	30·29	S.	...	127	80	59	59	66	Fine
,, 22	30·19	N.W.	0·30	124	80	57	59	64	Fine
,, 23	29·83	S.W.	0·16	113	67	59	61	63	Overcast
,, 24	30·16	N.E.	0·03	101	56	47	51	54	Cloudy
,, 25	30·29	N.E.	...	115	55	43	44	49	Cloudy
,, 26	30·19	NNE	...	107	55	41	43	48	Cloudy
,, 27	30·18	N.E.	...	113	60	42	46	52	Cloudy

The following magazines, journals, &c., have been received:—Cornhill Magazine, Albany Medical Annals, British Journal of Dermatology, Bulletin de la Office International d'Hygiène Publique, Pacific Medical Journal, Revue d'Hygiène, Canadian Practitioner and Review, Journal d'Urologie, American Journal of Tropical Diseases and Preventive Medicine, Ophthalmology, Archives of Internal Medicine, Memoirs of the Department of Agriculture in India, Calcutta Medical Journal, New Zealand Medical Journal,

Communications, Letters, &c., have been received from—

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The Oliver-Sharpey Lectures

ON

SOME EFFECTS WHICH FOLLOW UPON CHANGES IN THE REACTION OF THE BLOOD.

Delivered before the Royal College of Physicians of London on March 31st and April 2nd, 1914,

BY F. GOWLAND HOPKINS, M.A. CANTAB., M.B., D.Sc. LOND., F.R.C.P. LOND., F.R.S.,

READER IN CHEMICAL PHYSIOLOGY IN THE UNIVERSITY OF CAMBRIDGE.

LECTURE I.

Delivered on March 31st.

MR. PRESIDENT AND GENTLEMEN,—I wish first to express my thanks to the College for entrusting these lectures to me. No worker in any branch of physiology could fail to find satisfaction in having his name associated, however temporarily, with those names which give a title to the lectures. Several of my predecessors have been able to claim personal knowledge of Dr. William Sharpey. The privilege of making this claim is not mine, and it is likely to belong to very few of my successors. Personal memories of one who died 34 years ago when nearly an octogenarian cannot now be in the possession of very many. But to-day we are all yet in touch with the great traditions of the physiological school of University College, London, as it existed during the middle third of the last century. A later generation, however, may perhaps need more reminder of the name of William Sharpey, for his reputation is due to great personal qualities rather than to a prolific pen. We may rejoice, therefore, that the piety of his friends has linked his name with commemorative lectures and a scholarship.

Only those who have read the gossip of the time will realise what courage Sharpey needed when he began his work in Gower-street. He came from Edinburgh knowing full well that his London appointment had been bitterly opposed in influential circles, and that he had to overcome strong prejudices. His crimes were only those of being comparatively young and of lacking the personal acquaintance of certain great people in London medical circles. THE LANCET, which voiced the opposition, spoke of him as the "unknown man from the North." But, like many another man from the north, he came south provided, not only with courage, but with such qualifications as make success certain. Those who opposed his appointment while he was unknown ranked themselves amongst his admirers when he had displayed his qualities. Knowing the circumstances it is very interesting to read his first introductory lecture to the students of University College delivered on Monday, Oct. 3rd, 1836. It was full, first of all, of what may be termed scientific commonsense; but it sounded the keynote of a method of teaching which, if cautious, could never be other than inspiring. The lecturer at this time professed, you will remember, anatomy and physiology conjointly. Dealing with the former subject he voiced a remarkably modern view concerning the bearings of comparative anatomy, the significance of vestigial relics, and the like. His mind was clearly even then prepared for the acceptance of evolutionary doctrine. An eloquent passage which closed his address to the London meeting of the British Medical Association 26 years later—in 1862—showed that, in spite of characteristic caution he greatly welcomed the opportunity for intellectual expansion which Darwin had by then provided. When, in his first London lecture, he turned to the subject of physiology he claimed that its foundations lay in anatomy and especially in histology. But he was no apostle of mere descriptive methods. He was all for experiment, and urged of physiology that "the great aim of the science is to arrive at the general laws to which individual phenomena are subordinate."

ANALYSIS OF THE BLOOD.

A general end to which many individual phenomena in the body seem subordinate is the maintenance of a normal mean in the composition of the blood. While we have long realised that the essential dynamic changes of metabolism occur within the tissue cell we have come, during the past ten years, to appreciate more fully than ever how important to the cell are the minutest details in the composition of the fluids which bathe it. We have arrived, too, at a better understanding of the extraordinary nice adjustment of the properties of the blood to its functions as a medium of transport.

Our ability to study equilibrium in the blood has increased very greatly during the past few years by the introduction of micro-analytical methods of research. We may now add to our quantitative studies of the morphological elements, and of the subtle bodies concerned in immunity phenomena, accurate determinations of the blood gases. We may also estimate a considerable number of ordinary metabolites as they circulate, even when we are limited to such amounts of blood as may be obtained by pricking the finger. These methods have already yielded some most pregnant facts, and their availability, together with the certainty that similar methods will be found for still other blood constituents, is opening up new ground for research.

Reference to methods of analysis calling for minute quantities of blood seems especially justifiable in these lectures because they so extend our power of making "observations and experiments on man himself." But if the claim be made that determinations can be carried out on blood obtained from a finger prick we most assuredly cannot ignore the important work of the distinguished founder of these lectures—work which formed the subject-matter of the first lecture of the series. It will, of course, be remembered that Dr. Oliver was able to follow the actual variations in lymph flow which are the result of digestion, exercise, &c., by determining the corresponding variations in the cellular elements, and in the specific gravity, of the blood obtained from the finger before and after compression. These researches show that no accuracy can be hoped for in determinations of the non-diffusible elements in the blood as obtained from the finger unless the variations of lymph flow are properly allowed for. But it does not quite follow that the criticism applies when diffusible constituents are in question. The point seemed easy to test by estimating sugar and chlorides by the very accurate processes described by Ivar Bang, comparing these constituents in the blood obtained respectively before and after compression of the finger by Dr. Oliver's method. My colleague, Mr. S. W. Cole, who has attained to great skill in the use of the above micro-analytical methods, kindly undertook to investigate the point. As the result of a large number of estimations upon three individuals he was unable to find any measurable difference in the chlorides. Equilibrium between blood and lymph is, in respect of the chlorides, apparently too complete for any differences to appear. In connexion with sugar the results were somewhat different. As a rule the figures obtained before and after compression of the finger agreed closely, but in certain cases there was a marked difference. The variations could not be very closely related to the taking of food or exercise, but the highest differences observed occurred when the samples were taken above two hours after a full meal. The results seem to indicate that it is well in all cases when it is proposed to make estimations upon blood from the finger to preserve standard conditions in connexion with the withdrawal.

THE CHEMICAL REACTION OF THE BLOOD.

But I am specially concerned with one particular quality of the blood—namely, its chemical reaction. Variations in this can now be studied with great accuracy by the use of the very small amounts of blood we have been considering. It is an old subject of study which has entered upon a new phase; new because accuracy of method is now available in connexion with it; but also because the progress of physical chemistry has now given definiteness to what was previously a somewhat vague conception. We were long content to speak of the blood as an alkaline fluid because it turns red litmus blue or affects certain other coloured indicators in a particular sense. We were content to determine the degree of alkalinity by observing how much standard acid must be added before this or that indicator ceased to be affected. That the information so obtained is indefinite becomes at once clear from the fact that the end-point is different with different indicators. We needed a clearer definition of the terms "neutrality," "alkalinity," and "acidity," and a measure of "reaction" which is independent of such variable factors. To-day we can both define and measure "chemical reaction" satisfactorily in terms of the hydrogen ion concentration.

The qualities which all acid solutions have in common—qualities from which our fundamental conception of "acidity" emerges—are due to the existence of free hydrogen (H) ions in the solution; similarly, the qualities which are common to all bases, and from which we get our general idea of "alkalinity," are due to the existence of hydroxyl (OH) ions in solution. A determination of the concentration of one or other of these ions yields an absolute measure of the potency of a solution to produce those particular chemical effects which are correlated with acidity or alkalinity. This is by no means necessarily true of a determination by titration. Two solutions may have been proved in other ways to be, say, of equal alkalinity, yet one may call for the addition of much more acid than the other before neutrality is established.

Determination of Hydrogen Ion Concentration.

The concentration of H or OH ions in blood can now be measured with considerable accuracy and with conveniently small quantities of material. The direct determination is more easy in the case of the H ion, but fortunately this determination by itself gives simultaneously an indirect measure of the OH ion concentration. In neutral solutions the two kinds of ion are present in exactly equal concentration, and the following equation holds for all aqueous solutions:

$$C_H \times C_{OH} = \text{Constant} = 10^{-14{\cdot}14};$$

that is to say, the product of the concentrations of H and OH ions is always constant and is equal to the dissociation constant of pure water. If, therefore, we determine either concentration we can, since the constant is known, always calculate the other. It has, indeed, proved convenient to express the reaction of any solution, be it acid or alkaline, in terms of the hydrogen ion concentration, a course which the relations just referred to clearly make possible. The value is stated with reference to the "normal" hydrogen solution (1 gramme per litre). We have usually to do with concentrations which are but a small fraction of this, and at Sörensen's suggestion it is now customary to state them in the form of the common logarithm, which expresses their normality value, the minus sign of the logarithm being omitted. Expressed in this way the hydrogen ion concentration (P_H) of decinormal hydrochloric acid becomes 1·04, that of a neutral solution 7·07, and that of a decinormal sodium hydrate solution 13·06. If these three figures be borne in mind they form, as it were, a scale to which we can refer other values. One soon becomes accustomed to this newer method of expressing quantitatively the chemical reaction of fluids. The chief thing to bear in mind is that an increase in these negative exponential values means decrease in acidity, or, when the value of 7·07 is passed, increase in alkalinity.

The fundamental method of determining the hydrogen ion concentration in a fluid is that of measuring the potential set up when a hydrogen electrode is in contact with the fluid which is being studied. Another efficient and interesting method will be mentioned later. It is impossible for me to discuss the details of the first-mentioned method; I would only point out that in the case of blood it is only quite recently that the technique has been developed to the point of accuracy. It is essential before we can know the real condition of the circulating blood that estimation should be made upon samples exposed to a normal tension of carbonic acid, since this, of course, is an important factor in determining the existing reaction. Owing to the work of Hasselbalch such estimations can now be carried out with ease, but I think the last word has not been said in connexion with possible improvements.

Titration and the "Buffer" Action of Salts.

The many determinations that have now been made point to the fact that the hydrogen ion exponent (P_H) of blood is of the order of 7·36—that is to say, the reaction of the blood is very slight indeed upon the alkaline side of neutrality. Yet when blood is titrated it requires so much acid to neutralise it that we should be led to speak of a decided alkalinity. Titrated, for instance, with standard sulphuric acid and with the use of lackmoid as an indicator, the whole blood shows a neutralising power equal to that of a solution containing 370–400 milligrammes[1] of sodium hydrate per 100 c.c., which is nearly equal to that of a decinormal solution of soda. The blood certainly does not behave as though it possessed such an alkalinity. An approximate understanding of this apparent paradox is no new thing. It has, of course, been long understood that it is the presence in particular of carbonates and phosphates which explains it; but it remained for the development of physical chemistry to give a clearer explanation and to demonstrate exactly why the blood while a nearly neutral fluid is one to which considerable quantities of acid or base may be added without appreciable change in its reaction. The work of Höber, and especially that of Lawrence J. Henderson,[2] has been largely instrumental in making the matter clear to biologists. The fact that the effective reaction of a fluid depends upon the concentration of H and OH ions lies at the bottom of the explanation, as well as the circumstance that weak bases and weak acids such as carbonic acid and phosphoric acid exhibit a very low degree of ionisation. If we add acid in successive quantities to water or to a solution of stable salt such as sodium chloride, the acidity rises, of course, nearly in proportion to the acid added; but a solution of such salts as phosphates, acidates, borates, &c., or one containing such substances as aminoacids, though neutral to start with, will change in acidity only slowly as extraneous acid is added. Such substances are known as "buffers," their presence stableises a solution in respect of changes in hydrogen ion concentration. The following figures from a paper by Hasselbalch and Lundsgaard show the effect of phosphates in preventing a rise of acidity with increasing tensions of carbonic acid.

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[1] Landau: Archiv für Experimentelle Pathologie und Pharmakologie, lii., 271 (1905). Rzentkowski: ibid., lv., 47 (1906)

Solution.	C_H at— 0 mm. CO_2.	50 mm. CO_2.	Percentage rise in C_H.
N/10 KCl.	$2·04 \times 10^{-7}$	$15·20 \times 10^{-7}$	791
Na_2HPO_4 + NaH_2PO_4	$1·78 \times 10^{-7}$	$2·45 \times 10^{-7}$	33

It is seen that a rise of 50 mm. in the tension of carbonic acid increases the hydrogen ion concentration in a potassium chloride solution by 791 per cent., whereas in a solution of equal parts of monopotassium and dipotassium phosphates the rise is only 38 per cent. These buffer salts stableise against change on either side of the neutral point; thus Henderson points out that in the case of a simple solution of $NaHCO_3$, NaH_2PO_4, and Na_2HPO_4 subjected to a constant tension of carbonic acid, there is such stability in respect of hydrogen ions that, in order to change its reaction from one of 0·0000002 normal acid to one of 0·0000002 normal alkali, it is necessary to add a decinormal solution of NaHO in amount nearly equal to the volume of the solution. The stability of blood in this respect is still greater than that of a solution of its salts; its proteins also act as buffers, since they form compounds of low ionising power with both acids and bases.

Now, titration with indicators which change colour when a known hydrogen ion concentration is reached gives an empirical measure of the range of this buffer action, and I wish to emphasise the point that we thus measure an important independent variable in the blood. Titration values are by no means without significance. We may use in illustration of this an analogy derived from electrical phenomena. Actual acidity may be taken as corresponding with electrical potential; the neutralising power of a solution due to the buffer action of its salts will then correspond with the capacity of, say, a condenser. To raise two uncharged condensers to the same potential requires quantities of electricity which are proportional to their capacity; to raise two neutral solutions to the same acidity will require quantities of acid which are proportional to their buffer action. To produce any given change in potential more electricity is required in the case of the condenser of greater capacity, and to produce a given change in hydrogen ion concentration more acid is required in the case of the solution with the more efficient buffers. The existing potential is, of course, no measure of the capacity. Blood corpuscles, for instance, show a distinctly higher hydrogen ion concentration, an appreciably greater effective acidity than the plasma, yet on titration they are found to neutralise much more acid than the plasma can. They would, but for the above considerations, be called more alkaline. Their acid potential is higher than that of the plasma, but so also is their acid capacity. It is clear that we want information as to both these variables in the case of any sample of the whole blood; one sample, while displaying the same actual acidity as that of another, may be nearer the limits of its power to take up more acid.

RESPIRATORY MECHANISMS AND BLOOD REACTION.

We need not look far for proof of the physiological importance of the factors which enable the blood to maintain nice adjustment in its chemical reaction, in spite of the wide fluctuations in acid production which occur in metabolism. The extraordinary sensitiveness of the respiratory centre to any change in the reaction arrests us. In 1905 Haldane and Priestley advanced the simple and fruitful view, based upon enlightened experimental work, that under normal circumstances the tension of carbonic acid in the blood is the sole factor which regulates the activity of the centre, and so determines the rate of ventilation through the lungs. Subsequent investigations by Haldane and his colleagues, and by Winterstein, Hasselbalch, and others have led to the generally accepted conclusion that carbonic acid exercises its action, not as a specific hormone, but in virtue of its acidity, and that other acids have a similar action. It is changes in the hydrogen ion concentration of the blood that determine changes in the activity of the centre. Its sensitiveness to such changes is truly extraordinary. The Oxford studies of lung ventilation, as it is related to alveolar CO_2 tension, coupled with Hasselbalch's studies of the blood, have led Dr. Haldane to claim that the activity of the centre is increased by 50 per cent. as the result of an increase of $0·005 \times 10^{-7}$ in the hydrogen ion concentration of the circulation. This would mean an increase of acidity about equal to that produced by adding two millionths of a milligramme of hydrochloric acid to 100 c.c. of water—a quantity outside the range of physical measurement. A swing of like order towards the alkaline side will produce apnœa. Imagine what fine adjustments in the blood must occur during the wide fluctuations of metabolism to prevent the constant occurrence of dyspnœa or apnœa. Haldane has bidden us take note of this marvellous display of teleological adjustment as a warning against mechanistic views concerning the animal. It would seem, indeed, that there can be no conditions involving measurable change in the chemical reaction of the blood; except in association with extreme dyspnœa even infinitesimal variations would seem to be incompatible with life.

The subject suggested by the title of my lectures would then appear to have a very limited range. But it is not impossible, to judge from some work of the Copenhagen School, that Dr. Haldane has somewhat exaggerated the delicacy of our respiratory centres. Krogh and Lindhard[3] find, for instance, that the Oxford physiologists have in certain cases over-estimated carbonic acid in the alveolar area.

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[2] Ergebnisse der Physiologie, 1909.

[3] Journal of Physiology, vol. xlvii., p. 431 (1914).

This would lead them also to over-estimate the increase in lung ventilation produced by a given increase of acidity in the blood. It is only fair to say that Dr. Haldane has not yet had the opportunity of replying to this criticism. Granting it has no weight, there is another variable to consider, one which has always been emphasised by the Danish workers. If the sensitiveness of the respiratory centre varies, then the reaction of the blood may also vary without producing proportionate dyspnœa. Haldane and his colleagues seem indisposed to admit that the centre can undergo changes of excitability, but apart from the positive evidence in favour of a variability, it would seem extraordinary if the nerve cells of the centre were wholly immune from inherent change. If, as the result of disease, or for other reasons, a change in the normal hydrogen ion concentration of the blood were gradually established, one might expect that the centre would adjust to it. An alteration in the sensitiveness of the centre might thus be either the cause or effect of an altered blood reaction. I am, however, making at the moment no other claim than this: that the proved sensitiveness of the normal centre should not deter us from examining the reaction of the blood in cases where no marked dyspnœa exists.

Adjustments in Relation to Diet.

In any case this sensitiveness is extraordinarily great, and the exact adjustment of the various factors concerned in the maintenance of a normal mean reaction in the blood is clearly a phenomenon of the greatest physiological importance. Hasselbalch[4] has made a very careful study of the adjustments which happen when the diet is varied. As the result of different dietaries considerable variations occur in the relation between available bases and the acids produced in metabolism. If the hydrogen ion concentration of the blood be measured *in the presence of equal tensions of CO_2*, then it will be found greater upon a flesh dietary than upon an alkaline or vegetable dietary, but if at the same time the alveolar tension of CO_2 (which measures the blood tension) be examined, it is found to be lower on the flesh dietary than upon the vegetable. If now the blood reaction be measured in each case in the presence of that tension of CO_2, which is found to be produced by the dietary concerned, it will be found identical in each case. Any increase or decrease in the acidity which is due to acids other than carbonic acid is compensated by a diminution or increase in the latter. The respiratory centre is here playing its part in regulating the action of the blood, but the kidney also plays its part. The hydrogen ion concentration of the urine is consistently higher upon the flesh diet and lower upon the vegetable diet. The lung controls the H ions due to CO_2; the kidney controls those due to other acids. The two agencies combined help to maintain a mean normal reaction in the blood with that extreme nicety which we have been discussing. The kidney indeed, as Haldane points out, must be as sensitive to change in reaction as is the respiratory centre itself. The existence of buffers in the blood first of all keeps any possibility of change within small limits; the respiratory centre approximately adjusts any changes of a sudden sort; while the kidney is perhaps the main regulator of reaction. It may well be that other physiological mechanisms are as sensitive to the reaction of the blood as are the kidney and the respiratory centre. We know, indeed, from the work of Mathison[5] that another nerve centre, the response of which happens to be easy to observe, is sensitive to the reaction of the blood. The vasomotor centre responds at once by increased activity when the hydrogen ion concentration increases, and if it be less sensitive than the respiratory centre, there is no doubt that its response to increased acidity is of physiological importance. The response of other mechanisms may be less easy to observe in the intact animal.

OXYHÆMOGLOBIN AND VARIATIONS IN BLOOD REACTION.

But we have not yet finished with relations between the chemical reaction of the blood and the processes of respiration. They are displayed further on lines quite different from those hitherto considered. As you are all doubtless aware, the stability of oxyhæmoglobin is affected in a most significant manner by minute variations of reaction. In 1904 appeared a very important paper by Bohr, Hasselbalch, and Krogh[6] in which it was shown that on exposure to a given tension of oxygen blood takes up progressively less of that gas as the amount of CO_2 simultaneously present increases. The effect of CO_2 is to diminish the stability of oxyhæmoglobin, or, to put it more precisely in Barcroft's phrase, its presence lessens the "effective concentration of oxygen." In order, for instance, to produce a given degree of saturation of hæmoglobin in the presence of 40 mm. CO_2 pressure the concentration of oxygen must be about twice the value which would be needed in the absence of CO_2.

The Danish workers were fully alive to the significance of their discovery in connexion with tissue respiration, but the extremely important work of Barcroft and his colleagues, supplemented by that of Haldane and Douglas, has given quantitative precision to our knowledge of the phenomenon, and has made clear its great practical importance as well as that of other facts closely related to it. In the first place it has become clear that the carbonic acid acts not specifically but *quâ* acid. The effect once more is due to an increase in H ion concentration. The curve which relates variations in the percentage saturation of hæmoglobin with the changes in the oxygen tension to which it is exposed is displaced by changes in the effective acidity of the blood. It is not modified in form, but is displaced by increase of acidity in such a way that any given oxygen tension corresponds to a lower percentage saturation, the displacement being proportionate throughout the curve. With a reduction in the H ion concentration the displacement is in the opposite sense. This sensitiveness of oxyhæmoglobin to hydrogen ions plays a great part in connexion with its function as a carrier of oxygen to the tissues. The high CO_2 tension in the tissues directly increases to a very marked degree the "capillary pressure head" (as Barcroft calls it) of the oxygen which is available for determining the delivery of oxygen to the cells.

Indications Afforded by Oxyhæmoglobin Dissociation Curve.

In the hands of Barcroft and his co-workers the use of oxyhæmoglobin dissociation curves has given an extremely convenient method for detecting variations in the reaction of the blood of individuals under this or that condition. It determines extraordinarily small variations and only needs standardising to give an absolute measure. Suppose an individual has suffered some change of conditions and we wish to know if they have affected the chemical reaction of his blood. If, then, using 1 c.c. or so of blood one or two points on a curve are determined in the presence of the individual's normal alveolar CO_2 tension, we can learn whether or not other acids have been added to his blood. If the same determinations are made in the presence of an amount of CO_2 equal to the alveolar tension under the special existing conditions we can tell whether the blood has or has not actually changed in reaction.

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[4] Biochemische Zeitschrift, 46, 403.

[5] Journal of Physiology, vol. lxii., p. 223, 1911.

[6] Skandinavisches Archiv für Physiologie, 16, 330, 1904.

Variations in the dissociation curve have proved to be of such practical importance that Barcroft has felt the necessity of introducing a new nomenclature in connexion with them. When the curve is normal it is proposed to speak of the blood as *mesectic*. When the curve is so displaced that more than a normal amount of oxygen is taken up at any given tension the blood is *pleonectic*. In cases when the absorption is proportionately subnormal the blood is *meionectic*. The effect of various conditions on the dissociation curve has been fully studied. Severe exercise, for instance, produces meionexy even though the carbonic acid tension of the blood is reduced. This is because lactic acid circulates in quantity more than sufficient to compensate for the diminished carbonic acid. The body gains by the increased hydrogen ion concentration in the blood, alike from the stimulation of the respiratory centre and the accelerated unloading of oxygen in the capillaries. Living at high altitudes induces a low degree of meionexy, which is sufficient, however, to be detected by close examination of the dissociation curves, and to correspond with an increase in H ions necessary to induce the increased activity of the respiratory centre. The acid which, in this case, just overcompensates for the diminution in carbonic acid seems, oddly enough, not to be lactic acid (Ryffel). A high degree of meionexy, however, due to increase of lactic acid in the blood, results from exercise at high altitudes. Barcroft calculates from data obtained on Monte Rosa that a rapid climb of 1000 feet starting from an altitude of 9000 feet reduced a normal hydrogen experiment of 7·29 to one of 7·09. This represents a very marked change in the chemical reaction of the blood.

In general it may be said that, other things being equal, so long as the blood remains mesectic an individual feels normal, even though the condition is maintained by the circulation of abnormal acids. If the blood becomes meionectic or pleonectic he feels unwell. But meionexy is not the efficient cause of mountain sickness. On the whole its establishment at high altitudes is possibly physiologically advantageous. Mountain sickness is probably due to a want of oxygen in the brain itself (Barcroft) which is established in spite of, rather than as a result of, the diminished alkalinity of the blood. The blood dissociation curve as an index of blood reaction has already become the subject of clinical studies. As you may be aware, Ryffel and Poulton, using Barcroft's methods, have shown that in cases of uræmia there may be marked meionexy due to excess of acid in the blood. The abnormal acid would seem not to be lactic acid. A very important research inspired and carried out on the clinical side by T. Lewis, and in the laboratory by Barcroft and others, has shown that clinical cases exist in which dyspnœa is a prominent symptom but from which an equivalent cyanosis is absent. The fundamental factor in these cases seems to be a renal deficiency which results in an increase in the proportion of acids to bases in the blood. The symptoms are really an expression of the consequent meionexy.

I have dealt very briefly with the very pregnant facts concerning the effects of blood reaction upon the transport of oxygen, wishing only to adduce them in illustration of my general theme. Others better entitled to deal with them in detail may come to occupy my present position. The labours of Haldane and of Barcroft certainly find fitting reference in these lectures, for nothing could prove more completely how our knowledge may advance by means of "experiments upon man himself," nor is any physiological knowledge more likely to add to our understanding of disease. A full account of the work and a most interesting discussion of its bearings will be found in an admirable book just published by Barcroft. In 1862 William Sharpey spoke with satisfaction of the advances then being made "in the chemical examination of the tissues and fluids, especially of the blood." He would certainly have found still greater satisfaction in the progress of the present moment.

THE BLOOD REACTION IN CLINICAL DISEASE.

The effects of changes in the blood reaction upon the respiratory mechanisms, nervous and chemical alike, are, as we have seen, of the clearest kind. It must be confessed that no evidence of similar cogency has been yet obtained concerning their effects upon other bodily functions, at least in respect of variations which may occur spontaneously. The existence of the clinical condition described by Lewis and Barcroft is proof enough that an altered blood reaction may be responsible for symptoms in disease, and I am quite sure we ought not to be deterred from suspecting its existence in any particular case merely because marked dyspnœa is absent. The disease itself may depress the sensitiveness of the respiratory centre. But I propose to say a little concerning the observations that have already been made in connexion with clinical disease.

As you will understand, I am not directly concerned with the phenomenon of acidosis in a general sense, but for the present at least only with the actual reaction of the blood. Abnormal acids may, as we know, circulate in the blood in many pathological conditions, but because of the high efficiency of adjustment in the body, they may long do so without producing a change in the actual reaction. Such a change we should expect only when the mechanisms concerned in the adjustment are overtaxed, or when they become themselves abnormal. We need direct proof of a real change of reaction in order to be sure what events may be correlated with it. But published estimations of the actual hydrogen ion concentration in the blood of disease have, so far, been but few, and for the most part of too little accuracy for us to build much upon them. The electrical method, as I have said, has only recently become available for proper estimations in the blood, and absolute accuracy is still difficult to secure with it. Barcroft's method is, I believe, really more satisfactory at the present moment, and one is glad to know that more than one observer in this country is making use of it upon clinical material.

Observations in Various Conditions.

The only published observations of a considerable variety of conditions are those of Michaelis and Davidoff, who use the electrical method. Most of the results they obtained lie near to normal values, but they represent apparently single observations mostly made upon only one case of each disease. In diabetic coma they found a definite diminution of effective alkalinity. This finding we have, of course, long been led to expect, though the occurrence of any change of blood reaction in this condition has been denied. Some of the denials have been based upon results got by unreliable methods, and the question cannot be considered as settled. Kennaway, Pembrey, and Poulton[7] have lately pointed out that the alveolar tension of carbonic acid is the best guide to prognosis and treatment in diabetes. A value below 25 mm. is, according to these authors, of grave significance, and one below 20 mm. indicates that coma is imminent. One would think that these low values are associated with the establishment of a definite rise in the hydrogen ion. Dr. E. P. Poulton is engaged upon investigations which deal with the blood dissociation curve in diabetes. Evidence so obtained will, I have no doubt, settle the question for us.

In conditions such as those of cyclical vomiting, the vomiting of pregnancy, eclampsia, and the like, in which a possible intrusion of acidosis as a causal factor is suspected, we want clearly to know whether an actual change in the blood reaction has occurred before we can be clear as to the exact relations which exist. Michaelis and Davidoff give no data respecting these conditions. They found nearly normal values in chronic nephritis, though we have no information as to the type of the disease or of the stage at which it was studied. The older literature teems with observations showing a diminished titration alkalinity in uræmic conditions, and, as I have already mentioned, Poulton and Ryffel have discovered a real increase in the hydrogen ion concentration. The case of cancer is interesting, as while so many have found diminished alkalinity in malignant disease, the investigations of Benjamin Moore, described in 1907, pointed to a small but measurable increase of alkalinity as measured by titration. To these changes the author attached a causal significance. Michaelis and Davidoff found in carcinoma a normal hydrogen ion concentration, but it is clear that much more research will be required to establish the facts. The case of cancer blood may prove to be specially difficult to investigate from the point of view of hydrogen ion concentration. About a year ago I was engaged upon a study of the effect of certain diets upon cancer, and Barcroft examined the blood of some of my carcinoma-bearing rats. To all appearance there was a marked diminution of alkalinity, but Barcroft's scientific acumen prevented him from making a wrong conclusion on these lines. He found that the blood, owing to the existing anæmia and probably to the existence of newly formed corpuscles, showed a tendency to rapid self-reduction, and this accounted for the apparently meionectic dissociation curve. With any blood exhibiting within itself considerable metabolic change like this, an estimation of the ionic reaction may be difficult by any process. Michaelis and Davidoff found an appreciable diminution in the hydrogen ion concentration in cases with fever. This is a point of interest. It can be shown theoretically that a fluid such as blood should become more alkaline with a rise of temperature, and if, as seems to be the case, no complete adjustment due to increased acid production occurs in fever, we have good reason to believe that a more alkaline condition of the blood in fever plays its part in determining the increased metabolism. Oxidation processes are known to be increased in velocity by an increase in solution of the hydroxyl ion.

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[7] Proceedings of the Physiological Society, Journal of Physiology, vol. xlvii., 1913.

ACUTE PANCREATITIS:

A CLINICAL STUDY OF SEVEN CASES; FIVE TREATED BY OPERATION SUCCESSFULLY.

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No apology is needed for recording even a single case of acute pancreatitis completely arrested by immediate operation on definite lines, but the one now first described is the second which I have recently seen and treated in the same way with recovery. And had it not been for the experience gained in the previous case[1] I hardly think the action taken in the last would have been so definite. Besides my own two cases, I am permitted by my colleagues Dr. Batty Shaw, Mr. R. Johnson, Mr. W. Trotter, and Mr. H. M. Davies to refer to further cases, five in number, which have been under treatment in University College Hospital since my first—three being equally successfully treated by operation, one fatal after operation, and one not operated on.

I am particularly obliged for this permission as a group of cases occurring close together as to time and treated by men closely associated is of special value. For few surgeons can claim to have had any very large experience of the disease in question as a field for operation, and fewer still to have had much success in dealing with it. This is a matter of some note in view of the countless abdominal catastrophes which we have all to treat nowadays. It may be best explained by the great difficulty in diagnosing pancreatic affections owing to the variety of clinical features they present in their several forms and the suddenness of the attacks. Here and there we read of individual cases met with in the course of abdominal explorations for obscure conditions, and some of these have recovered. But we are still in need of a clear clinical picture of the symptoms of acute pancreatitis and of definite guiding principles in operating for it. This may be seen from the classical and exhaustive monograph on the pancreas published in 1898 by Körte.[2] In this he reviews the whole literature of the subject up to that date, and states that as to any characteristic symptoms and signs of acute pancreatitis no advance had been made since Claessen in 1842 had expressed the opinion that "there were none." Only deep-seated pain in the epigastrium and possibly a swelling above the umbilicus, if present, were of value from a diagnostic point of view.

Since 1898 much more attention has been given hese *affections*, especially as Körte had shown uccessful operation in one case that they were able by surgical interference. Their causation, bid anatomy, and clinical history in uncom- ated cases have since been more accurately died and recorded, and some advance in our eral knowledge of them has been made. Never- less, the obscurity which hangs over these den attacks is very great, and definite charac- istic diagnostic signs are still wanting.

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[1] Vide THE LANCET, 1910, vol. ii., p. 1264.

[2] Körte: Die Chirurgischen Krankheiten des Pankreas, Deutsche Chirurgie, 1898.

hat there are several different forms of the ease is now well known to all morbid anatomists. t whether these (most probably, if not positively, directly or indirectly infective) differ simply in virulence or duration of infection with the ne organism, or whether they depend upon culation with totally different bacteria alone combined, displaced secretions such as bile, or succus entericus from the duodenum we do not ow in spite of much study, both pathological d experimental. We do know that there is a ronic pancreatitis lasting a long time without mediately threatening life and presenting few, if y, marked symptoms until the organ is gravely mpromised by interstitial fibrosis; also that ere is an acute inflammation of the organ sociated with the escape of much blood into its bstance and around it (= acute hæmorrhagic ncreatitis); that there is a more localised suppu- *tive form* producing one or more distinct scesses in the organ; and, finally, that there is *fulminating form* in which, if the patient survive e severe shock of the onset, a very extensive and pid sloughing of the organ and surrounding ssues gives a peculiar character to the process.

What relations these several varieties have to e another is not yet clear, and space forbids me to eculate about them here or to allude to the rious views held in regard to them. But it is ry desirable to keep them in mind when we have uch general abdominal work to do, and in perating to note every morbid change *in vivo* in nd around the pancreas which may help to explain em. Now that the patients suffering from these ffections have begun to be saved by surgery, much nat is obscure about the earlier morbid changes in nd around the organ ought to be cleared up while he patient is living in a way impossible on the ost-mortem table when the disease has much later roved fatal. Moreover, there is a practical value n acknowledging the above-mentioned varieties. surgeon even suspecting that he has before im a case of acute pancreatitis will, when e has explored it, be able without loss of aluable time and a minimum of cutting and nanipulation to modify his procedure to suit the articular variety. For no stereotyped practice ppears to be suitable for all. It is one thing, for nstance, to deal with a limited acute inflammation f the head or tail of the pancreas which has eached the omental sac and can be approached nd drained through a median incision into this; it s quite another thing to attack a destructive rocess *early* which lies *behind* the peritoneum, is preading in the retroperitoneal and mesenteric issues, and has either already resulted in sloughing here or may be expected to do so ultimately, as we shall see. In the latter case an anterior incision and draining of the omental sac will *not* be adequate and a lateral one in the flank should be made to give access to the retroperitoneal area around the pancreas by burrowing behind the serous membrane, as was done in the first and last of these cases recorded below, and was suggested by Körte long ago. Had this been done in my earlier case (No. 2), at the outset the inflammatory process might have been arrested sooner and perhaps the second operation avoided. At all events, the serious adhesions which followed the second transperitoneal operation and which caused bad intestinal obstruction ten months later might have been prevented. This third operation, though very trying, was happily successful.

From these two cases in which it has fallen to my lot to operate for acute pancreatitis successfully I received the impression that possibly in some of its earlier stages the inflammation may be benefited, at all events for a time, by drainage of the omental sac. But where there has been much extravasation of blood or pancreatic juice at the onset, subsequent so-called "fat necrosis" and sloughing are sure to follow, and will require sooner or later to be drained, and this is most easily and safely done from behind by a tube introduced through the retroperitoneal tissues. In my earliest case (No. 2) simple drainage of the bursa omentalis was all that was done *at first* and with much temporary benefit, all the symptoms having subsided by the ninth day, when the stitches were removed from the healed abdominal median wound. Then after this deceptive pause the trouble recurred, and at the end of four days a swelling was found in the splenic region and reached by a transperitoneal incision in the left flank. This revealed advanced *subperitoneal* fat necrosis, as well as a large collection of blood-stained fluid in the peritoneum near the spleen. Drainage of both areas was followed by recovery, and the patient remains well. It seems obvious that had retroperitoneal drainage been provided in the first operation the second might have been unnecessary, and the intestinal adhesions requiring a third might have been prevented.

It seems also clear that it takes some time after the initial lesion for a necrotic process to develop an abscess (in this case nine or ten days), and that the drainage of the omental sac, though immediately beneficial, was not adequate to arrest it. But in the other two cases, Nos. 3 and 4, successfully operated on by my colleagues, the collection had actually burst into the omental sac and drainage of this cavity was sufficient, sloughs and pus coming away in large amount. Sloughs and altered blood clot also came away ultimately in my last case (No. 1) through the retroperitoneal opening in the flank, *but much later*, and I assume that the disintegrating process had only just started when I operated. As a matter of fact, the retroperitoneal drainage was interrupted by the premature shortening of the tube, which we thought was indicated by a temporary general and local improvement of conditions, and it was only when a fresh and larger one was reinserted right up to boggy tissue behind the pancreas in the middle of the fifth week that the products of disintegration came away freely with sloughs and altered blood clots and with rapid and permanent improvement. Still, the first tube as long as it worked was beneficial. Had it been left unshortened the process might have been cut much shorter. But feeling one's way on almost untrodden ground such as this is no easy matter. My idea in putting in a retroperitoneal drain at once was to anticipate changes which had been seen to follow even where the omental sac had little or nothing in it, and to minimise the spread of the process in the retroperitoneal tissue as far as possible, as free drainage even of serum will do in other conditions.

It is worth emphasising once more that in my own two cases the destructive process in the subserous fat followed its chemical splitting up by the pancreatic juices at some considerable interval of time: as far as I can judge by symptoms and temperature chart at about the end of the second week. In Case 3 extensive sloughing was found four weeks after the onset. In Case 4 a grumous collection of broken-down blood clot 57 hours after the onset, which was very clearly indicated as to time. Fig. 1 (Case 5) shows the appearance of the pancreas five days after a well-defined onset; so far no sloughing is to be seen. Fig. 2 (Case 6) shows the condition 24 to 30 hours after the onset, beginning at 2 P.M. the previous day. Intense congestion and some fat necrosis are the only changes seen. It seems probable also from what was seen in my own two cases that every lobule of fat affected in this way does not necessarily lead up to suppuration. Many outlying lobules of whitened fat were seen in the omentum far from the pancreas. They gave rise to no sign during convalescence which could indicate that they had become the foci of inflammation. Probably they were absorbed in course of time. It may be that outlying lobules escape bacterial invasion, and that this is necessary for the sloughing usually associated with pancreatitis. But that the fat-splitting plays a part in this sloughing, and that this is more marked close around the organ where the bacteria would be more numerous appears more than likely.

An interesting observation bearing on this point was made by Körte (*loc. cit.*) in operating for acute cholecystitis. Here he noticed a "typical fat necrosis" with much peritoneal irritation, but without any ascertainable disease of the pancreas. A year later, in operating on the same patient for an impacted stone in the common duct, he found that all trace of fat necrosis had disappeared. It seems possible, however, that at the first operation a mild pancreatitis may have been overlooked. This would have accounted for the peritoneal irritation which is described as very marked. We have still much to learn both as to the nature and exact mode of production of fat necrosis in and around the pancreas, in the mesentery and omentum. But as a practical point, when it is recognised on exploring the abdomen in an acute case, it is the most valuable guide that we possess as to the nature of the ailment. In my own two cases it led almost at once to the right conclusion and to the right steps in treatment. When attention was first drawn to "fat necrosis" by Balser[3] in 1879–82 it was wrongly interpreted. Langerhans appears to have been the first to point out that the change in the fat cells was due to the fat-splitting effect of the pancreatic secretion, after which the fatty acids combine with calcium to produce the white material which is so characteristic and which leads to the destruction of the cells.

Later Hildebrandt proved experimentally that either an engorgement of the organ with its own secretion or with blood, or the escape of its own secretion into the peritoneum will produce typical fat necrosis in the pancreas itself, in the mesentery or omentum. If this be so there may be several ways in which the change may be produced. Injury as in some recorded cases; anything which arrests the passage of the pancreatic juices into the common bile-duct, whether it be a gall-stone or pancreatic concretion; inflammatory swelling due to infection in its duct, or, as suggested at the last International Medical Congress by Dr. Archibald, of Montreal,[4] a spasmodic contraction of the muscle around the outlet of the common duct into the duodenum due to irritating material in the latter may cause retention and ultimate extravasation of the fat-splitting pancreatic secretion; and those first changes noticed in early cases. Bacterial infection will do the rest, and in due time lead to extensive sloughing.

If this broad conception of the process be correct immediate and prolonged retroperitoneal drainage of the fat around the organ would appear to be the rational treatment. At all events this was the conception in my mind in the first of the cases in the list given below, and the result of the drainage was success in arresting the process, although the drainage was interrupted for some days. In another seventh similar case operated on during my absence last Easter in one of my beds by Mr. H. M. Davies success followed the same *retroperitoneal* drainage through the right flank. The details will be published later.

The following notes are abstracted from the more voluminous clinical reports of the cases, but contain all the essential facts and observations made at the time.

CASE 1.—On Nov. 12th, 1913, I was hurriedly called by Dr. A. Binning, of Hatfield, to see a patient who had been suddenly seized with very severe abdominal symptoms the previous evening; and I may say at once that it was to Dr. Binning's promptness in recognising the gravity of the condition as much as to anything done by operation that the patient owes his life.

The patient had been in the army and had served abroad. Health always excellent until recently. Physique splendid but inclined to stoutness. Family history good. At 12 years of age had typhoid; was ill 13 weeks. Had fever for four days in Malta in 1904 but none since. Has had colicky pains at times, relieved by wearing a belt. Earlier in 1913 had a severe attack of abdominal pain and shivering, which caused him to roll on the floor; this passed off the same night. No syphilis or gonorrhœa. Lived very generously, drinking about 4 pints of beer and occasional spirits daily and eating much. Before the present attack he had for 12 months no energy and frequently vomited greenish fluid in the morning. Smoked cigarettes by preference.

The present attack began on Nov. 8th. The patient had felt tired and drowsy all the afternoon and evening; no pain. Had had usual four pints of ale and one glass of port. Nov. 9th: Better, but tired and drowsy as before; vomited phlegm at 7 P.M., and again at 10 P.M., when there was a sharp pain across the abdomen "as if something had given way," and which kept getting worse until the operation. Nov. 10th: Had had no sleep and could not stand up for the pain; felt sick all day but did not vomit. Nov. 11th: Saw Dr. Binning and was sent to bed. Bowels acted after calomel. Nov. 12th: Was much worse in the morning; pulse 116. I saw the patient at 2 o'clock.

The appearance of the patient indicated a very grave intra-abdominal catastrophe. The pain was exceedingly severe and vomiting had taken place. Pulse feeble, 120, temperature 100·2° F. Face wore a look of great distress and was pale and cyanosed. The abdomen distended, and this was increasing. It was soft below, harder above the navel, where the pain was most intense. Tenderness was extreme above and on each side of the umbilicus, but most over the head of the pancreas. Tumour could not be made out on account of rigidity. No specially distended coils. No particular tenderness or dulness over the appendix. Flanks clear on percussion. The vomited matter was bilious and contained no blood. My diagnosis was provisionally perforated gastric or duodenal ulcer, but pancreatitis was considered.

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[3] Balser: Virchow's Archiv, Band xc., p. 520.

[4] E. Archibald: Transactions of International Medical Congress, Section VII., Surgery, p. 21.

Operation on Nov. 12th at 8 P.M., assisted by Dr. Binning. Median incision above the navel showed much intraperitoneal turbid fluid as in my earlier case No. 2 and in No. 4. This lay mostly in the upper abdomen over the right kidney. The stomach was carefully examined anteriorly and through the omental sac, opened for the purpose. It was quite sound. The omental sac contained no fluid. Great congestion and general shagginess of the peritoneum over the head of the pancreas was very striking. The organ was swollen to the size of a large fist at its right end, and showed fresh exudation of lymph. When the depression to the right of the duodenum was sponged dry the peritoneum was seen to be bulged forwards with chalk-white subperitoneal fat in which were a few hæmorrhages. This white material extended on the right of the spinal column from the head of the pancreas upwards to the liver border. It had not broken through its serous covering. Its appearance was so characteristic taken with the swollen pancreas as at once to clear up the nature of the disorder. It was obviously very acute pancreatitis in a fairly early stage.

The problem now was what to do. It was no use to drain the sac of the omentum, as was done in my earlier case, as it was empty and there were no signs of the process advancing into it. On the other hand, it seemed risky to incise the swollen area and allow the inflammatory products to escape into the peritoneal cavity and drain through this, in view of the serious adhesions from similar drainage which nearly cost my earlier patient her life. I therefore made a two-inch incision below the last rib on the right side and deepened it down to the subperitoneal fat. With my left hand within the abdomen between the duodenum and the kidney I got the direction and then tunnelled with the right forefinger through the fat behind the peritoneum up to the head of the pancreas. This was not so difficult as expected. A long large drainage-tube was introduced along this track to the head of the organ to provide for the escape of serum in the first place and the products of the inflammation as they were formed. As an extra possible drain for the pancreas the gall-bladder was drawn into the upper angle of the abdominal wound and stitched there. It showed no signs of disease, contained no calculi, and could be emptied by gentle pressure into the duodenum, showing there was no obstruction of the cystic or common duct. When opened it was found to contain perfectly normal bile (*vide* note of Nov. 27th for contrast), which was drained by a rubber tube into a bottle outside the dressings. The median wound was then stitched up in layers. The intestines had been seen to be a little distended and hyperæmic, but not paralysed; there was much turbid fluid to be mopped away in the upper part of the abdominal cavity.

The patient's condition during the operation was generally good, as reported by Dr. Dudley Buxton, who gave the anæsthetic (chloroform plus oxygen). Pulse at the end 120. The next day the condition was improved; pulse 110 to 116. During the first week the chief features of the case were reduction of pulse-rate and temperature, profuse sweating, sleeplessness, restlessness, and tendency to wandering at night; cyanosis still notable at times. There was also an attack of foul diarrhœa on the fourth day. In the second week general improvement; pulse 88 to 93; but temperature 97° to 101°. Profuse sweating continued for first four weeks. After the diarrhœa on fourth day there was always constipation and flatulence, only relieved by enemata. At no time was fat detected in the motions, though looked for carefully. The stitches in the *anterior* wound were removed on the twelfth day (Nov. 23rd); perfect primary union. Gall-bladder in upper angle draining well.

Third week much general improvement; food taken well. The gall-bladder yielded abundance of pure clear bile. The tube in the flank drained so little and the progress generally seemed so favourable that it had been shortened by degrees to about two inches. On Nov. 27th (sixteenth day) temperature rose to 101° for the whole day, and at this time Dr. Binning noticed a deposit in the bile bottle, which was proved by microscopic examination to be pus. It amounted to about an inch deep in a six-ounce bottle. This pus came away in the bile freely for about a week from the 27th, the temperature at the same time falling steadily to normal on the 31st. On Dec. 3rd the temperature rose once to 102°, then dropped to absolute normal for 4th, 5th, and 6th, on the 7th it again began to oscillate about 100° to 101°, and on the 10th it once touched 102°. This fairly regular oscillation lasted for the next two weeks each day and then fell permanently to normal with the re-establishment of free drainage from the track in the flank which had become partly closed.

During the week of highest temperature (Dec. 9th to 16th) the patient had two nervous explosions of a very startling kind with a day of very good condition in between them. They had been preceded by the disappearance of the pus in the bile, which had been abundant for 12 days, and by the fall in temperature mentioned above. On some of the previous days severe headache had been complained of and vomiting had occurred, but on the 8th, 9th, and 10th he was noted as having had "very comfortable" days without headache or sickness. Then on Dec. 11th, at 5 P.M., he had the first of these strange attacks, which I can only suppose were of the same nature as the "tetany" seen sometimes with pyloric obstruction and in cases of severe diarrhœa in children, and described by Dr. F. J. Poynton and others. The nurse's notes, which were admirable all through the case, may be given in abstract as checked by Dr. Binning. "At 5 P.M. patient felt very faint; complained of not being able to see or breathe properly; pulse quick and small. 5.30, suddenly became rigid for a few seconds and unable to speak; remained so for nearly 30 minutes; convulsed at intervals." At 6.30 saline rectal injections were attempted, but excited the patient, who then commenced to scream and get violent; tried to vomit. Violent and convulsed off and on until 7.10, when he was seen by Dr. Binning, who described this condition to me at once over the house telephone, and suggested putting the patient under chloroform, to which I agreed. This was done at 7.30 with immediate effect. At 8 o'clock he was again awake, quite sensible and quiet; temperature 101°, pulse 114. He was soon inclined to sleep and had a quiet night; passed 8 oz. of clear normal urine. A sample about this time sent to University College Hospital for analysis. Dr. F. H. Thiele reported that the Cammidge test gave a positive result. The following day and night were very comfortable, the sweating was gone, urine free, normal.

On the 13th a similar attack to that on the 11th occurred, but less severe. He was "wandering" frequently during the evening, but slept well the following night and seemed to have no recollection of the attack. I saw the patient the next day, and feeling that the shortening of the tube in the flank might have contributed to the fever, &c., as very little discharge came from it now, I enlarged it with my finger as far as I could reach. At a depth which must have been close to the duodenum the finger came upon a quantity of pulpy material behind the peritoneum. Into this I pushed a longer and larger drain-tube. This was all done under light chloroform anæsthesia. The fomentations were continued as before.

From this on there was no further serious trouble. Very free discharge was soon established through the tube, and several sloughs, large and small, came away during the next 12 days, which on examination were believed to be bits of the pancreas. Small portions of broken-down old blood clots were frequently noted, and also from the 22nd to 29th that "small white spots" were present in the discharge, which during that time was very offensive and varying in amount. After the reinsertion of the tube on Dec. 14th the temperature varied between 98° and 101°, and on the 24th it touched 102°. After this, as the discharge from the flank became free and offensive, the temperature fell to 99°, and a couple of days later to normal. After Dec. 25th the retroperitoneal discharge became less and less in amount and in foulness, and the tube could be gradually shortened. The last slough came away on Jan. 5th. After this convalescence was rapid and the patient was able to go to the seaside at the beginning of February. The relation of the appearance of much pus in the bile, and the tetany, to defective drainage from behind seems clear, especially as these symptoms disappeared and convalescence was rapid when the tube had been effectively reinserted and acted well.

CASE 2.—Mrs. A, aged 40, was admitted into University College Hospital on Feb. 21st, 1910. Two days earlier severe griping pain set in above the navel. She vomited and trembled with pain, but there was no definite *rigor*. The pain was paroxysmal. Bowels confined *since Feb.* 13th, no flatus; no result from two enemata on 21st. Past history: Six years ago a similar attack after birth of first child, accompanied by vomiting and constipation. Describes another lasting 48 hours soon after the birth of the last child six months ago; no jaundice. Present state: Well nourished; no facies suggesting acute peritonitis. Temperature 101·4° F.; pulse 124. Abdomen soft and not distended. Pain in epigastrium, left hypochondrium, and left lumbar region. No dulness in flanks; liver dulness normal. No blood, sugar, or albumin in urine. No shock, but patient looked very ill. Diagnosis doubtful; exploration necessary.

Operation on Feb. 21st at 9 P.M. Median incision below umbilicus. There was a considerable amount of thin, slightly turbid fluid in the general peritoneal cavity. The small intestine wherever seen was markedly injected, slightly dilated, but not paralysed. Search throughout its length for anything abnormal was negative except for a few flakes of lymph above. The colon was then drawn down and spots of "fat necrosis" were seen in the omentum, which at once suggested to me the true nature of the case as one of acute pancreatitis. The omental sac was opened between the stomach and colon. There was no fluid in it, but more patches of fat necrosis were seen, in greater number as the pancreas was approached. The organ itself was hardened especially about its head, but there was no evidence of breaking-down tissue or hæmorrhagic change around it. Nothing more than drainage of the omental sac was done. The wound was closed after a piece of omentum containing fat necrosis had been excised for examination. The change in the fat lobules was typical and showed up grass-green with Benda's stain. (Contrast Fig. 1 from Case 5.)

The patient rapidly improved and the stitches were removed on the tenth day; primary union. On March 3rd (eleventh day after operation, thirteenth after onset) severe pain set in "from nipples to navel." There was tenderness over the whole abdomen, but most at the tip of the right ninth costal cartilage. Pulse 124; temperature 98°. At 10 A.M. morphia was given, but pain continued all day. Vomiting began at 4 P.M. up to 2 oz. in three acts. March 4th: Temperature 100° in the morning and 101° in evening. Vomited in all 12 oz. Seemed better in spite of pain; abdomen not distended any more. Pain had shifted to tip of left tenth costal cartilage.

On March 5th the pain and tenderness had increased; temperature 101°. In the evening under chloroform a swelling was now felt in the left hypochondrium, and I made an incision commencing 2 inches to the left of the umbilicus and running backwards and upwards for some 4 to 5 inches. Fat necrosis was at once recognised in the subperitoneal tissues, and portions were removed for analysis. The peritoneum was then opened far back, and about 6 oz. of blood-stained fluid mixed with pus escaped. This was followed by very free venous bleeding, which ceased on the introduction of a large drain-tube. The mass felt before the operation was now found to be the enlarged body of the pancreas. The spleen was not enlarged. For the next five days there was steady improvement, with much discharge. Temperature generally about 100°. There was a return of pain in the right hypochondrium on March 10th, with rise of temperature to 102° and vomiting; no rigor. This severe pain continued over a palpable mass below the navel; no jaundice. The pain then subsided and steady convalescence followed.

The patient was discharged well on March 31st, 1910. She remained well until the following October, when she was re-admitted for bad intestinal obstruction by band and volvulus in the left flank. This I released by a third operation through the old scar in the flank. She has been well ever since. On this occasion I examined the conditions in and around the pancreas and found nothing abnormal remained from the former attack. Had retroperitoneal drainage been carried out somewhat earlier it seems probable that the peritoneal adhesions requiring this third operation would not have been produced. The notable improvement for 11 days which followed the drainage of the omental sac was deceptive. Around the pancreas the disintegrating process was steadily advancing and could only be approached from behind.

CASE 3.—The patient, a widow aged 42, was admitted into University College Hospital on April 3rd, 1911, complaining of "pain in the stomach soon after food for the last four weeks." It was stated to go through to the back and be relieved by vomiting. It sometimes occurred immediately, sometimes two or three hours after food. The vomit at first was dark, then in last few days greenish. She described a similar attack in previous August; was subject to "biliousness." On admission there were rigidity of abdominal wall and general tenderness, most severe in right epigastrium. Frequent vomiting occurred, and rectal feeding was adopted. On April 11th, under an anæsthetic, a mass of the size of a coconut was found in the umbilical region. It was distinct from the liver and well defined below; movement with respiration doubtful.

On April 12th Mr. H. Morriston Davies made a 3½ inch vertical incision through the upper part of the right rectus muscle half an inch to the right of the middle line. An elastic mass was found behind the stomach and transverse colon. Above, it reached to the liver, below to 3 inches below the navel, and on each side 3 inches from the latter. The small intestines were found adherent to the cystic mass below the colon, and on separating them an opening was made into it accidentally, dark grumous fluid escaping. The parts had been previously packed with gauze. More fluid followed by a large sloughy mass was squeezed out. It proved to be part of the pancreas. The upper part of the swelling was firmly adherent to the transverse colon and pressed upon the duodenum and bile ducts. Gall-bladder distended but healthy. The cavity was further opened between the stomach and colon, and about a pint more of the grumous fluid evacuated. Both openings above and below the colon were drained with large rubber tubes brought out of the abdominal wound, which was stitched up. Convalescence progressed steadily, some irritation of the skin from the discharge being the only check. On May 1st another large slough came through the upper opening. All well by May 18th and patient left for home on 19th. The temperature was never very high, 100·6° F. being the highest on April 20th; after this the average was 99°.

CASE 4.—The patient, a man aged 39, was admitted to University College Hospital on Sunday, August 6th, 1911, at 12 noon, for pain, vomiting, and absence of stools for 48 hours. Until recently had been in usual health and only returned from a week's holiday in the country the previous Monday. Violent pain in abdomen set in 48 hours ago sufficient to make him rest, but it passed off and he went to work. At midnight the pain returned intensely and he vomited at first food, then bile and slime. No sickness since noon on Saturday. But the pain had persisted always in the umbilical region without radiating. No flatus or stools since Friday in spite of enemata.

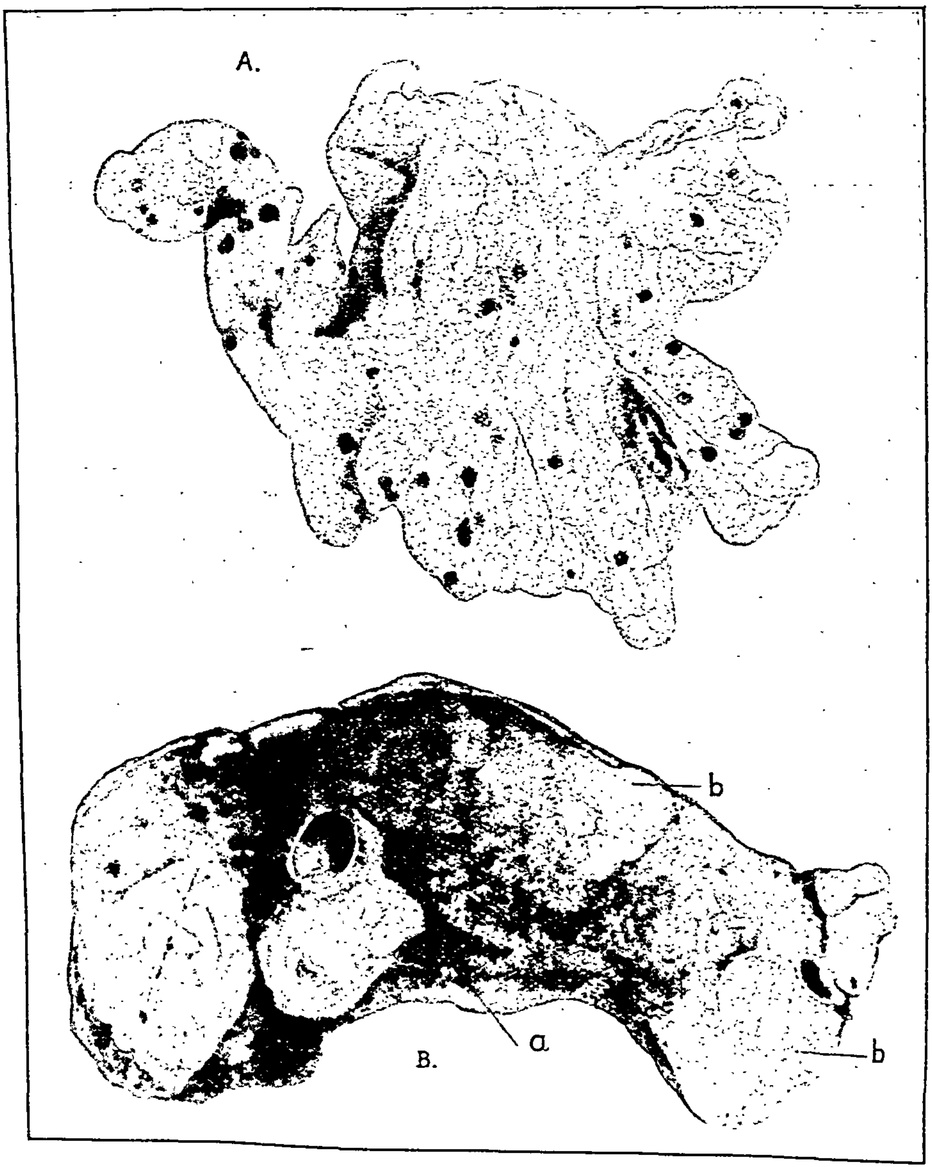
Previous history: Described a similar attack in July, 1906, with intense pain in the abdomen for two days with vomiting and constipation. He remained in bed then for 11 weeks with symptoms apparently of gastroenteritis. In 1907 he had a similar attack and was in bed for three weeks. In 1908 a third attack like it; in bed one week. Since then quite well on careful dieting. Never jaundiced; never lived abroad. Influenza 20 years ago.

Present state: Looked ill and anxious and complained of pain in abdomen; resented being moved. Temperature 100° F.; pulse 108. The abdomen moved fairly to respiration; was distended generally; umbilical region specially prominent, more on left than right. No bulging in flanks, but slight shifting dulness; otherwise resonant. Liver dulness normal. There was tenderness, not very marked, below the navel more to left than right, but no hyperæsthesia of the skin. Owing to rigidity no definite tumour could be felt anywhere but the resistance suggested distended gut. No visible peristalsis. Organs sound; rectum empty. At 4 P.M. bowels still not moved; no vomiting. Temperature 99·4°; pulse 112. At 6 P.M. pain and distension more marked; pulse 120.

Operation by Mr. Wilfred Trotter on August 6th at 9 P.M. Median incision below navel. Much yellowish peritoneal fluid escaped; no obstruction of bowel; appendix normal. Small bowel in middle of its length distended and hyperæmic, but no peritonitis. Mesentery dotted with fat necrosis. Incision prolonged upwards; gastrocolic omentum bluish in colour, bulged forward by fluid in omental sac. On incision dark, blood-stained fluid welled out quite unlike that in the general cavity of the peritoneum. This was explained by the fact that the foramen of Winslow was closed by lymph. About 1 to 1½ pints of liquid escaped from the sac of the omentum, which was sponged dry. The pancreas was now seen to be greatly swollen, covered with lymph, and its central part very dark, much enlarged, and infiltrated with blood. No incision into the organ was made, reliance being placed on drainage of the omental sac. This was provided for by a rubber tube and gauze enveloped in oil silk going down to the pancreas. Wound stitched up round these.

Condition after operation fair; pulse 120; respiration 32; some cyanosis. At midnight shock was marked, but gave way to restoratives. August 7th: General improvement; temperature 98°; pulse 120; flatus passed; no vomit; urine normal, no sugar. From this on to August 27th steady convalescence; discharge less and less. The brownish particles seen in the pus of Case 1 are noted as present here too. There was no irritation of the skin from the secretions as in Case 3. The urine tested by Cammidge's method gave negative result. With the exception of some sickness due to error in diet on August 27th, there is nothing further to report before the patient left hospital on Sept. 9th quite well. During convalescence there was a tendency to constipation.

FIG. 1.



CASE 5.—Acute hæmorrhagic pancreatitis. A. Omentum showing fat necrosis stained green by Benda's copper method (the green stain comes out black in the illustration). B, Pancreas showing a, hæmorrhagic patch; b, b, fat necrosis unstained.

CASE 5.—The patient, a well-nourished man aged 52, was admitted into University College Hospital on June 17th, 1913, under Dr. Batty Shaw's care, with a history of "pains below the navel and reaching round the back, scanty urine and retching" for three days. Bowels not moved since the 15th. Temperature 99° F.; pulse 60; respiration 30. His habits appeared to have been regular; internal organs fairly healthy; occasional headaches; appetite good up to the 15th. Nothing notable in family history on past illnesses.

Present state: Pain and tenderness at umbilicus, mostly just below it; some rigidity in this region. Abdomen did not move with respiration; flanks bulging; no dyspnœa. Rectal examination negative. Washing out brought away practically no motion, but much membranous material suggesting colitis. Temperature 100·4°.

June 18th: Had been sick twice to 6 oz. At 3 P.M. vomited 16 oz. of dark brownish material. At 4 P.M feeling worse; marked hiccoughing frequently. Temperature 98·4°; pulse had risen to 120, and was weaker. Abdomen now *slightly distended; no marked increase in tenderness,* which was now most evident in the epigastrium. Intestinal obstruction diagnosed. Operation at 11 P.M. same day by Mr. Trotter; median incision. Patient died the next morning, a few hours after operation.

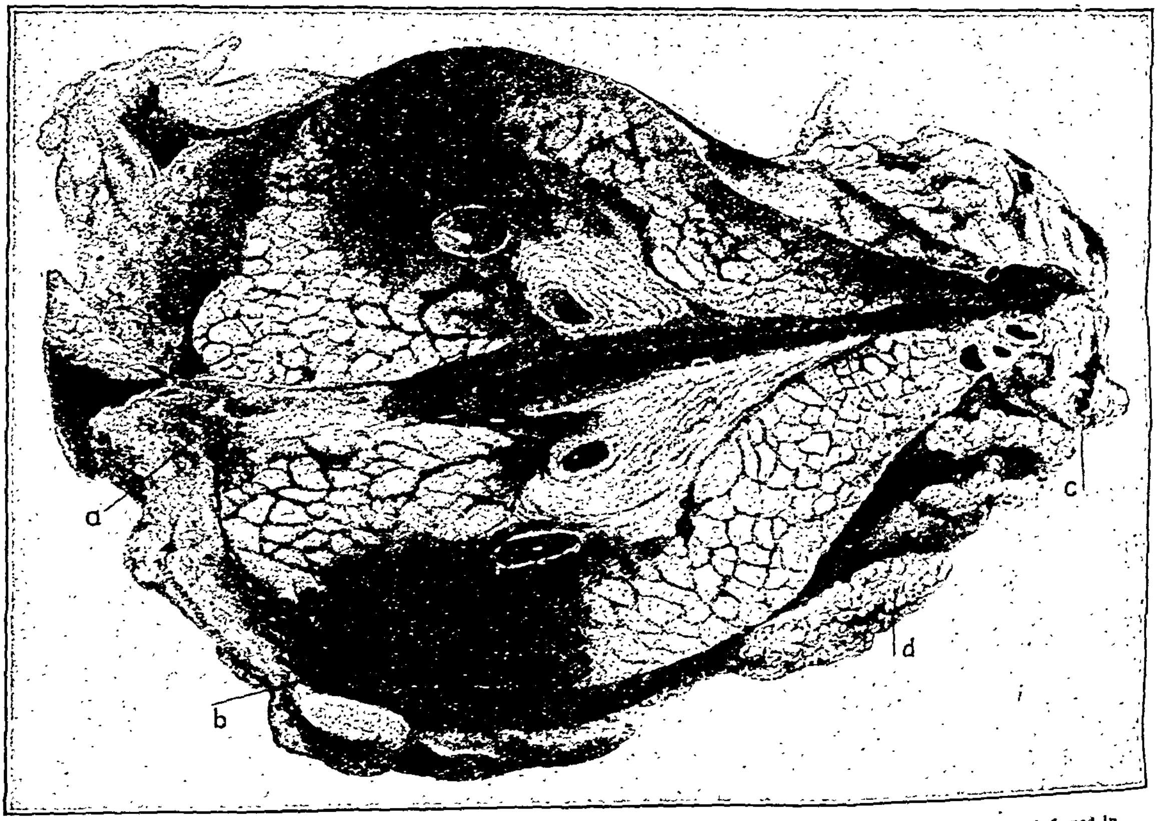
Post-mortem notes, by Pathologist, June 19th, 1913:—"Lungs: Both very œdematous and congested; extensive adhesions in pleuræ. Peritoneum: numbers of small nodules of *fat necrosis are present in the great omentum, root of* mesentery, fatty capsule of kidneys, and fat about the pancreas. Pancreas: greatly swollen, the head measuring 2 inches from before backwards; extensively hæmorrhagic and in places broken down and showing islands of fat necrosis. The duodenal end of the duct is distended with a number of small calculi; no pus present. (Fig. 1.) Liver: shows cloudy changes; gall-bladder, ducts, and bile papillæ are normal. Stomach and intestines: stomach lining shows scattered submucous hæmorrhages; these are also present in the upper part of the ileum, and some of them are ulcerated. The intestines contain brown fluid. Spleen soft, follicles enlarged. Kidneys normal."

CASE 6.—The patient, a *single man aged 65, was admitted* into University College Hospital on Feb. 22nd, 1914, for severe abdominal pain beginning at 2 P.M. on the day before and lasting ever since. The pain was not localised. Vomiting began soon after the onset and occurred 12 times before admission. Flatus but no motion passed last night. Had been in good health until the 21st. The attack came on after a good meal. When seen by Mr. Raymond Johnson cyanosis was very marked even in the fingers. The man appeared desperately ill and collapsed. Pulse 130, intermittent; respiration 38; temperature 97·1° F. Tongue dry. *Abdomen slightly* distended towards the left iliac region; did not move with respiration. Tenderness and rigidity were general. No definite tumour could be felt in the abdomen. *Nothing abnormal* could be detected in the chest.

In view of the general condition of the patient it was felt that any operation was out of the question. Mr. Johnson's diagnosis was acute pancreatitis. He thought nothing else would account for the condition of severe pain, extreme cyanosis, and collapse after sudden onset, so well, though no tumour was discoverable. The patient died a few hours after admission, and the post-mortem examination showed that he was right.

Pathologist's report:—Abdomen: "About half a pint of opaque, blood-stained fluid in the abdominal cavity; a few flakes of fibrinous exudation in places. Scattered areas of fat necrosis of small size in the omentum; larger areas in the retroperitoneal tissue below the pancreas, where also there is considerable extravasation into the areolar tissue. The pancreas is greatly swollen with much extravasation of blood on its surface and into the septa between its lobules. There are numerous white areas of fat necrosis on the surface of the organ. There is no sloughing or breaking down of the pancreatic tissue, except at one *spot*, which is somewhat softened and of a grey red colour. (Fig. 2.) Stomach: dilated; scattered petechiæ on its mucous membrane and swelling of its follicles. Spleen: small *and* diffluent. Liver: soft; no gall-stones; lining of gall-bladder and ducts normal. Kidneys soft; heart normal. Lungs both extremely congested."

FIG. 2.



CASE 6.—Acute hæmorrhagic pancreatitis. Mr. Johnson's case, Feb. 22nd, 1914 (not operated on). *a*, Wirsung's duct inflamed in middle portion. *b*, Head of pancreas much swollen and hæmorrhagic. *c*, *Fat necrosis stained green* by Benda's *copper method* (the green stain comes out black in the illustration). *d*, Unaltered fat tissue.

Looking at this group of cases and endeavouring to construct *from them* a clinical picture which may be of use in the future, one is first struck with the fact that in three the patients described similar attacks at long intervals *antecedent* to that for which they sought surgical help. In Case 2 there were *two*, one six years and one six months before the last; both after normal childbirth. In Case 3 there was one attack nine months previously. It was described as quite *similar* to the last.

not related to labour. In Case 4 the patient, a male, described three illnesses of the same kind, the first five years before (in bed 11 weeks), the second four years before (in bed for three weeks), and the third three years before (for which he remained in bed one week). In my own last case (No. 1) the attack for which I operated may have been his first. But there is a history of very severe abdominal pain and shivering earlier in 1913, causing him to roll on the floor, and lasting some hours, which may have been an illness of the same nature but not so deadly. If the present attack was the first, that and the fact that it was taken in hand early may account for the more limited area involved around the much swollen and inflamed pancreas. It may be recalled that the sac of the omentum was empty, but that there was extensive fat necrosis in the retroperitoneal tissues but no sloughing at the moment of operation. This took place later.

Another point noted as regards past history was that in two cases, Nos. 1 and 4, there was much gastric trouble for some time previous to the attacks; and in No. 2 the teeth were in very bad condition indeed, which, as we know, is usually associated with stomach derangement. In No. 3 the patient stated that she was subject to "frequent biliousness" before her attack.

In none of the cases was there anything in the history to suggest derangement of the biliary apparatus except doubtful jaundice in a previous attack in No. 2. Nor at the operations was anything wrong found in the gall-bladder. In No. 1 I opened it simply as a possible means of relief for the inflamed pancreas. The bile, which was drained through a tube into a bottle, was perfectly normal for 24 days. It was, however, of very great interest to note that at about the time when the exacerbation of symptoms followed by "fits" (tetany) came on (thirtieth day) the previously clear bile became turbid, and a considerable sediment of pus was found in the bottle for about a week. From the improvement which followed on this both in the general condition and the bile it seems clear that this pus found its way from the inflamed pancreas into its duct, then into the common duct, and thus into the gall-bladder. In Case 6 there was no time for actual destructive change in or around the organ. The patient was killed outright by the shock of the onset in a few hours, and before any surgical relief could be undertaken. Case 5, too, had not advanced to sloughing. Case 7 was precisely like No. 1, but not so severe.

The onset of the attack in all these cases was strikingly *sudden* except in No. 3, in which four weeks of "pain after food" elapsed before the condition was thought grave enough to call for admission into hospital. In the others, except for indefinite gastric disturbance, *sudden* severe pain in the epigastrium was the first and most prominent symptom. This was always described as very intense, and in my own last case (No. 1), where I had the opportunity of seeing the patient very early, the powerful man appeared to be suffering horribly and was pallid and markedly cyanosed. This cyanosis lasted some days after operation. In Mr. Johnson's case (No. 6) the suffering was very severe and accompanied by extreme cyanosis and collapse which rapidly ended in death.

The temperature in all cases was relatively low at the onset. In Case 6 it was 97·1° F., indicating severe shock from which the patient died before any operation was done. The pulse was rapid and gradually increasing while losing tension. Vomiting was usual at the onset in these cases, not so prominent a feature later. The material brought up was usually bilious with mucus. In no case was a tumour found in the region of the pancreas without an anæsthetic. In one case only was one discovered just before the operation when the anæsthetic had been given.

On opening the abdomen turbid peritoneal fluid was found in three cases at operation (and in one, Case 6, not operated on) in considerable amount. The intestines were injected and dilated in four out of the five cases operated on, but not paralysed. They had not the appearance of being actually inflamed, their lustre being unimpaired, and showing no lymph upon them. But lymph was found in three cases in the neighbourhood of the pancreas.

From the character of the discharges coming from the inflamed gland there was only evidence of hæmorrhage into or around it in three (Cases 1, 2, and 4). Perhaps the grumous fluid which came away with sloughs in No. 3 indicated broken-down clot, but it is hard to say, as the operation was performed four weeks after the onset; the attack was probably less acute than in the other instances. The omental sac was opened in all the six cases operated on, but only in three had the destructive process made its way into it.

Six of the cases here reported are the only instances of acute pancreatitis which have occurred in our hospital in the last five years. With my own private case there are six operated on by members of the staff; and it is encouraging to find that five have been saved. One was too far gone to admit of any operation, and one died the morning after an attempt had been made to arrest the destructive process by surgical interference. As the disease becomes better understood and is dealt with in its earlier stages better things may be expected.

I have dealt with this series as a purely clinical study in spite of the temptation to speculate at any length as to its pathology.

Harley-street, W.

THE annual general meeting of the National Society of Day Nurseries will be held at 35, Chesham-place, S.W., on Thursday, June 11th, at 4 P.M.

LIVINGSTONE COLLEGE: COMMEMORATION DAY.—Saturday, June 13th, Commemoration Day at Livingstone College, marks an important stage in the history of this missionary auxiliary, inasmuch as it is 21 years since the college was founded. From 3 to 3.20 in the afternoon there will be a reception by the Principal and Mrs. C. F. Harford, after which a meeting will be held in the grounds of the college under the presidency of the Bishop of Chelmsford. The speakers will include Dr. Ernest N. Cook, one of the staff of the Mengo Mission Hospital in Uganda. Dr. Loftus E. Wigram, the vice-principal, who is to succeed Dr. Harford as principal, will also take part in the proceedings. After the meeting an opportunity will be given for visitors to view the college. It will be remembered that an appeal was made last year for a sum of £10,000 to form a Livingstone Centenary Fund in order that the college might be placed on a sound financial footing. Only £640 have been received in answer to this appeal. It is hoped that before Dr. and Mrs. Harford leave the college in July next the mortgage on the property, amounting to £3500, may be cleared off. Applications for tickets should be made to the Principal, Livingstone College, Leyton, E., who will gladly receive any contributions towards liquidating the mortgage or towards the special endowment fund.

THE USE OF NEOSALVARSAN IN ACTIVE PULMONARY TUBERCULOSIS.

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THE treatment of patients suffering from pulmonary tuberculosis in the acute and subacute stage, in which fever is present and the disease steadily progressing, is often a source of grave anxiety to the physician.

As the result of rest in bed for a longer or shorter period the temperature may gradually fall and finally reach normal, and such a condition may be permanent. But in many cases it is long before even absolute rest produces any effect, and in others it fails entirely. Antipyretics, such as cryogenin or maretin, may succeed in bringing down the temperature, but as a rule their effect is merely temporary, and when the administration of the drug is discontinued the temperature rises again. In other cases quinine may do good, or arsenic, given preferably as the sodium cacodylate by subcutaneous injection. But not infrequently such remedies fail, and a like result attends the inhalation of volatile antiseptics, the employment of intravenous injections of iodoform, or the use of such vaunted remedies as pneumosan or dioradin.

Under such circumstances tuberculin has sometimes been advised. It has not, however, been my good fortune to observe defervescence follow its use, and on other grounds its administration in acute cases does not appear advisable. Disappointing, too, has been the use of secondary vaccines prepared from the sputum, possibly because, as Dr. J. A. D. Radcliffe, of the King Edward VII. Sanatorium, and others have shown, the organisms isolated come as a rule merely from the mouth and bronchi, and are not in reality an index of a true secondary infection.

A certain number of acute cases, in which the disease is limited to one lung, are suitable for treatment by artificial pneumothorax, and if satisfactory compression is obtained the temperature falls and the patient gradually regains his health and strength to a greater or less degree. Such treatment, however, is lengthy, is not suitable for the majority of cases, and the process, moreover, is not entirely devoid of risk. Under such circumstances the following notes of certain cases treated with neosalvarsan may be of interest, for in them the use of the remedy was followed by a fall in the temperature and an improvement in the general condition of the patient.

The use of neosalvarsan suggested itself to me owing to the fact that some little time ago a patient was admitted into my wards at the Brompton Hospital suffering from extensive pulmonary tuberculosis of an active febrile type, both lungs being diseased, but the patient giving in addition a history of syphilis. On this account treatment with salvarsan was prescribed and with good results, the patient's condition being materially improved on his leaving the hospital. Shortly afterwards another patient was admitted under my care into St. Bartholomew's Hospital. She was exceedingly ill with extensive tuberculous disease in both lungs and with high fever, but without any history or evidence pointing to syphilis. So ill was she that it was believed that she would not live more than a few days. Remembering the improvement in the preceding case, I prescribed, though with some hesitation, owing to the patient's serious condition, an injection of neosalvarsan, and here again considerable improvement followed, and she was able some weeks later to be transferred to the infirmary.

Bearing the above facts in mind it appeared desirable to try more systematically the effect of neosalvarsan in the treatment of cases of acute and active pulmonary tuberculosis, in which other means had failed to bring the temperature to normal and to arrest the further progress of the disease. This I accordingly did with the help of my house physician, Dr. J. N. MacBean Ross, to whose care and skill in the treatment of these cases, as also for help in the preparation of these notes, I am much indebted.

The neosalvarsan was given by intravenous injection and for this purpose the ordinary method of procedure is best adopted. Strict antiseptic precautions must be enjoined and great care taken that the water (about 125 c.c.) in which the remedy is dissolved has been *freshly distilled.*

During the administration of the drug, as with other arsenical compounds, a watch should be kept upon the knee-jerks and the fields of vision, so that warning may be given of any possible toxic effects upon the nervous system. But none such have been observed in the 16 cases treated.

Of those reported in this paper Case 1 shows the effect of treatment in active pulmonary tuberculosis, in which, however, the patient gave a history of syphilis, and in which the Wassermann reaction was positive. The other three here detailed are cases of simple pulmonary tuberculosis of an advanced and active type.

CASE 1.—The patient, a male, aged 31 years, was admitted into the Brompton Hospital on August 18th, 1913, suffering from a severe cough of five months' duration, emaciation, night-sweats, and a very husky voice. He had been losing weight, and now weighed 9 st. 10 lb. The evening temperature varied between 99·2° and 101·6° F.; pulse, 88; and respirations, 20.

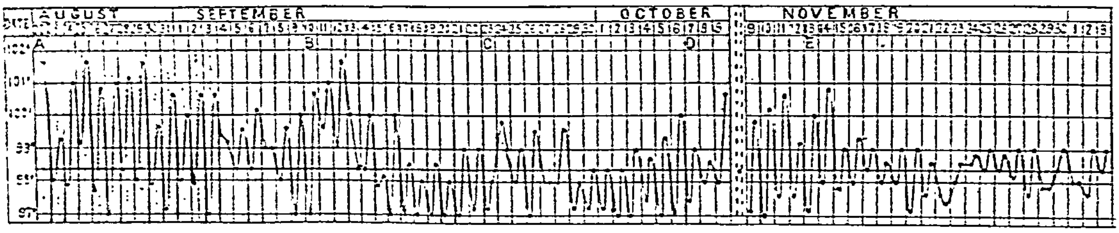
On examination signs of infiltration and excavation were detected at the right apex, and of infiltration at the left apex and at the apex of the right lower lobe. The larynx showed a general infiltration with some subglottic infiltration, the appearance suggesting the possibility of syphilis to my colleague, Dr. Dundas Grant, who kindly examined the case. The Wassermann reaction, when tested, proved markedly positive. The sputum, which was somewhat large in amount, was tested on several occasions for tubercle bacilli, and on Dec. 20th a few were discovered by the antiformin method.

The patient remained in bed, but as the temperature was still swinging (see Chart), neosalvarsan (0·9 gramme) was on Sept. 10th injected intravenously into the right arm. The patient had a feeling of malaise for some hours following the injection, but no vomiting, and there was no pain in the arm. Three days after the injection the temperature rapidly fell, and by Sept. 17th it reached normal. The cough was greatly improved, the patient felt much better, and he was gaining in weight. On the 23rd, as the temperature showed signs of rising again, a second injection of neosalvarsan (0·9 gramme) was given. This was followed by a feeling of nausea but no vomiting. The temperature steadied for a time, but soon again became irregular, in spite of "absolute rest." On Oct. 24th an intramuscular injection of salvarsan, 0·4 gramme, in the form of "joha" was given, but seemingly without much effect, the temperature continuing to rise to about 100° at night. Accordingly, on Nov. 13th a third intravenous injection of neosalvarsan (0·9 gramme) was given, although the Wassermann reaction had proved negative a week earlier. This injection was followed by a feeling of slight nausea and some headache, but the temperature shortly fell to 99°

d did not rise again above that height (see Chart).
Nov. 18th examination showed that the physical
ns in the chest had not materially changed as com-
red with those observed on admission. Nov. 22nd:
e cough was better, and the sputum less in amount. The
tient felt "very much better in himself." Dec. 5th: The
tient was allowed up for two hours. The temperature was
ll steady, but the cough was very troublesome. 19th: The
tient was allowed up for four hours, on the 25th for six
urs, and on the 30th for eight hours. On Jan. 1st, 1914,
e patient was allowed up all day. The temperature was
rmal and the cough slight. No other symptoms were com-
ained of. Pulse, 80; respiration, 20. The patient had
ined 9½ lb. since August 25th. The physical signs in
e chest were now much drier. The sputum, which during
e first week in November, 1913 (when first charted),
eraged 5 oz. a day, now only amounted to 2 oz. The
tient's voice was better but still hoarse, and some
pillomata were still visible in the interarytenoid space,
t smaller than they had been. On Jan. 5th the patient
ft the hospital to take up work as a park-keeper.

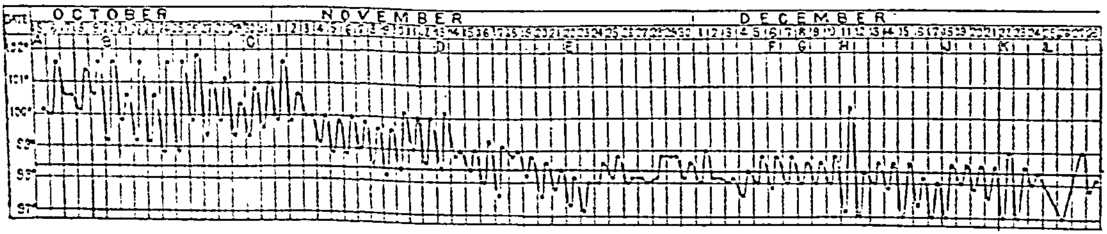
In this case the first and second intravenous
njections of neosalvarsan lowered the tempera-
ure and brought it for a short time to normal, but it soon rose again, and it was not until the third injection that final defervescence was effected. As the Wassermann reaction was now negative, the fever at this later period at any rate can hardly be attributed to the syphilitic infection.

FIG. 1.



Temperature chart of Case 1. A, Patient admitted on August 18th; B, first injection of neosalvarsan, 0·9 grm.; C, second injection of neosalvarsan, 0·9 grm.; D, patient placed upon absolute rest; E, third injection of neosalvarsan, 0·9 grm.

FIG. 2.



Temperature chart of Case 2. A, On admission; B, patient placed upon absolute rest; C, first injection of neosalvarsan, 0·9 grm.; D, second injection of neosalvarsan, 0·9 grm.; E, gradually taken off absolute rest; F, up for two hours; G, up for four hours; H, attack of indigestion and vomiting; J, up for six hours; K, up for eight hours; L, up all day.

CASE 2.—The patient, a male, aged 55 years, was admitted into Brompton Hospital on Oct. 15th, 1913, complaining of a cough of seven months' duration, considerable loss of weight, some night-sweating, and shortness of breath on the least exertion. The temperature was 100·2° F, rising to 101·6°; pulse, 80; and respirations, 20.

On examination the left lung was found to be infiltrated from apex to base, with signs of marked excavation in the upper lobe. The apex of the right lung and the apex of the right lower lobe were also infiltrated. Tubercle bacilli were present in the sputum. There was no history or evidence of syphilis.

The patient was placed upon absolute rest, but it appeared to have no effect, the temperature rising nightly to between 101° and 102° (see Chart). Oct. 30th: 0·9 gramme neosalvarsan was injected intravenously, this being followed by a feeling of general malaise but no other untoward symptom. The temperature remained raised for three days, but on Nov. 2nd it commenced to fall (see Chart). The patient now felt much better and stated that he felt "as if new blood had been put into him." The cough, which had formerly been exceedingly troublesome, was now greatly relieved. On auscultation the signs in the lungs were found to be somewhat drier.

On Nov. 13th, as the temperature, though lower, still touched 100° each night, a second injection of neosalvarsan (0·9 gramme) was given. The patient vomited two hours after the injection and the temperature rose to 100·2°. The following day he again vomited twice, but the temperature fell to 99° and did not rise again (see Chart). On the 17th the patient felt much better. 22nd: Temperature normal. The patient is being gradually taken off absolute rest. Dec. 6th: Up two hours. 8th: Up four hours. Cough and sputum less. Gaining weight. Signs in chest a little drier. 11th: Temperature rose to 100·5°, due to an attack of indigestion. 18th: Up six hours. 22nd: Up eight hours. 25th: Spent a very strenuous Christmas with no bad results. 30th: Up all day. On Jan. 9th, 1914, the patient left the hospital to go to a convalescent home. He had improved greatly in appearance as compared with his condition on admission, and felt much stronger. The cough was much diminished, and the sputum brought up during the past week amounted to 3½ oz. daily, as compared with 8 oz. at the commencement of November last. Tubercle bacilli could not now be found, even by the antiformin method. The physical signs in the chest had not altered much during his stay in the hospital, but were probably somewhat drier. He had gained 10½ lb. since admission.

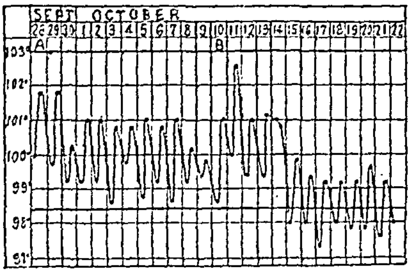
CASE 3.—The patient, a male, aged 42 years, was admitted into Brompton Hospital on Sept. 24th, 1913, suffering from cough of nine months' duration and pain on the left side of the chest. His temperature was remittent, never reaching the normal, and ranging to 101·8° F.; pulse, 100; and respirations, 24.

On examination the patient was found to be suffering from advanced phthisis, with extensive excavation in both upper lobes, also of the middle lobe, and of the upper third of both lower lobes. The remainder of both lower lobes showed evidence of infiltration. Tubercle bacilli were present in the sputum. There was no history or sign of syphilis.

The patient was placed upon absolute rest but apparently without any effect, the temperature still swinging to 101°

nightly, and not reaching normal in the morning (see Chart). Oct. 10th: 0·9 gramme neosalvarsan was injected intravenously. An hour later the patient had a rigor and vomited twice. 11th: The temperature rose to 102·6°. The patient vomited once. The temperature remained raised at its former level until Oct. 15th, on which day it came down, touching normal for the first time since admission, and afterwards did not rise above 99·5° (see Chart). 19th: The patient felt much better, and the chest was found to be drier on auscultation. On the 22nd the patient left the hospital at his own request. The temperature now ranged between 97·4° and 99·5°; pulse, 80; and respirations, 20. On Jan. 18th, 1914, his medical attendant wrote to say that the patient was doing well, and was quite able to come to the hospital at any time, but he could not be persuaded to present himself for examination.

FIG. 3.



Temperature chart of Case 3. A, Patient placed upon absolute rest; B, Injection of neosalvarsan, 0·9 grm.

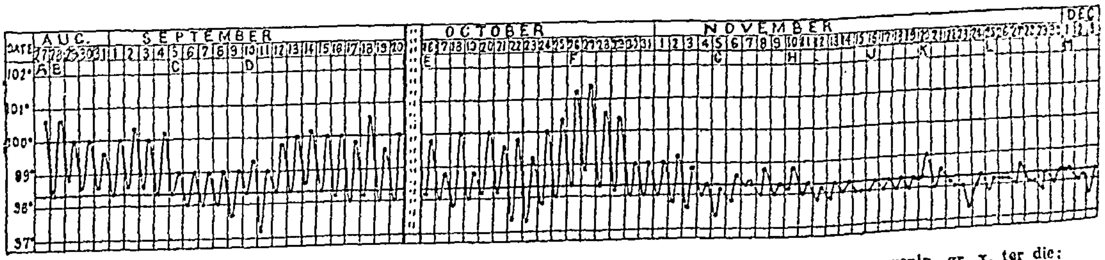
CASE 4.—The patient, a male, aged 22 years, was admitted into Brompton Hospital on August 27th, 1913, complaining of a cough of five months' duration, night-sweating, and considerable shortness of breath on exertion. The temperature was 100·6° F.; pulse, 88; and respirations, 24.

On examining the chest the patient was found to have extensive tuberculous disease affecting both lungs. The note was impaired over the right apex extending down to the second rib in front and to the midscapular region behind. Crepitations were heard over the impaired region in front. Over the left lung the note was impaired to the third rib in front, with signs of excavation and many moist sounds. Behind the note was impaired from above down to the level of the angle of the scapula, with signs of excavation in the supraspinous fossa, and also at the apex of the lower lobe. The patient's voice was husky, and there was considerable (tuberculous) infiltration over both arytenoid regions and in the aryepiglottic folds. Tubercle bacilli were present in the sputum. There was no history of syphilis or any sign pointing to this disease.

The patient was placed upon "absolute rest," but the temperature did not improve, rising at night to between 100° and 101°. On Sept. 5th cryogenin, in 10 grain doses, three times a day, was prescribed. This was continued until the 10th, and during its administration the temperature fell to normal (see Chart), but on its discontinuance the temperature rose again to its former height. From Sept. 21st to Oct. 16th fever was still present, the evening temperature varying between 99° and 101°, and from Oct. 16th onwards for the next ten days it still remained raised (see Chart). The physical signs in the chest had by now extended and moist sounds were heard over the whole of the left front and down to the base behind, the whole of the left lung being thus involved. Crepitations were also heard at the right apex posteriorly. The infiltration of the larynx, which had previously increased, was now somewhat less marked. On Oct. 26th neosalvarsan (0·9 gramme) was injected intravenously. This was followed by a feeling of general malaise for 36 hours, but there was no shivering or vomiting. For three days the temperature remained raised, but on the 30th it fell to 99° and soon to normal, after which it did not rise again (see Chart). Nov. 4th: The patient felt much better; the cough was less troublesome, and the sputum diminished in amount. No crepitations were heard at the right apex, but the physical signs were otherwise unchanged. Voice better; infiltration in larynx slightly diminished. 5th: Taken off absolute rest. 10th: Up two hours. 16th: Up four hours. A few moist sounds heard at the right apex. 20th: Up six hours. 25th: Up eight hours. Dec. 1st: Up all day. Pulse, 72; respirations, 20; temperature, 98·4°.

On Dec. 17th the patient was transferred to the Brompton Hospital Sanatorium at Frimley. His temperature was now normal, and he was up and about all day. He had gained 14½ lb. during his stay in the hospital. His cough did not trouble him, but he still brought up much phlegm, the amount for the past week being, however, 17½ oz. per diem, as compared with 22½ oz. for the week preceding the injection of neosalvarsan. The physical signs in the chest showed no further alteration, but shortly before leaving Dr. Dundas Grant noted that the infiltration of the larynx was less marked. The patient remained at Frimley from Dec. 17th to Jan. 28th, 1914, and on leaving was upon Grade II. of labour. He was unfortunate, however, in striking a spell of very cold and severe weather, which irritated his larynx and made his cough very troublesome. He therefore, at his own request, was allowed to return to his home in the country. The physical signs in the chest remained much as they had been noted in the middle of October, except that moist sounds were not now audible over the right apex posteriorly.

FIG. 4.



Temperature chart of Case 4. A, On admission; B, patient placed upon absolute rest; C, cryogenin, gr. x. ter die; D, cryogenin discontinued; E, patient still on absolute rest; F, injection of neosalvarsan, 0·9 grm.; G, patient taken off absolute rest; H, up for two hours; J, up for four hours; K, up for six hours; L, up for eight hours; M, up all day.

These cases show the marked effect upon the temperature which may sometimes be produced by the intravenous injection of neosalvarsan and the improvement which simultaneously results in the patient's general condition. The effect, as a rule, is not immediate, but shows itself after an interval of two or three days. The temperature then falls possibly to normal, where it may remain (Case 4). In other cases defervescence is not complete, and a second injection is required before it becomes normal (Case 2). In other cases a third injection may be required (Case 1). With the fall in temperature an improvement in the patient's general condition occurs which is sometimes very striking, and with this there is a lessening of the cough and a diminution in the amount of sputum. As regards physical signs these become somewhat drier, but otherwise no very marked alteration is usually observed.

Such striking results, however, as those seen in the above cases must not be expected in every instance. Of the 16 cases in which I have observed the effect of the drug, in one at least, that of a woman, aged 60, with extensive pulmonary tuberculosis, two injections of neosalvarsan were given seemingly without effect. In another the beneficial effect was only temporary, and after a time pyrexia returned, though milder in degree. In others improvement resulted and the temperature became normal, the fall being a gradual one in some cases, but it has been difficult always to decide how far the result was due to the drug and how far to the rest in bed and favourable surroundings to which phthisical patients may eventually respond even after a considerable period of pyrexia.

The drug, in short, is not a specific, but it would appear to have the power of influencing very favourably certain cases of active and febrile tuberculous disease of the lungs which have resisted other treatment, and it merits, therefore, a more extended trial. If administered with care and with due precautions it may be given apparently without risk even in very advanced and grave forms of the disease.

Devonshire-street, W.

TWO CASES OF SPRUE TREATED BY MOUTH STREPTOCOCCAL VACCINES AND EMETINE HYDROCHLORIDE HYPODERMICALLY.

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IN the chapter on sprue in my work on dysenteries a series of 47 cases treated in the European General Hospital is analysed, and the conclusion arrived at that in only a very small proportion was even temporary benefit derived from prolonged treatment in a tropical climate, while in the great majority no improvement resulted from our present methods. I also mentioned that I had seen some good from small doses of ipecacuanha, and suggested a trial of emetine hydrochloride hypodermically. During the last few months I have had some opportunities of trying this treatment. In addition I administered a vaccine prepared from streptococci derived from the mouth ulcers, where they were found to be present in nearly pure culture. In the following two severe and chronic cases the results of this method of treatment have been so strikingly favourable as to appear to be worthy of record, as it may be a considerable time before I get any further opportunity of trying the same remedies.

CASE 1.—A Mahomedan woman, aged about 40, was sent over from Bombay to be under my treatment. The history of the case showed that in October, 1905, she had commenced passing a number of large light-coloured loose, frothy stools, said to be as many as 20 daily, and accompanied by obstinate dyspepsia. She was then a stout woman weighing 14 st., but her weight soon became reduced to 10 st. During the following year the diarrhœa was less, with only about five stools daily, but she was never free from it. In November, 1908, there was a recrudescence, with numerous loose stools, nausea, and flatulence. She stated that this condition had continued ever since, and that for the nine years before I saw her she had never been free from diarrhœa, although she had been treated by a number of medical men, both European and Indian, in Bombay and Calcutta. She lived in Bombay from June, 1911, to December, 1913, but was worse there than when in Calcutta. At that time she used occasionally to become giddy and even faint, having several times been found collapsed on the floor at night on her way back from the bathroom. During the 18 months she was in Bombay her gums were ulcerated and they bled freely, and she was told by a dentist that this condition could not be cured until all her teeth had been removed, which she declined to allow.

Present condition.—When I first saw the patient on Dec. 6th, 1913, she was passing about 12 large, loose, pale, sprue-like stools daily, accompanied by flatulent dyspepsia. I failed to find any amœbæ in the stools, but determined to try emetine injections for the reasons given in the opening paragraph of this paper. There was marked pyorrhœa alveolaris, so I made cultures, and obtained large numbers of streptococci, from which I made a vaccine.

Progress.—Half-grain doses of emetine hydrochloride were injected hypodermically every other day, and were soon increased to one-grain doses. After two or three injections, and before the vaccine had been commenced, the stools became much less frequent and of better consistency and colour. After eight injections the evacuations had become healthy and only one or two a day. In the meantime the streptococcal vaccine was begun, 50,000,000 soon increased to 100,000,000, being injected once a week. The discharge of pus from the gums rapidly decreased, and in a few weeks completely disappeared, and has remained absent for the last four months. No teeth were removed. Some superficial soreness and redness of the tongue subsequently appeared, from which a streptococcus was also cultivated. A vaccine made from this removed the unhealthy condition of the tongue within a few days.

I saw the patient on May 3rd last, and, except for slight redness of the tip of the tongue, she was quite well almost five months since the diarrhœa ceased, after having been continuously present for nine years before the new treatment was commenced. She has no dyspeptic symptoms, and can digest all ordinary food. She is now free from the giddiness, faintness, and neuralgia which she used to suffer from, and her general health has greatly improved. She has not been weighed regularly, but has put on some flesh and has gained much in strength. The only trouble with her bowels is a slight tendency to constipation, necessitating an occasional dose of castor oil.

CASE 2.—A woman, aged about 40, came under my care, in consultation with Dr. C. H. Elmes, in December, 1913, in an advanced stage of sprue of four years' duration. The previous history is a long one, but the principal points are given in the following chronological account:—1909: August to November, very severe diarrhœa on and off in Calcutta. Went to England and into a nursing home, and was later sent on a long sea voyage to Hong-Kong. 1910: January, in Peak Hospital, Hong-Kong, where the disease was diagnosed as sprue. Returned to Calcutta at the end of January and got much worse. Rapidly lost weight from 13½ st. to 10½ st. Returned to Hong-Kong in April, and remained in hospital there for six months, at the end of which she had lost another stone in weight during a severe relapse. Then went to England, and lost her diarrhœa on the voyage. 1911: Returned to Calcutta and again became affected with sprue. April to August, voyage to Japan and back. Returned stronger and heavier and free from sprue. Relapsed a week after return to Calcutta, but improved much during five weeks in the General Hospital. 1912: March to August, trip to Japan. No diarrhœa, and put on nearly a stone in weight. Returned to Calcutta in September and had another very severe relapse, lasting to February, 1913. 1913: In February left again for Japan. The diarrhœa at first stopped on the voyage, but later very severe relapse, with 10 to 14 stools daily, following a chill. The mouth was especially bad in this attack, and remained most painful for 10 months. She now went to Berlin for treatment and improved considerably. In August she went to London and again relapsed. From August to November she was under the care of specialists on tropical diseases in nursing homes and at her house, but got steadily worse, her weight now falling to 7 st. 5 lb., although a tall, heavily built woman whose former weight was 13½ st. In November left for India. The diarrhœa continued to be severe on the voyage, while she also suffered from chyluria, after the onset of which the diarrhœa became somewhat less. The feet had now become swollen, and her general condition was very unfavourable.

Present condition.—I first saw the patient on Dec. 17th,

1913. She was then in a very emaciated and weak condition, and passing several large, pale, typical sprue stools daily. Emetine hydrochloride was given in half-grain doses two or three times a week, and later increased to one-grain doses. She slowly improved during the next three weeks, but on Jan. 14th last she had a severe relapse with frequent copious stools. Her mouth had now become very painful, with numerous small shallow ulcers on the tongue and buccal mucous membrane, while the temperature rose every afternoon for about a week. She was very prostrated and too weak to stand or even sit up, while the pulse was fast and irregular. I now made cultures from the mouth ulcers, and obtained in some of the tubes a pure growth of a streptococcus. I therefore made a vaccine from it and commenced with 50,000,000, increased later to 100,000,000, once a week. After the second dose of the vaccine both the mouth and the bowel symptoms rapidly improved. Towards the end of January she was put on a milk diet by another physician during my temporary absence from Calcutta, beginning with 6 oz. and gradually increasing it to 120 oz. daily by the end of three weeks. The emetine injections were continued twice a week. The diarrhœa now stopped, the mouth lesions healed, the vaccine being continued once a week. Up to this time the patient was being carried from her bed to a couch for a few hours daily. She now rapidly improved, and on March 4th was able to be moved to Bangalore, a three days' railway journey, for the hot weather.

On March 20th the patient reported that she had had no sign of diarrhœa since Feb. 5th. The mouth was quite well. She had gained just over a stone in weight in four weeks, before which she had become reduced to 6 st. 9 lb., or to under half her original weight. She was now able to walk a quarter of a mile and do everything for herself. She was continuing the vaccine once every eight days and the emetine injections once in ten days. On April 9th she reported continued improvement. She could now digest eggs, semolina, and toast-and-butter. I last heard from her on April 28th, when she remained free from all signs of sprue and continued to gain weight steadily.

Although it is too early to draw final conclusions from the above two cases, yet, in view of the very unsatisfactory results of other forms of treatment in Calcutta (including that by yellow santonin), the rapid and great improvement in two successive severe and very chronic cases is not a little remarkable. In the first case the improvement certainly commenced as soon as the emetine injections were begun, and before the mouth streptococcal vaccine was administered. Nevertheless, I am inclined to attribute much of the ultimate success to the vaccine. In the second case a relapse occurred after improvement had followed the emetine injections, and it was not until the mouth condition had been improved by two doses of the streptococcal vaccine that rapid and continued improvement of the stools set in. I think the milk diet was also of undoubted service in this case, although it was not found to be necessary with the first patient. I do not look on emetine as in any way a specific in sprue, such as it undoubtedly is in amœbic dysentery and hepatitis, but I am inclined to regard it of some value in certain cases of the disease. We should bear in mind that "sprue" is a purely clinical term, and there may be more than one causative agent, just as in the case of "dysentery."

The success attending the use of a vaccine made from the streptococci which were found present in practically pure culture in the mouth lesions is very significant, and opens up the interesting and suggestive question as to whether this class of organism may not be the cause of the disease, at least in some cases. The rapidity with which the disappearance of mouth ulcers under the influence of the vaccine was in the second case followed by cessation of the diarrhœa certainly suggests a causal relationship between the organism and the disease, and affords some hope of the new treatment proving to be of a specific nature and thus an important advance in dealing with this intractable and distressing disease. Even in cases where no mouth lesions are present there may still be a streptococcal infection of the digestive tract, and possibly cultures may be obtainable from the stools which might prove of service in the form of a vaccine. At any rate, it appears to be advisable to put these two cases on record without delay, if only to stimulate research on the lines I have indicated.

Calcutta.

CONGENITAL DEFICIENCY OF THE RADIUS AND A HOMOLOGOUS CONDITION IN THE LEG.

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CASES illustrative of these conditions have lately been brought to our notice, and their occurrence is sufficiently rare to warrant their publication.

Club-hand.

Case history.—The patient was a child aged 2 months. An interesting feature was noticed during the birth which may throw some light on the etiology of the condition. At birth the hand of the affected side was tucked into the axilla, the upper arm being close to the side and the elbow- and wrist-joints flexed. In this position the hand was deviated towards the radial side. The child throve well after birth. The errors in development and position of the hand and forearm were at once noticed; no other congenital error was discovered. With the progressive growth of the child the deformity of the hand and arm became more manifest.

Etiology.—Several theories have been mooted to explain the occurrence of the abnormality. Their discussion must be premised by an outline of the development of the extremities.

Development.—The extremities make their appearance as little rounded buds springing from the lateral aspect of the trunk at the junction of its dorsal and ventral aspects. The buds are visible at the end of the third or the beginning of the fourth week. As they grow out they become flattened, so as to present surfaces which lie parellel to the vertical antero-posterior plane of the trunk. The flattened bud at the end of the fifth week presents a constriction which subdivides the whole into a hand plate and an arm plate. At the circumference of the hand plate there is a thickened border—the digital pad. From this pad, by an irregular growth, the thumb and the fingers are formed. At first the upper and lower extremities are placed symmetrically, their future extensor aspect lying dorsal, and the flexor aspect ventral. At the commencement of the third month both extremities undergo a rotation in opposite directions, so that the elbow is brought to the back, while the knee is brought to the front. It therefore follows that the tibia corresponds to the radius, while the ulna corresponds to the fibula.

Gegenbauer's theory.[1]—Gegenbauer believes that the development of the arm is arranged on the plan of the primitive fin, as a stem and four independent rays. The first ray is composed of the radio-scaphoid, the trapezium, the first metacarpal bone, and two phalanges. The bony defect is the result of a suppression in order from above downwards of one or more rays.

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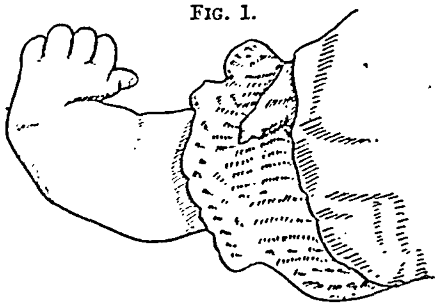
[1] Transactions of the American Orthopedic Association, vol. x., p. 174, 1897.

The mechanical theory.[2]—This theory ascribes the condition to pressure of the amnion and deficiency of fluid at the time of development of the arms. Now, the radius is the homologue of the tibia, and if one assumes that Gegenbauer's theory is correct, one would naturally expect that a deficient tibia would be more commonly met with than a deficient fibula. In actual fact the reverse is the case, and the fibula is more often deficient than the tibia. This apparent incompatibility has given popularity to the mechanical theory.

Authors' theory.—One of us (H. H. R.) has lately delivered two children suffering from this deformity, and in both instances it was noticed that the hand was firmly fixed in the axilla, with the upper arm close to the side, and the elbow flexed. The position of the hand in the axilla was such that it was deviated strongly towards the radial side. With the hand so fixed it is easy to appreciate the influence which the posture must have on the development of the deformity.

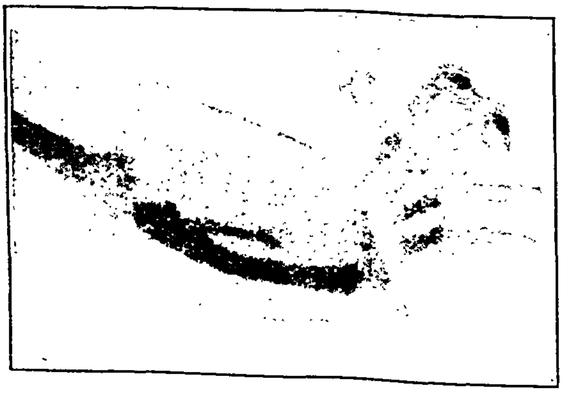
Pathology.—The radius was not completely absent; it was represented by a thin, rod-like portion of bone, about 1¼ inch long, occupying a position opposite the middle third of the ulna. The ulna was slightly bent, convex inwards. Its articulation with the humerus appeared to be healthy. There were four metacarpal bones, the metacarpal bone of the thumb being absent (see Figs. 1 and 2). The phalanges of the fingers and of the thumb were present. No ossification had appeared in any of the bones of the carpus nor in any of the epiphyses of the part. From an examination of the soft parts one concluded that the radial extensors and supinators were wanting, while the muscles of the thumb were either absent or deficient. There were no other congenital defects apparent.

FIG. 1.



Congenital deficiency of left radius.

FIG. 2.



Radiograph of the bones, showing a congenital deficiency of the radius and absence of the metacarpal bone of the thumb.

Treatment.—Numerous manœuvres have been adopted with a view to correcting this exceedingly debilitating condition. The resistant structures on the inner side of the arm have been divided, and the correction maintained by means of splints. The resistant structures may include the ulna.

Sayre and Park[3] excise one or more of the carpal bones and insert the end of the ulna into the cavity which is left. Bardenheuer recommends a splitting of the ulna into two halves, a radial and an ulnar. The carpal bones are wedged between the distal ends of the ulna, and fixed in such a position; ankylosis inevitably follows. McCurdy[4] divides the ulna at such a level that the free end of the upper fragment can be brought to the semilunar bone. In exposing the bone the soft parts are divided obliquely, the purpose being to allow the soft parts to be slid one on the other and so to be lengthened rather than divided. The semilunar bone and the end of the ulna are drilled and coapted with sutures. Antonelli supplies a new radius by splitting the thickened ulna almost from end to end. Muscles are interposed between the separated halves of the bone, and the lower end of the new radius is sutured to the end of the ulna and to the carpus with silver wire. Shortened structures are lengthened, and division is carefully avoided.

We propose an operation which we have adopted with complete success in the corresponding condition of the foot—congenital deficiency of the tibia. The procedure is fully described later; it consists in resection of a portion of the fibula, sufficient to overcome the deformity, and the implantation of a new radius, by introducing the fibula to fill up the deficiency.

Congenital Deficiency of the Tibia.

Case history.—The patient was a female infant who came under our care when 6 weeks old. There was found to be an obvious congenital error in the development of the bones of the right leg; the foot and the lower fourth of the leg were set inwards at right angles to the true axis of the limb. Palpation revealed the fact that the lower end of the tibia was imperfectly developed and the growing fibula had displaced the foot inwards. There were no other congenital errors.

Etiology.—It has been pointed out that the tibia is the homologue of the radius, and therefore the developmental theory applies in this instance. The position of the foot and limb at once suggested that improper pressure was the cause of the deformity. Unfortunately, no details could be obtained regarding the birth history, but on the outer aspect of the foot there was, in the form of scars, distinct evidence that pressure on the outer aspect of the foot had been exerted at some period of intra-uterine life. The crossed position of the limbs in utero renders the pressure theory a very likely one.

Pathology.—There was a distinct deficiency in the lower third of the tibia. About the centre the shaft terminated in a cup-like covering of fibro-cartilage. The lower epiphysis was present, an on the epiphyseal cartilage there was a remnant of the diaphysis in the shape of a small pyramidal mass. This mass was largely cartilaginous, and from its apex a band of fibrous tissue extended upwards to the cap-like covering of the end of the shaft. The appearances of the deficient tibia were suggestive of pressure having been the etiological factor. The fibula was bent inwards at the junction of its lower and middle thirds. At the situation of the bend the bone was almost completely cartilaginous. As far as could be ascertained the ankle-joint, tarsus, and metatarsus were healthy. The soft structures on the inner side of the foot were shortened, none appeared to be absent.

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[2] Loc. cit.

[3] Ibid., vol. xlv., p. 154, 1901.

[4] Annals of Surgery, 1906, p. 43.

Treatment.—Possibilities of treatment were discussed, such as have been mentioned in speaking of the arm. It was decided to attempt a transplantation of the fibula from the opposite leg, and the operation was followed by complete success. The operation was done when the child was six months old. From the limb of the opposite side a portion of fibula was removed from the centre of the shaft of the bone. The length removed was sufficient to fill up the gap necessarily left in the deformed tibia. A subperiosteal excision was performed and the bone was kept in warm sterile saline until required. An incision was made over the deformed fibula to expose the angle of the bend. Sufficient bone was removed to permit of straightening of the foot, and the cut edges were united with sutures of silver wire. A second incision was made along the line of the tibia—it thoroughly exposed the deficiency in the bone. The shaft was divided above and below, so as to expose healthy bone tissue, and all intervening fibrous and cartilaginous elements were removed. Into the gap so formed the fibula, which had been removed from the opposite limb, was implanted. Its length was slightly greater than the gap, so that its insertion tended to produce some over-correction of the deformity. The implanted fibula was fastened at each extremity by sutures of silver wire, above to the remains of the diaphysis, below to the epiphysis. The wounds healed by first intention, and when the stitches had been removed, the limb was encased in plaster-of-Paris. The plaster case was changed at intervals of three months, and remained in position for a total period of six months. It is now nine months since the operation was performed. The limb is perfectly straight, and the child is walking. The precaution is being taken of having the outer sole of the boot raised, in order to maintain, when walking, a correction of the deformity.

THE UNIVERSITY OF BRISTOL AND EXPERIMENTS ON ANIMALS.—At its last meeting the council of the University considered a recommendation received from the Senate to the effect that the restriction which has hitherto confined animal experiments to diagnostic inoculations in suspected plague should be now removed. It was reported that those restrictions did not exist in the other modern universities, and a resolution was passed enacting the following standing order in the stead of the old one: "No experiments on living animals other than inoculations and feeding experiments shall be conducted in the University except under anæsthesia, and any animal operated on for the purpose of demonstration shall be killed while still completely anæsthetised." At the annual meeting of the local branch of the Research Defence Society this decision was received with satisfaction, and it was also reported that the number of members and associates had grown from 88 to 103 in the past 12 months. The reading of the annual report was followed by an interesting address by Mr. E. W. Hey Groves on Sentiment and Reason in Relation to Medical Research.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF APPENDICITIS SIMULATING INTUSSUSCEPTION.

BY ROBERT E. HALAHAN, M.D. DUB.,
SURGEON, BRITISH HOSPITAL, BUENOS AIRES.

ON a Wednesday evening I was called to see a little girl, 5 years of age. She had just had a rigor, accompanied by headache, vomiting, diarrhœa, and a good deal of pain in the epigastrium. Her temperature was only 37·2°. The abdomen was quite soft, nothing could be felt, and there was no pain, tenderness, or resistance over the appendicular region. She was ordered some calomel, and the next day felt very much better—no vomiting, no headache or temperature, and, except for a few colicky pains occasionally in the abdomen, she seemed quite well.

On Friday the pains were rather more severe, situated in the upper abdomen; she had vomited once and her bowels had not moved. The next day the pains had still increased, making the child cry out from time to time. The abdomen continued soft, and the most painstaking search failed to reveal even a point of resistance. The bowels did not move.

On Sunday morning she felt very much better, the pains having almost gone; but in the evening I was sent for in a great hurry, as the child was vomiting continuously, and after an enema she passed some blood and mucus. Her temperature was normal, but she had very severe attacks of pain in the abdomen, causing her to cry aloud. The pulse was 120 per minute, the tongue dirty and very dry. Under the lower border of the liver a transversely placed tumour could be distinctly felt.

In view of the character of the pain, the constipation, the presence of a distinct and sausage-shaped tumour, the passage of blood and mucus, the absence of fever, and continuous vomiting, there seemed to be no doubt as to the nature of the complaint. I diagnosed an intussusception and advised immediate operation. On opening the abdomen, which was done through the right rectus, an enormous appendix, 14 centimetres long and twice the normal diameter, was found lying just below the lower border of the liver. There was no intussusception, and after excision of the appendix the child made an uninterrupted recovery.

Buenos Aires.

NOTE ON A CASE OF DEATH FOLLOWING THE STING OF A SCORPION.

BY R. McC. LINNELL, L.R.C.P., D.P.H. CAMB.,
D.T.M. & H. CAMB.,
MEDICAL OFFICER TO THE KUALA LUMPUR RUBBER COMPANY,
FEDERATED MALAY STATES.

THE following case may prove of interest to readers of THE LANCET in view of the fact that it is unusual for a scorpion sting to prove speedily fatal.

The patient, a coolie aged 20, was admitted to the Kent Estate Central Hospital, Kuala Lumpur, on Jan. 25th, 1914. He had been working regularly until two days previously, when he was stung by a scorpion in the left heel. For the cure of the sting the other coolies had made him eat the head of the scorpion. On admission to hospital the patient complained of "things creeping all over the body." The temperature was 102·8° F. No malarial parasites were found. A blood count gave the following percentages: Polymorphonuclears, 75·8; mononuclears, 0·81; lymphocytes, 9·68; transitionals, 5·64; mast cells, 0·81; and eosinophiles, 7·26. The heart and lungs were clear and the urine was normal, but the fæces contained ankylostoma ova. On the fourth day after receiving the sting the patient had paralysis of the legs, and on the fifth day motor paralysis to the umbilicus, sensation being unaltered. On the sixth day there was retention of urine, and on the ninth day sugar was present in the urine (between the third and ninth days the urine was not examined). On the thirteenth day the patient became comatose, but could be roused to eat and drink. The temperature on the following day fell below 95°, and the patient was still comatose. Death intervened on the fifteenth day.

The patient had seemed to be able to feel as long as he was conscious. The sugar had persisted in the urine from the ninth day to the end. The patient's relatives had very strong objections to a *post-mortem* examination being held, but I finally persuaded them to allow me to remove a piece of the spinal cord. Dr. W. Fletcher, pathologist to the Institute of Medical Research, Kuala Lumpur, kindly examined this and reported as follows:—

> A portion of the lumbar cord was received for examination. It had been hardened in alcohol, so that no pathological changes could be recognised in the myelin sheaths. Paraffin sections stained with Haidenhain showed that the cord was affected with acute disseminated myelitis. In one part there was an acute destruction of the anterior horn and an infiltration of round cells. In another portion Clarke's column had been destroyed. The perivascular sheaths were crowded with small round cells and the meninges were congested. Some of the cells of the anterior horn were swollen and the nuclei eccentric; chromatolysis had occurred in many of them.

Although scorpion stings are fairly common in the Federated Malay States, yet deaths following them directly must be, as I have already intimated, extremely rare, the above case being the only one which I can trace. The scorpion was a small brown specimen, which the natives declare to be the most vicious and deadly of all. What appears to be an unusual feature in the case was, I may add, the appearance of sugar in the urine.

Kuala Lumpur.

SCHOOL MEDICAL SERVICE IN *BRISTOL*.—A local medical correspondent writes as follows:—At a recent meeting the Bristol city council adopted the recommendations of their education committee in relation to the school medical service. Briefly, this establishes a rather larger and more extensive service than has sufficed hitherto in order that the new regulations of the Board of Education, insisting on examination of children at intermediate as well as at entering and leaving ages, may be carried out. The present staff consists of a part-time medical officer with several assistant part-time medical officers and two school nurses. The part-time officer is to give place to a whole-time officer, the assistants are to be retained, and there are to be four school nurses instead of two. Moreover, several clinics are to be established in which instruction as to the treatment of minor ailments will be given to parents. The salary of the whole-time officer is to be £500. It is not known as yet how these proposals will be received by the existing staff, but it is certain that the continuance of the part-time assistant officers is of benefit to the city, since it makes for sanity and breadth of outlook to have the inspection done, at least in part, by men who are in general practice.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

MEETING OF FELLOWS.

Demonstration on the Cultivation of Human and Other Tissues in Vitro.

A MEETING of Fellows was held on May 11th.

Dr. DAVID THOMSON gave a microscopic and lantern demonstration on the Cultivation of Human and Other Tissues in Vitro. The research was carried out in conjunction with Dr. JOHN GORDON THOMSON (Beit Memorial Research Fellow) in the Marcus Beck Laboratory in that institution under the directorship of Sir Ronald Ross, and as the work represented the first-fruits of this new laboratory the author made a brief reference to the memory of Marcus Beck, and expressed his thanks to Sir Francis Champneys, the President, the Council, and Mr. J. Y. W. MacAlister, secretary of the society, for the facilities which they had given him. The tissues were cultivated according to the technique employed by Carrel at the Rockefeller Institute. The tissue of embryonic chicks obtained from hatching eggs was largely employed, and also human tissue obtained from operations performed by Sir John Bland-Sutton at the Middlesex Hospital. It was found that when a small portion of embryonic chick tissue was implanted in a medium composed of the blood plasma of a fowl one part and extract of chick embryo one part the new growth radiated out from the original tissue on every side, without any tendency to produce a definite shape or structure. The original cells were for the most part round cells, but the new cells produced in this medium were as a rule elongated and tended to branch, so that the new tissue differed markedly from the appearance of the original material. In spite of this common characteristic it was noticed, however, that the types of growth produced from various species of tissue differed from each other. Connective tissue produced a radiating outgrowth of long, thin, branching cells, whereas the new growth from epithelial tissue was more of the nature of a solid extension of flat cells which did not elongate or branch so much as in the case of connective tissue. Brain tissue produced long axis cylinders, and the tissue of spleen and bone marrow produced large numbers of amœboid leucocytes of various kinds and also red blood cells. The tendency to elongation and branching of the cells of the new growth appears to be due to the solid or jelly-like consistence of the medium. In a liquid medium composed of white of egg or a mixture of serum and plasma the cells of the new growth remain round like those of the original tissue. Growth *en masse* of definite shape or somatic growth *in vitro* was also obtained by placing a very young chick embryo (24 hours old) in the plasma medium. It was found that this embryo increased in size, while retaining its definite shape. If the toe of a young embryonic chick was placed in this medium it increased markedly in size, while it also retained its original shape. At the part, however, where the toe had been cut off (injured) the usual radiating uncontrolled growth was produced, but no such uncontrolled growth occurred from the uninjured surface of the tissue mass. With regard to the cultivation of human normal and tumour tissue, it was found that successful growth could be obtained in a medium composed of blood plasma of a fowl one part and extract of chick embryo one part. This was an interesting fact, since it showed that human tissue could grow in material obtained entirely from a bird. Small portions of two human tumours were successfully grown in this medium. (*a*) Intracystic papilloma of the ovary (not truly malignant). This was a very soft, friable tumour composed almost entirely of epithelial cells, and the new growth consisted of buds of pure epithelium. (*b*) Carcinomatous lymphatic gland. This tumour was somewhat tough, due to the presence of a considerable amount of connective tissue stroma, and the new growth which occurred comprised both these tissues. The connective tissue cells grew first after 44 hours' incubation and buds of epithelial cancer cells appeared later, after about three days' incubation, the growth continued in the same medium for 14 days, after which it ceased to show a further increase. The new growing tumour cells were in all cases much larger than the cells of the original tissue from which they sprang. They also contained numerous highly refractile granules, and were markedly amœboid and tended to throw out long protoplasmic processes into the medium. The growing tissue tended to liquefy this medium, more especially the solid outgrowth of epithelial cells. Human connective tissue would appear to grow more rapidly than specialised epithelial tissue. Human and other mammalian tissue grew much more slowly *in vitro* than embryonic chick tissue. The former showed little or no growth till about the end of the third day, whereas the latter showed a copious growth after 24 hours. The tissues in all cases were incubated at 37·5° C. The demonstration was followed by a micro-kinematographic film showing growth *in vitro* taking place from the cardiac and splenic tissue of an embryonic chick. The film was shown by Dr. H. D. MCCULLOCH, who had kindly obtained it on loan from Dr. Comandon, Pathe Frères, Paris.

SECTION OF MEDICINE.

On the Murmurs in Dilated Heart and their Explanation.—Leukæmia and X Rays.

A MEETING of this section was held on May 26th, Dr. SAMUEL WEST, the President, being in the chair.

The PRESIDENT read a paper on the Murmurs in Dilated Heart and their Explanation. He said that dilatation of the heart was a common condition and easily recognised. Murmurs were often associated with it, and as these murmurs came and went with it they might properly be called dilatation murmurs. As to how they were produced opinions differed. Murmurs were audible eddies; a so-called jet produced violent eddies. 1. In the vessel the conditions which led to eddies and murmurs fell into two groups according as the blood was passing (*A*) into or out of a dilatation of the vessel; or (*B*) through a constriction in it. Their force varied with the force of the circulation. *A*. (*a*) Mimic aneurysms was the simplest form—i.e., a transient dilatation of the aorta. This was met with in the subclavian and carotid and in the abdomen as "the pulsating aorta," which was often diagnosed as an abdominal aneurysm. (*b*) The true fusiform aneurysm yielded a similar condition, the dilatation being, however, permanent. (*c*) With saccular aneurysms the murmurs varied according to the relation in which the sac stood to the vessel. If it were a pouch at the side, or if the walls of the sac were rigid or its cavity filled with clot, the blood might not enter with sufficient force to give rise to eddies and then no murmur would be present. *B*. A vessel might be constricted (*a*) by pressure from without—by the stethoscope, for instance—or by a tumour; (*b*) by relative constriction, where the vessel passed through a fibrous membrane—e.g. the jugular vein in the supraclavicular fossa; or (*c*) by disease of its walls. 2. Many of these conditions were reproduced in the heart, especially when there was organic disease, but the only class he wished to discuss was that where organic disease was absent and only dilatation present. Dilatation murmurs in the heart might be present at the base or over the ventricle, and might be described as basic or ventricular respectively, and in each case might occur on the right or left side. A. *Basic murmurs* were often described as hæmic or functional, both undesirable terms. 1. At the left base the murmurs were called pulmonary. If produced in the pulmonary artery they might be due to the eddies caused by the blood passing through the normal orifice into a dilated artery above or more probably out of the dilated right ventricle behind, but it was also possible that they were sometimes due to a dilated left auricle pressing on the pulmonary artery from without. 2. At the right base there was a peculiar systolic murmur over the aorta heard under nervous excitement which might be diagnosed as due to aortic disease. It was transient and, he thought, probably due to dilatation similar to the condition above described as mimic aneurysm. B. The ventricular dilatation murmurs were almost always systolic in time, soft and blowing in character, limited to the precordial area, and only rarely propagated into the axilla and behind. They were commonly referred to regurgitation through the auriculo-ventricular orifices. The muscle-bundles wrapped round the auriculo-ventricular rings in figure-of-eight fashion. Their contraction led to narrowing of these orifices. Ludwig and Hasse showed this contraction by experiment, but they went further and said that without this contraction of the orifices the valve in health would not be competent, so that muscular weakness would cause auriculo-ventricular incompetence. It was *a priori* improbable that the heart should have such scanty reserves. The conclusion was opposed to post-mortem observation, where it had been frequently shown that the valves were competent to hold water even when the heart and the auriculo-ventricular rings were much dilated. If these murmurs were regurgitant they should be propagated as the regurgitant murmurs due to organic disease were. If they were not they could not be regurgitant. 1. (*a*) On the left side the murmurs of mitral regurgitation were as a rule propagated to the axilla and behind; the murmurs of dilatation as a rule were not. Some, however, might be when dilatation was extreme, and these might be fairly regarded as due to regurgitation, but the others could not be. If, then, not due to regurgitation, they must be produced by eddies in the dilated ventricle. (*b*) Another instance of murmurs produced in a dilated left ventricle occurred with aortic regurgitation. Then a very characteristic churning or almost continuous murmur was heard at the apex and thereabout. One variety of this had been called Flint's murmur, which, however, did not deserve a special name. (*c*) At the left base murmurs might be heard with organic mitral regurgitation, which might suggest aortic disease, but these were produced in the dilated left auricle. 2. The ventricular murmurs on the right side when due to tricuspid disease were propagated across the sternum to the right and were very characteristic. Those of dilatation were localised and not so propagated. Tricuspid regurgitation was often diagnosed on theoretical grounds even when there was no murmur at all. This could not be justified. These ventricular murmurs associated with dilatation therefore, whether on the right side or the left, were, he maintained, for the reasons given, not due to regurgitation through the auriculo-ventricular rings, but were intraventricular.—Dr. A. F. VOELCKER said that he also had been in the habit of naming these murmurs "dilatation murmurs." He thought there was still much to learn as to their etiology, and contended that there was no evidence that an eddy could produce a murmur. If it did so presumably it was by causing vibration of the cardiac wall. He spoke of the great frequency of apical systolic murmurs in children suffering from any acute illness. They were often conducted to the left, up the sternal margin, and to the pulmonary area, though not usually in children heard with greatest intensity over the last area. He had always considered that they were best explained by dilatation of a ventricle, but of the right, not of the left.—Dr. ALEXANDER MORISON said that one occasionally met with cases in which, in association with conditions of debility, apical murmurs were heard which were rough and propagated round the left side of the thorax to the back. The mechanism in such could scarcely be otherwise than a forcible regurgitation through the mitral orifice. It depended upon acute dilatation, which might pass off or terminate fatally. He thought the conductivity of murmurs depended largely upon their tone and intensity. He regarded the apical murmurs described by the President as due to actual regurgitation. The aortic systolic murmur referred to he considered was brought about by dilation of the left ventricle and relative stenosis of the aorta. There was too great a tendency at present to negative the importance of apical murmurs in young people.—Dr. W. BEZLY THORNE said he had been in the habit of calling such murmurs postural. They were curable, but not accompaniments of healthy hearts. They should not be made light of, but, on the other hand, one should hold before oneself in such cases the probability of their cure.—Dr. F. PARKES WEBER drew attention to a murmur sometimes heard about one ear and synchronising with the arterial pulse. The condition was sometimes known as "pulsating tinnitus." By an otoscope the murmur could be heard by an observer. It occasioned severe mental worry to the patient. It was scarcely ever due to an aneurysm, and disappeared.

Dr. J. MICHELL CLARKE read a paper on the Pathological Changes in a Case of Leukæmia from prolonged use of X rays. The patient, a middle-aged woman, was under observation more or less continuously from 1908 to 1913, when she died. For nearly four years of this time she was treated during long periods by X rays; at first the spleen only was rayed, later the bones as well. During the first two and a half years this treatment was remarkably successful; she was able to work and the condition returned nearly to the normal. Beyond some pigmentation there were no cutaneous lesions. The spleen, at first extremely large, reaching to the iliac crest, gradually diminished and became small and hard. At the end of 1911 the liver began to enlarge and slowly increased in size until in 1913 it was of enormous size, almost filling the abdomen. There was no ascites until just before the end. After 1911 the X rays seemed to lose their effect in keeping the disease in check. She died in July, 1913, from toxæmia associated with hectic temperature, extreme prostration, emaciation, and hæmorrhages from the gums. Tables giving blood-counts during the illness were shown. In the last phase of the illness the number of white cells in the blood was about 2,000,000 per c.mm. Post mortem the most remarkable feature was the enormous size of the liver, which was firm, and mottled pink and yellow. The spleen was about the normal size, extremely hard and tough, and on section glistening, like hard wax. The peritoneum was studded over with firm, pale, miliary nodules. The lungs and kidneys showed leukæmic nodules, and the mediastinal, post-peritoneal, and mesenteric glands were enlarged, grey, firm, and pigmented. There was no evidence of tuberculosis. On microscopical examination the chief changes were great increase of fibroid tissue, with in places hyaline degeneration, in spleen and lymph glands together with destruction of proper lymphoid tissue and presence of myeloid cells. In the hæmolymph glands there were a number of cells of large lymphocyte type. In the liver there was an enormous intralobular accumulation of myeloid cells and tissue. In neither this organ nor in the marrow was there any decided increase of fibroid tissue. The marrow was packed with myelocytes. Infiltrations of myeloid cells were abundant in the other organs. The above changes showed that the essential leukæmic process continues under X ray treatment; though it is checked for a time, it proceeds to a fatal termination, X rays seeming to lose their effect after a period of time varying in each case. Meanwhile, amelioration, often for considerable periods, and prolongation of life under less discomfort resulted from the treatment. Interesting points in this case were the gradual contraction of the spleen and fibrosis of it to an extent which must have rendered it useless, and with this the gradual and finally enormous size of the liver, which appeared to take the place of the spleen as a repository to intercept and retain the immense number of myeloid cells formed in the marrow. The beneficial effects of X rays in leukæmia seemed to be chiefly, if not entirely, due to the extensive destruction by them of the abnormal cells in the spleen, glands, and marrow; after a time they either lost this power or were unable to cope with the number of cells formed. Warthin thought that in addition to the above they might inhibit the leukæmic process in the marrow. The effect of X rays would thus support the view, now generally accepted, that the disease was primarily and essentially one of the marrow and that the splenomegaly and glandular changes were secondary and subsidiary.—Dr. PARKES WEBER regarded the changes in the liver as indicative of a myelocytic reaction. He drew attention to the varieties of anæmia found in leukæmias. There was need for research in this connexion. Sometimes the blood resembled that of pernicious anæmia, sometimes aplastic anæmia.

SECTION OF THE HISTORY OF MEDICINE.

Election of Officers.—Dr. Thomas Spens: the First Describer of the Stokes-Adams Syndrome.—Microscopy.—The Tomb of Avicenna.

A MEETING of this section was held on May 27th, Sir WILLIAM OSLER, Bart., the President, being in the chair.

The following were elected officers of the section for the ensuing session:—President: Dr. Norman Moore. Vice-Presidents: Dr. Henry Barnes, Dr. Richard Caton, Sir Henry Morris, Bart., Sir William Osler, Bart., Sir Ronald Ross, and Sir Frederick Treves, Bart. Honorary Secretaries: Dr. Raymond Crawfurd and Dr. Leonard G. Guthrie. Other members of Council: Sir John William Byers, Dr. Dudley W. Buxton, Dr. A. J. Chalmers, Dr. F. W. Cock, Mr. Alban Doran, Dr. David Forsyth, Dr. James Galloway, Mr. E. Muirhead Little, Dr. R. O. Moon, Sir Shirley F. Murphy, Dr. J. A. Nixon, Mr. George C. Peachey, Mr. D'Arcy Power, Dr. F. M. Sandwith, Dr. Charles Singer, Dr. George W. Steeves, Mr. C. J. S. Thompson, and Mr. P. Macleod Yearsley. Representative on Library Committee: Dr. Raymond Crawfurd. Representative on Editorial Committee: Dr. Leonard G. Guthrie.

Dr. RAYMOND CRAWFURD, in the absence of the author, read a communication from Dr. C. E. LEA upon "Dr. Thomas Spens; the First Describer of the Stokes-Adams Syndrome." The first undoubted case of this syndrome was published in the year 1793 by Thomas Spens, a Scottish physician resident in Edinburgh. It is claimed that Robert Adams, of Dublin, in 1827 reported the first clear case of heart block, and in the same year a similar case was recorded in great detail by Dr. William Burnett, who also called attention to Morgagni's cases published in 1761—two in number—of "epilepsy with slow pulse." Holberton described another case in 1841, but general attention was not directed to this condition until William Stokes, of Dublin, published four cases in 1846. Dr. Lea gave details of a case recorded by Dr. Spens.[1] It is contained in a volume of the "Medical Commentaries for the Year 1792," which was published at Edinburgh in 1793 and was edited by Dr. Andrew Duncan. The communication ended with a short biographical notice of Dr. Spens.—Dr. HUMPHRY D. ROLLESTON asked whether in the case of eponymic disease the name should be given of the first person who recorded a case or of the person who first drew general attention to it by the accuracy of his description?

Dr. CHARLES SINGER gave an account of the earliest period of Microscopy. Convex lenses, he said, though known for centuries, were first adopted for investigating nature at the end of the sixteenth century. They were probably used by Mouffet and Hoefnagel more than 60 years before such workers as Hook and Leeuwenhoeck perfected their methods of manufacture. The compound microscope was first discovered more or less accidentally by Zacharias, a Dutch spectacle-maker, about 1590. The idea was soon taken up by Galileo and its principles developed by the work of Snell van Royen and Kepler. Amongst the earliest practical users of the compound microscope were the noble Frederigo Cesi, founder of the Accademia dei Lincei, the Sicilian naturalist Hodierna, the Neapolitan astronomer Francesco Fontana, the French physician Pierre Borel, and the German Jesuit Athanasius Kircher. The introduction of the microscope into medicine may be especially attributed to Borel and Kircher. The pioneer period of microscopic discovery closed and the classical period commenced with the work of Hook and Malpighi after the middle of the seventeenth century. Dr. Singer described in detail the work of these writers and illustrated his remarks by their own figures.—Mr. D'ARCY POWER remarked that amongst the pictures of microscopes shown by Dr. Singer was one introduced by Descartes in 1637. Last year he had exhibited to the members of the section a portrait of William Harvey, dated 1639, in which the great discoverer of the circulation of the blood was represented with such an instrument. It seemed, therefore, as if Harvey had acquired such a microscope within two years of its invention.

Sir WILLIAM OSLER called attention to the need for restoring the tomb of Avicenna, which was again falling into decay, though it had been repaired on several previous occasions. He thought that the present cost of repair, including the expense of maintaining a watchman, would not exceed £500–£600. Such a sum of money might perhaps be raised without much difficulty by the combined action of the Société Française d'Histoire de la Médecine and the Royal Society of Medicine. These two societies were especially named because they represented the two European nations who were most interested in the state of medicine in Mohammedan countries. He suggested that the Persian Government should first be approached, and if a favourable reply were received a subscription list might be opened.

The members of the section afterwards adjourned to the Wellcome Historical Medical Museum, where Mr. C. J. S. THOMPSON showed the rearrangements that had been made during the recess.

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[1] THE LANCET, Nov. 1st, 1913, p. 1233.

SECTION OF DERMATOLOGY.

Exhibition of Cases.—Mycosis Fungoides.

AT the annual meeting of this section, held on May 21st, Dr. J. J. **PRINGLE**, the President, being in the chair, the following cases were exhibited.

The **PRESIDENT** showed: 1. A man, aged 64, who had suffered from Mycosis Fungoides since 1896 in whom the first symptoms consisted of mycotic tumours on the face which were removed surgically about 1900. Subsequently the disease became generalised over the trunk and limbs, but had been controlled in a remarkable manner by very free administration of X rays, and latterly by prolonged exposures to a strong arc lamp. Despite the unusually long duration of the disease his general health was practically unimpaired. 2. A very extensive characteristic case of "Parapsoriasis en Plaques" in a youth, aged 20, and of nearly a year's duration. He was exhibited mainly to illustrate a condition which was until a few years ago generally considered to be a pre-mycotic state.

Dr. S. E. **DORE** showed a man, aged 63, who presented a patchy erythematous and somewhat infiltrated Eruption over the Trunk and Limbs of two and a half years' duration. The lesions were in many instances crescentic, showing central involution and raised pad-like periphery which suggested that they were probably early mycotic manifestations despite the absence of itching.

Dr. J. H. **SEQUEIRA** read a paper opening a discussion on Mycosis Fungoides. After a short review of the history of the disease he proceeded to discuss its etiology, basing his observations upon 13 personal cases and 61 case-histories from literature. Of these 74 cases, 46 of the patients were males and 28 females. The extremes of age at which the disease came under observation were 15 and 75 years, the three youngest patients being females respectively 15, 16, and 17 years old. Traumatism was the apparent determining cause in two of the recorded cases, but in most instances the patient had enjoyed good health up to the onset of the malady. Mycosis fungoides has been variously believed to be a granuloma, a form of sarcoma, cutaneous lymphadenoma, and lymphosarcoma. After discussing the histological and clinical features Dr. Sequeira concluded that the disease bore no relationship to lymphadenoma and leukæmia; that it was not sarcoma, but a disease *sui generis*. The examination of the blood was of no assistance, as there were no characters peculiar to the disease. As special points for discussion, he asked whether it was possible to make the diagnosis in the pre-tumour stage on (*a*) clinical grounds, or (*b*) the histology of the lesions. He believed this could be accomplished in some cases. The effects of X ray treatment were discussed, and it was held that while such treatment undoubtedly removed both the infiltration and the tumours, and certainly prolonged life and relieved suffering, it was still doubtful whether it was possible to effect a cure in this grave malady, even by the repeated use of the rays, and in support of this he gave brief accounts of the cases which he had had under his personal observation. As a last question for discussion he raised the subject of the cause of death in mycosis fungoides. In some few instances a fatal issue appeared to be brought about by metastases in the vital organs, but in most cases it appeared to be due to diarrhœa and general exhaustion.

Sir **MALCOLM MORRIS** related the histories and showed photographs of two cases of mycosis fungoides in a man aged 52, and a woman aged 28, who had been recently under his care. The former was in an advanced stage of the disease, and in spite of marked temporary improvement under X ray treatment one of the lesions in the frontal region persisted, and eventually caused his death in April last. The second patient was still under treatment, and the disease had been checked and a large number of the lesions had disappeared as the result of repeated doses of X rays. The speaker inquired if histological examination could enable a diagnosis to be made in the early stages of the disease, and suggested research on these lines.

Mr. J. E. R. **MACDONAGH** dealt in an exhaustive manner with the subject of lymphocytes and their presence and alterations in the tumours of mycosis fungoides and other allied conditions. His remarks were illustrated by numerous admirable microscopic preparations shown by the epidiascope. The practical conclusions he had arrived at were that, first, mycosis fungoides was not a disease *sui generis* but merely one of a series of affections of the lymphatic system, and second, that the diagnosis of the early stage of mycosis fungoides could not be made by mere microscopic examination of excised portions of tissue.

Dr. A. **DOUGLAS HEATH** (Birmingham) said he thought that the multiformity of the cells in all stages of mycosis fungoides distinguished it fairly well histologically from other granulomata and from the sarcomata. He showed photographs and sections from a fatal case of multiple sarcomata of the skin resembling the "*d'emblée*" variety of mycosis fungoides.

Dr. G. H. **LANCASHIRE** (Manchester) recalled a series of six cases which had come for treatment to the Manchester and Salford Hospital for Skin Disease some years ago. They all came during a period of three or four years, and since then the speaker had seen only one case, a private one, in the early pre-mycotic stage. The hospital cases were in various stages, mostly advanced, and some with large tumours. Photographs were shown. From the history given all these cases had been preceded by "dry-eczema" plaques, and all had had marked itching; all had died, but some were alleviated for a few years by X ray treatment.

After some remarks by Dr. R. A. **BOLAM** (Newcastle-on-Tyne),

Dr. J. A. **NIXON** (Bristol) referred to two cases which had come under his observation. One was a man, aged 65, who presented himself on one occasion only at the out-patient department. The other case was that of a young married woman, aged 26; her disease lasted about two years. It began with an eruption resembling tinea versicolor; after six months tumours appeared upon erythrodermic areas. These tumours suppurated freely from multiple small crater-like openings. The usual temporary improvement followed the application of X rays. Autogenous vaccines were tried without the slightest improvement. Eventually, after two years, the patient became covered from head to foot with huge fungating tumours and died suddenly from exhaustion. The case presented no resemblance either to lymphadenoma or leukæmia. The blood only showed some leucocytosis, which might have been accounted for by the suppurative process present.

Dr. W. **KENNETH WILLS** (Clifton) had only seen one case, which had apparently resulted from a wound round the margin of which a large single tumour formed. It was the case of mycosis *à tumeurs d'emblée* reported by the President at the March meeting of the section.

Dr. **GORDON R. WARD** said that he thought there were very close analogies between mycosis, leukæmia, and Hodgkin's disease. All might present analogous skin lesions of a nodular nature; all were chronic, reacted well to X rays at first but recurred later, and at times showed enlargement of the glands and spleen. He would like to hear more of the histology of glands in mycosis fungoides. Were the changes spread throughout the gland as in leukæmia, or localised as in a secondary malignant focus? Were there any clinical characteristics of mycosis glands? Finally, was it not possible that some of the deaths from mycosis were really referable to the very massive doses of X rays given?

The debate on mycosis fungoides was adjourned until June 4th.

LONDON DERMATOLOGICAL SOCIETY.—A meeting of this society was held at St. John's Hospital for Diseases of the Skin on May 19th, Dr. Morgan Dockrell, the President, being in the chair.—Dr. J. L. Bunch showed two cases: 1. A girl, aged 19, with a Raised Indurated Lesion on the Left Cheek, which he thought at first might be actinomycosis. Bacteriological examination of the pus revealed large numbers of acne bacilli, which were grown quite readily on ordinary agar culture media at the end of four days' incubation at 37° C. 2. A woman, aged 62, with a Symmetrical Hyperkeratosis of the Palms and Soles of the Feet due to absorption of arsenic.—The President showed a case of Idiopathic Multiple Hæmorrhagic Sarcoma in a man aged 48. The duration of the disease was from two to three years; the condition first commenced with an œdema of the hands and feet, then a papular condition appeared which showed an effusion of blood with some bruising; the lesions then suddenly disappeared, leaving some small nodules showing the hæmorrhagic condition. Microscopically, there was involvement of the connective tissue with an increase of spindle-shaped cells and dilatation of blood-vessels.—Dr. W. Knowsley Sibley showed: 1. A case of Erythema Annulare in a woman aged 56, who had had recurrent attacks for 18 months, the present condition consisting of a lesion on the back of the hand and forearms which had been present for five days and was rapidly fading. 2. A girl, aged 18, with Dermatitis Artefacta in the form of a symmetrical bullous eruption, which appeared on different parts of the body, here and there occurring in straight lines.—Dr. W. Griffith showed a case of Cicatricial Alopecia and of Lupus of the cheek of 34 years' duration.—Dr. Simonds Gooding showed a case of Para-psoriasis in a woman aged 42. The lesions were present on the front of both legs.—Mr. Frank Curry then gave a laboratory demonstration and exhibit on Tuberculins, their Preparation and Standardisation. The exhibit was prepared at the Wellcome Physiological Research Laboratories.

BRITISH OTO-LARYNGOLOGICAL SOCIETY.—A meeting of this society was held on May 13th, Mr. A. J. Martineau (Brighton) being in the chair.—Mr. J. Walker Wood read notes of a case of Double Acute Frontal Sinusitis due to the Diphtheria Bacillus. A few pneumo-bacilli were also found in the discharge. 4000 units of anti-diphtheritic serum were given, followed in three days by 2000 units and removal of the anterior end of both middle turbinals. Subsequent irrigation of the cavities led to the complete cessation of the acute condition. Mr. Wood also showed specimens of Ossicles (malleus and incus) with mass of cholesteatoma removed while carrying out a routine examination from the auditory meatus of a patient, aged 24, who made no complaint of any discharge. There had been aural discharge in childhood, but none for the last ten years.—Mr. Charles J. Heath read notes of a case of Deafness accompanied by Nasal Obstruction, caused by an abscess in a mass of adenoids, and accompanied by considerable swelling of the glands of the posterior triangle of the neck on both sides; there was a free flow of pus through both nostrils during the removal of the adenoids and rapid and complete recovery afterwards. Mr. Heath also showed a case of Acute Otitis Media accompanied by Vertigo due to swelling of tympanic mucous membrane. There was profuse discharge from and pain in the ear, both caused by retention of secretion in the mastoid antrum (acute mastoiditis). Relief by conservative mastoid operation, and complete restoration of hearing.—Mr. Martineau said that he had seen several cases this year of acute ear trouble without the classical signs of middle-ear and antral disease. At operation an unusual amount of disease in the mastoid had been found.—In reply to a question Mr. Heath said that during the conservative mastoid operation he left at least one-eighth of an inch of the hinder part of the bony meatus to protect the ossicles and the drum-head.—Mr. Frederick Spicer showed two cases for diagnosis.

Reviews and Notices of Books.

A Text-book of Medicine.

By G. DIEULAFOY. Second edition. Authorised translation from the sixteenth edition of "Manuel de Pathologie Interne" by V. E. COLLINS, M.D. Lond., M.R.C.S. Eng., L.R.C.P. Lond., and J. A. LIEBMANN, Ph.D., M.A., LL.D. In two volumes. London: Baillière, Tindall, and Cox. Pp. 2156. Price 25s. net.

IN our review of the first English edition of Professor Dieulafoy's well-known text-book of medicine we referred to its original and instructive character, and pointed out its special value as representative of French medicine, while we were glad to observe that due recognition was given to the work done in this country. We then discussed its contents at considerable length, and expressed a highly favourable opinion of its usefulness as a text-book and work of reference. This new edition has been translated from the sixteenth French edition, which was published just before the death of its distinguished author. It retains the general arrangement and special features of its predecessor, and does not therefore need detailed examination in our columns. It has been thoroughly revised.

Among the many new sections which have been incorporated we may mention that dealing with pachypleuritis and inexhaustible pleurisy, under which terms Professor Dieulafoy has described cases in which pleurisy with effusion may last for years, the effusion recurring almost immediately if paracentesis is carried out. Septicæmia due to certain specific organisms such as the streptococcus, staphylococcus, and gonococcus now receives special description, and in this connexion the importance of blood culture is strongly emphasised. An interesting account of the condition of sporotrichosis is given, and its history, pathology, diagnosis, and treatment are dealt with clearly and succinctly. Another new section is that devoted to a consideration of hæmolytic icterus, in which both the congenital and acquired forms are carefully described and differentiated. The methods of investigating the fragility of the red corpuscles are indicated. Some recent developments in regard to treatment are discussed in an appendix. The new arsenical compounds, hectine and Ehrlich's salvarsan, are critically considered. The therapeutic uses of vaccines and their control by the use of the opsonic index are briefly referred to. The employment of superheated air in the treatment of gangrene, arthritis, and neuralgia is favourably reviewed.

Professor Dieulafoy's text-book is a most interesting and instructive work, and one we can strongly recommend. The translators have, as in the previous edition, carried out their work admirably, so that even in translation the descriptions given of the illustrative cases, which are frequently interpolated in the text, retain their arresting and almost dramatic vividness. The discussion of the pathological problems involved and the various forms of treatment recommended show fully the great critical and analytical faculties of the learned French clinician, whose text-book forms a worthy monument of his clinical acumen and industry. It is true that his genius for description and classification has led to a number of conditions being regarded as distinct clinical or pathological entities, which are hardly so regarded in this country at present, but these in some ways only serve to heighten the interest afforded by a careful study of this book and to increase its suggestiveness.

Diseases of the Rectum and Anus, including the Sixth Edition of the Jacksonian Prize Essay on Cancer.

Fourth edition, reprinted to include the Opening Address on the Surgical Treatment of Rectal Cancer, delivered at the Annual Meeting of the British Medical Association, Liverpool, 1912, by HARRISON CRIPPS, F.R.C.S. Eng., Consulting Surgeon, St. Bartholomew's Hospital. London: J. and A. Churchill. 1913. Pp. 588. Price 10s. 6d. net.

THE length of the title of this work somewhat reminds us of the title-pages of books of a century or two ago; however, it gives the reader a very good idea of the contents. It is superfluous nowadays to praise any writing on the diseases of the rectum coming from the pen of Mr. Harrison Cripps, and therefore we need do no more than indicate what this book contains. An interesting account of the anatomy is given, and in this connexion the author's teaching with regard to the anastomoses of the hæmorrhoidal veins is worth noting, for he holds that there is very slight, if any, anastomosis between the radicles of the hæmorrhoidal branches of the inferior mesenteric vein and the radicles of the internal iliac vein. Of this he adduces two proofs: in the first place, it is impossible to inject the hæmorrhoidal plexus through the iliac veins; and, secondly, it is impossible to inject the iliac veins through the hæmorrhoidal plexus. Another noteworthy point is that the author considers that a good deal of absorption goes on in the rectum, though modern opinion is tending in the opposite direction. Further, he has made observations which have led him to hold that the nuclei of the columnar epithelium lining the rectum give rise to leucocytes.

The chapter on diagnosis should prove of service to the learner. Mr. Cripps tells us that he has long ago discarded the use of a rectal speculum, except the duck-bill which he employs in operating. He holds that a speculum can never be usefully employed except when the patient is under an anæsthetic. The educated finger is, he tells us, far the most trustworthy and satisfactory instrument for diagnosis. In the chapter on imperforate anus the author has collected a good deal of evidence to show that in many persons on whom an operation has been performed the bowel has been perfect functionally even many years after the operation. These facts are of special interest, for surgical literature contains many references to the immediate effect of these operations, while the records are few as to the ultimate results. In the treatment of fistula in ano Mr. Cripps still uses the elastic ligature in exceptional cases when the nervous or physical condition of the patient renders a cutting operation inadvisable; he considers it especially suitable in cases of phthisis, for the patient need not be confined to bed.

Probably the most important section of the book is that dealing with cancer of the rectum. This is based on the Jacksonian prize essay, which Mr. Cripps wrote in 1876. It is satisfactory to find the author stating that in his experience an early and free removal is followed by a good percentage of cures; and from his statistics it appears that in 37·6 of his cases which he was able to trace for three years no recurrence had occurred. Mr. Cripps has appended a valuable series of tables relating to cancer of the rectum.

In conclusion, we may say that this work will compare favourably with any treatise on diseases of the rectum in any language.

Diseases of Children: A Manual for Students and Practitioners.

By JOHN MCCAW, M.D. R.U.I., L.R.C.P. Edin. London: Baillière, Tindall, and Cox. 1914. Pp. 524. Price 10*s*. 6*d*. net.

IN offering this little work on the diseases of children to students and practitioners the author expresses the view that there is possibly room for another work on this subject, if of moderate dimensions and of modest price. There can be no doubt that both students and practitioners deserve all the encouragement possible to stimulate them to equip themselves in this important subject as thoroughly as the exigencies of an already overcrowded curriculum and a generally too busy life in active practice may permit.

We have read this little book with some care, and have come to the conclusion that it contains all the information students and practitioners usually require, and in as short and compact a form as is compatible with lucidity. Dr. McCaw appears to have kept himself well informed of the progress of modern pædiatrics, and we notice that mention is made of most of the rarer diseases and pathological curiosities, and not to the exclusion of the more common diseases.

The author adheres for the most part in a very conservative manner to the traditional lines on which works of this kind are usually arranged. There is, however, a new suggestion in the chapter on that much-discussed condition to which the name of cœliac disease was originally given by Dr. Gee. Dr. McCaw finds that one of the peculiarities of this disease is that the liver remains small, and he tentatively suggests that a delayed development of this important organ and a want of bile may be concerned in the pathology. Although the stools in such cases are undoubtedly pale in colour, we were not aware that there was evidence to prove that the actual secretion of bile salts or bile colouring matter was reduced in this disease. Indeed, the very name acholia, given to it by the late Dr. W. B. Cheadle, may from this point of view be open to objections.

With regard to the pathology of two other common conditions, rickets and scurvy, it is interesting to note that the author ascribes a very simple explanation to the first—namely, that it is a general disease, consequent on absorption of toxins from the intestines as a result of improper feeding and catarrhal inflammation; and a very guarded one in the case of the latter—namely, that it is due to defective diet and want of fresh food. He gives Professor Ausset's comparatively little known theory that scurvy is a disease of an infective nature, and he omits all mention of the recent and important work that has been published on the subject of the vitamines. Rheumatism and rheumatoid arthritis are also included among the infective disorders. In the article which deals with convulsions no distinction is made between the exciting cause that determines the convulsive seizure and those predisposing causes that raise the excitability of the nervous sphere; the etiology is explained on grounds which may be indifferently referred either to exciting or to predisposing causes. The position is not made clear that an exciting cause is always necessary for the determination of an explosion, and that so-called spontaneous cases of convulsion cannot exist, although they may occur on very slight provocation in those conditions in which the level of excitability has been unduly raised from hereditary, congenital, or environmental causes.

Die Erkrankungen der Blutdrüsen.

Von Professor Dr. WILHELM FALTA, Wien. Mit 103 Textabbildungen. Berlin: Julius Springer. 1913. Pp. 550. Price, paper, 22 marks; bound, 24.50 marks.

THIS useful and readable text-book is concerned only with the clinical side of diseases of the ductless glands. Their experimental physiology and pathology are alluded to merely as occasion requires. The work is based mainly on personally observed cases, in the examination of which the author has had the advantage of collaboration with neurologists and others. How extensive even this limited aspect of the subject has become may be gauged from the size of the book—550 closely printed pages of large octavo; and yet the author's style is not prolix, nor are his clinical cases reported at undue length; nor, finally, are we confronted with much of the "spade-work" with which not a few German text-books seem to find it impossible to dispense.

An introductory chapter deals with such general considerations as the relation of the ductless glands to the nervous system, their inter-relations and bearing on growth and metabolism, their connexion with the hæmopoietic system, and pluriglandular disturbances. Then in turn the diseases of the thyroid, parathyroids, thymus, hypophysis, epiphysis, suprarenals, and sex glands are described and illustrated. Polyglandular syndromes are next discussed, and there are sections on dwarfism, achondroplasia, mongolism, the diseases of the islets of Langerhans and their relation to diabetes mellitus, the varieties of obesity and adiposis dolorosa. It will thus be seen that a great deal of ground is covered in the book and that conditions whose association with impairment of function of the ductless gland system is doubtful are nevertheless given a place. In each chapter, it should be said, there are useful introductory paragraphs on the anatomy and embryology of the glands concerned.

The author's classification of infantilism will probably be somewhat unfamiliar to the English reader. This matter of infantilism is certainly one of the most difficult questions in the whole subject, and it is one on which much work remains to be done. We do not find in the book any very clear recognition of a retrograde infantilism, nor is the type described as ateleiosis by Gilford apparently regarded as such, at least in any definite way. The author distinguishes two varieties, following Hansemann: (1) nanosomia primordialis, in which the dwarfism is congenital and seen at birth, but with the exception of the smallness of stature development is otherwise normal, and (2) nanosomia infantilis (Paltauf's type), where the infant develops normally up to a certain age and then development abruptly comes to a standstill.

With its fine illustrations, good bibliographies and indices, and its general conciseness and appreciation of essentials, the volume is, we consider, a really excellent presentation of the clinical aspect of a most important and interesting group of diseases.

Allen's Commercial Organic Analysis.

Volume VIII. Fourth edition. Entirely rewritten. Edited by W. A. DAVIS, B.Sc., A.C.G.I., and SAMUEL S. SADTLER, S.B. London: J. and A. Churchill. 1914. Pp. 696. Price 21*s.* net.

BY the issue of the eighth volume this "treatise on the properties, modes of assaying, and proximate analytical examination of the various organic chemicals and products employed in the arts, manufactures, medicine, &c.," is concluded. The editors, however, propose to issue later "a supplementary volume which shall contain not only a complete reference index of the whole work, but shall bring the latter completely up to date by the incorporation of all processes of analysis and information regarding analytical processes which have appeared in the interval that has elapsed since the revision of the work was first taken in hand."

The first volume of this edition was issued in 1909, so that the editors have undertaken to supplement the present materials by a record containing the advances in analytical chemistry which have been made during the past six years or so. This attempt, of course, recognises the difficulty or impossibility of keeping a work absolutely in touch with new developments. In analytical chemistry these developments refer mostly to details of procedure which do not always affect general principles or the outlines of a broad scheme of examination. It is on modern general principles of analysis applied to organic products employed in the arts, manufactures, medicine, &c., that the new edition of "Allen's Commercial Organic Analysis" will be trusted and valued. The volumes may have lost in regard to general arrangement their identity with the original volumes, but care has been taken to secure a staff of writers each well qualified to write upon the particular subject relegated to him. That is peculiarly obvious in the later volumes, and especially in the one before us. Each writer here is an acknowledged authority on the subject with which he deals, and the subjects in this case happen to possess medical significance. For example, E. Frankland Armstrong contributes a practical section on "Enzymes," and another on "Proteins of Plants"; S. B. Schryver a chapter on the "Proteins and Albuminoid Substances," and by the same author is a chapter on "Digestion Products of the Proteins"; L. L. van Slyke, one on the "Proteins of Milk"; Henry Leffmann on "Milk" (composition and analysis); W. D. Richardson, of Chicago, the chapter on "Meat and Meat Products"; J. A. Gardner, with G. A. Buckmaster, the chapter on "Hæmoglobin and its Derivatives"; Jerome Alexander, of New York City, the chapter on "Albuminoids or Scleroproteins," and W. P. Dreaper that on "Fibroids" (silk, hair, wool, &c.)

This volume completes a series which provides the analytical chemist and others with an excellent armamentarium, and it may be remembered that scarcely a day passes without witnessing the introduction of new organic products which sooner or later come to possess both scientific and commercial importance. The need of a work of reference on this special section of analysis is therefore evident, and the volumes we have referred to will, we are sure, be found to meet the case.

Chronic Colitis, its Causation, Diagnosis, and Treatment.

By G. HERSCHELL, M.D. Lond., and A. ABRAHAMS, M.D. Cantab. With 4 figures. London: Longmans, Green, and Co. 1914. Pp. 276. Price 6*s.* net.

IN their account of chronic colitis the authors lay great stress on the necessity of diagnosing the cause accurately and giving individual treatment in each case. Very commonly the disease results from chronic constipation and the purgative habit; in other cases it is the result of chronic infection from pyorrhœa, post-nasal catarrh, or chronic appendicitis, for example; the influence of the nervous system in its production is nowadays held to be negligible. An excellent account of the most recent methods of diagnosing chronic colitis is given, in which the services of the pathological chemist and the bacteriologist are freely invoked. Treatment is gone into with great thoroughness, and occupies 120 pages. Detailed recipes for the preparation of a number of drinks and dishes are set out, and should prove of service to those who are called upon to look after these very troublesome cases. Numerous references to the literature are given throughout the volume.

The book is highly dogmatic, clearly written, and quite practical; it may be recommended to the attention of all medical practitioners. But a protest against the word "scybalæ" (pp. 14, 21) must be registered. It derives from the word "scybalon"; but the plural of "scybalon" is "scybala," and "scybalæ" is formed by false analogy.

Kurzes Lehrbuch der Militärhygiene.

Von Dr. Jaroslav Hladik, Oberstabsarzt. Wien und Leipzig: Josef Safár. 1914. Pp. 532. Price 12 marks.

The author is professor of hygiene in the military medical technical school at Vienna, and has written this manual of instruction to replace the one hitherto in use, which has become out of date. He has aimed at making it essentially practical and comprehensive, and has included a description of such processes of chemical analysis and bacteriological cultivation methods as may be carried out by the ordinary trained worker who is not a specialist. The book is, therefore, on the lines of the well-known treatise by Parkes, which for so many years occupied an unchallenged position in this country as a comprehensive and authoritative text-book on all branches of hygiene.

The author divides his subject matter into 17 chapters. The first 11 of these deal successively with air, soil, water, clothing, food, removal of excreta, burial of the dead, hygiene of the dwelling, ventilation, heating and lighting. The arrangement does not seem very logical or natural—a matter of some importance for the beginner in the study of this subject. In the chapter on air, its chemical composition and the significance of the various components are described, and some account is given of meteorology and the main facts regarding climate. Mr. John Aitken's observations on dust and precipitation are mentioned, but there is only brief allusion to the impurities met with in the atmosphere. The amount of water required is placed at about 120 litres per head per day—that is, 26½ gallons—for all purposes. This, though rather more than the amount supplied to Berlin, is hardly so much as would be aimed at by the hygienist in this country, where for many years 30 gallons have been considered to be the quantity that should be provided if possible. A rather full account is given of the fauna and flora found in water, with numerous figures. The description of purification by filtration is hardly so detailed as its importance demands. On the other hand, the chapter on food and alimentation occupies more than a hundred pages—that is, about one-fifth of the whole work. This subject is very well treated. In regard to alcohol, the author considers that it is unnecessary for persons in health. The advantage of abstainers over non-abstainers in regard to expectation of life is alluded to, as shown by English assurance statistics, but no facts bearing on the question are adduced from German experience.

Removal and disposal of sewage is dealt with very shortly in 20 pages, and in regard to the importance of the subject according to English ideas it can hardly be said that the treatment is adequate. The use of petroleum for urinals is recommended. It would be well if this were more widely adopted in our own country; we believe it has been in general use in army barracks for some years with satisfactory results. Ventilation is discussed shortly in 15 pages, and the practical difficulties to be overcome seem to be hardly appreciated. Heating and lighting, on the other hand, receive full consideration; a good description is given of artificial methods of warming, which, of course, are used more extensively and are of greater variety in Austria than in Britain. A temperature of 18° to 20° C. is recommended for living rooms, a little higher than that proposed by Rubner, and, of course, higher than is usual with us, where 18° C. (= 64·4° F.) would be generally considered sufficient. Electric heating promises to be ideal, but Körting is quoted as estimating the cost at 20 times that of a coal fire. The chapter on clothing is original in its treatment, and full of interest. An important point not always given sufficient attention to is the shape of the boot—the right shape and the reason for it are explained. A diagram shows the Meyer and Starke lines, and their significance is made clear. In the chapter on hospitals several plans are given of buildings of modern design in Vienna and elsewhere, which seem to be remarkably complete.

The concluding chapters deal with infectious diseases and their prevention. Tuberculosis comes first, and is declared to be the most destructive of all by reason of its universal prevalence. Of late years it has declined in the Austrian army. The death-rate in 1875 was more than 2 per 1000 of the strength; it has now fallen to 0·61 per 1000. Infection is regarded as being chiefly direct from person to person, milk and meat being unusual and subordinate spreaders of the disease. Vaccination is thoroughly carried out in the Austro-Hungarian army, and since 1898 not a single death has occurred from small-pox. Enteric fever is regarded as being chiefly propagated by water; after this by milk, and, thirdly, by contact cases. Paratyphoid fever is described succinctly; also phlebotomus fever and trypanosomiasis (shortened to "trypanosis," which is hardly legitimate).

The volume contains 134 illustrations, and is to be recommended as a comprehensive text-book of military hygiene.

LIBRARY TABLE.

Hygiene and Diseases of India. A Popular Handbook. By Lieutenant-Colonel Patrick Hehir, M.D. Brux., I.M.S. Third edition. Madras: Higginbothams, Limited. 1913. Pp. 1003. Price Rs. 6.8, or 8*s.* 8*d.*—This compact volume gives in simple and untechnical language a comprehensive account of all matters relating to hygiene and public health in India. It is divided into three sections. In Section I., entitled General Hygiene, water, its supply, examination and purification, air and ventilation, food and dietetics, the removal of excreta, sanitation of towns and villages, and public health regulations are considered. Section II. deals with the skin and its functions, bathing, clothing, exercise, disinfection, bacteriology, immunity and animal parasites, with some general remarks on infectious diseases, thus composing rather a heterogeneous section, hardly well named "Personal Hygiene." The rest of the work, forming Section III., consists of an account of the diseases of India, arranged more or less alphabetically. The author has industriously brought together a large amount of information, but it cannot be said to be presented in any order, or digested into any satisfactory form; it is, therefore, not an easy book to refer to, and the absence of any table of contents is inexcusable. On page 23, referring to goitre in connexion with water, the author states that "the evidence to incriminate water ...... is not very convincing"; McCarrison's researches in Kashmir have placed the matter beyond doubt. The *carrying* a gallon of water 50 yards does not involve the same amount of muscular work as the *lifting* it 150 feet, as implied on p. 42. The available capacity of a reservoir is said (p. 60) to be "the volume contained between the lowest working water levels," a statement that has no meaning; there is obviously an omission.

The account of filter beds is inadequate, especially in view of the great attention that has of late been paid to this subject in India. On p. 87 it is stated that the acid produced by the colon bacillus causes the litmus solution to become blue or bluish. The remark on Chamberland and Berkefeld filters that "there is little to choose between them" requires amplification; as does the subsequent statement that "no other filters are reliable." With regard to domestic filters in general, stress is laid upon the need for cleaning them, but nothing is said as to sterilisation. The account of bacterial purification of sewage (which comes under the head of Removal of Excreta) is very inadequate. To stigmatise the pail or pan used for removal as "a movable cesspool" (p. 316) is not reasonable, especially as on the next page the author admits that, "taking all circumstances into consideration, it is that which appears to be the most efficient of the 'dry' systems for a large Indian community." The use of the word "cistern" for cesspool is very unusual and to be deprecated. Having criticised some points of detail it remains for us to repeat that in compact form Colonel Hehir has here compiled a useful handbook, full in its treatment, and evidently based largely on practical experience. If the misprints and peculiarities of spelling were amended, and more care taken as to the arrangement of the information, the book would be pleasanter to read.

Expectant Motherhood: its Supervision and Hygiene. By J. W. BALLANTYNE, M.D., F.R.C.P. Edin., Physician to the Royal Maternity Hospital, Edinburgh. London, New York, Toronto, and Melbourne: Cassell & Co. 1914. Pp. 288. Price 6s. net.—This book deals with a discovery in medicine and the laws which will follow or have already followed it. It has to do with the health value of the nine months which precede birth, and with the commandments in hygiene which the parents, but especially the mother, must obey if their child is to come strong and well into the world; with the investigation of all the things which may go wrong with the unborn infant, and with the inquiry into their possible prevention or cure; with the well-being of the babe before birth, and consequently with the care and protection of the mother who bears him in her womb. In scientific language the subject is that of antenatal or prenatal hygiene and pathology and of gestational therapeutics; in more popular words, it is that of health and disease before birth and of the care of the expectant mother in health and sickness. We can only reach the unborn infant through the mother who carries him, and so the prenatal life of the child and of the mother who bears him in pregnancy are closely bound together and depend one upon another. It would be difficult for us to describe the nature and scope of this book better than in the words of the author, and for this reason we have quoted freely from the introduction. Anything that Dr. Ballantyne writes is always interesting, and this book is no exception. The whole forms a fascinating account written with the author's usual charm and lucidity, and is a book which should be in the hands of every young married woman.

Dental Diseases in Relation to Public Health. By J. SIM WALLACE. London: The Dental Manufacturing Company. 1914. Pp. 93. Price 3s. net.—The dental profession has for years realised the great importance of dental diseases in relation to public health, and has been most persistent in bringing this question before the proper authorities. It must indeed be a satisfaction to those who have worked so hard in this direction to know that public health authorities are now fully alive to the great influence that the teeth have on the welfare of the community. Dr. Sim Wallace's last work would therefore seem to have been published at an opportune moment, and should prove of inestimable value to those interested in this great question. The book is really a reprint of three communications: the first to the International Medical Congress, the second to the Royal Sanitary Institute, and the third to the State Medicine Section of the British Medical Association, 1912. Of the three papers, the first is by far the most important, and it is a most masterly exposition of the subject. It is thoroughly logical, and cannot fail to bring home even to the doubter the great economical importance of dental disease. The author shows that diseases of the teeth are quite easily preventable, and would be easily prevented if the medical profession would lend their aid, partly by realising the nature of the pathological processes and partly by advocating a rational dietary. We are in entire accord with this statement: "If the diseases of the teeth are prevented the hundreds of thousands, perhaps millions, of pounds which are spent on their treatment would be prevented. So, too, if the diseases of the teeth are prevented, the millions of pounds which are spent on the treatment of diseases resulting from diseased teeth would be saved."

MISCELLANEOUS VOLUMES.

OF medical interest in our miscellaneous column this week are the following. The Address of Sir HENRY MORRIS on *School Education and the Influence of the Study of Nature*, delivered at Epsom College on Founder's Day, July, 1913, was abstracted at some length in THE LANCET of August 2nd, 1913, p. 340. As now republished in pamphlet form (London: John Bale, Sons, and Danielsson, Limited. 1914. Pp. 24) it contains several passages which had to be omitted in the delivery, and doubtless all Epsomians and many others especially interested in medical education will be glad to have the opportunity of perusing at leisure so extensive a review of the principles that have animated educationists from ancient Egypt and Assyria, through Rome and Greece, the Middle Ages and the Renaissance, down to modern times.——We published in our issue of April 11th (p. 1035) a communication by Mr. HEATON C. HOWARD, L.R.C.P. Lond., M.R.C.S., on the *Therapeutic Value of the Potato.* The matter then published has been used as the basis of an extended brochure (London: Baillière, Tindall, and Cox. 1914. Pp. 31. Price 1s. net), which contains in addition chapters on special bandaging, hypodermic medication, a digit meter, and a hallux meter.——The Scientific Press, Limited, have published a *Case-book for Massage and Weir Mitchell Treatment* (price 6d., containing 54 case sheets). The massage sheets are ruled for patient's name, address, and age, doctor's name, nature of complaint, treatment ordered, with columns for height and weight measurements, pulse, temperature, and an account column. The Weir Mitchell sheets give necessary columns for diet, condition, electrical treatment, and pulse condition before and after.

Questions of social economics are becoming more and more of paramount interest to medical men. In THE LANCET of March 11th, 1911, and again in that of Jan. 27th, 1912, we commended a series of essays on "Duty and Discipline," designed to compel attention to the very obvious growth of indiscipline and to the general decay of the sense of duty. In further extension of the Duty and Discipline Movement we have before us a new book, *Anarchy or Order. Twelve Papers for the Times* (London: Duty and Discipline Movement, 117, Victoria-street. 1914. Pp. 125), pointing out that while anarchist doctrine is rarely formally *held* or preached by British men and women, anarchist *modes* of thinking and living are encountered *every day* in all ranks. The first paper, On Anarchy, by Helen Hester Colvill, contains much wisdom, and is written with an enticing charm of manner. She bewails the substitution of secular for ethical and religious knowledge. She describes the method of "Signora Dottoressa Montessori telling us in no uncertain tones that she is going to reform education all over the world, from *the children's point of view*," and seriously questions whether in all this new system unwilling children ever really gain the power of doing something they don't want to do. If the good intelligent children grow up reasonable and disciplined—though perhaps "soft"—what, she asks, about the naturally insubordinate, mischievous, dull, perverse, perhaps vicious? Other essays deal with sentimentality, decay of authority, the training of children, and an introduction, entitled "A Voice of Warning," to the ethical works of Dr. F. W. Foerster.

The holiday season is upon us. *Holidays and How to Use Them*, by CHARLES D. MUSGROVE, M.D. Edin. (Bristol: J. W. Arrowsmith, Limited. 1914. Pp. 205. Price 2*s*. 6*d*. net), is an attempt, and a successful one, to deal with the numerous trifles which, if neglected, are apt to mar a holiday. The book is written in a chatty and pleasant manner. The first chapter opens with an inquiry into the object of holidays, which, as the author rightly says, are a form of life insurance against failing powers and ill health. This is followed by general directions as to packing up, diet, baths, reading, railway journeys, and other important small matters, and an account of the various sorts of holidays—seaside, country, town, mountain, lake, and so on, as well as the most suitable recreations, such as sketching, photography, fishing, and natural history. Walking, climbing, cycling, motoring, camping and other holiday occupations claim the author's attention, and there is a chapter on ailments incidental to holidays. The child is not forgotten, and those who have the planning of holidays for little ones will find much help from a perusal of the chapter dealing with the subject. The book is a practical one.——The next question as to holidays is, Where shall we go? A perusal of *The Queen Newspaper Book of Travel: a Guide to Home and Foreign Resorts*, compiled by M. HORNSBY, F.R.G.S. (London: The Field and Queen, Limited. 1914. Pp. 542. With 21 maps and 72 illustrations. Price 2*s*. 6*d* net), will suggest the answer. In this guide the various British and foreign health resorts are arranged in alphabetical order according to countries, brief notes being given with regard to climate, accommodation, amusements, and other matters. There are also practical hints on touring for the visitor to foreign countries, articles on outfits, luggage, foreign etiquette, and so forth, tables of routes and fares from London, and a comprehensive list of guide-books and other literature dealing with travel. There is also a directory of English medical men resident abroad. Altogether it is a useful book. ——For those who decide on a holiday abroad the new and enlarged edition of *German Self-Taught, with Phonetic Pronunciation*, revised by W. E. WEBER, M.A. (London: E. Marlborough and Co. 1913. Pp. 146. Price, paper, 1*s*.; cloth, 1*s*. 6*d*.), contains lists of useful everyday words and phrases, together with their pronunciation—quite sufficient for anyone to acquire an elementary knowledge of German of particular use to the tourist. The book should fulfil business and social requirements also. Previous editions of this book included a brief summary of German grammar, but this now forms the basis of another little volume, *German Grammar Self-Taught*, by W. E. WEBER, M.A. (same publishers and price. Pp. 144). This is written primarily for those who have no opportunity of obtaining tutorial assistance.

For those interested in the municipal, commercial, or social life of the City of London, the *City of London Year Book and Civic Directory, 1914* (London: W. H. and L. Collingridge. Pp. 392. Price 5*s*. net), is an important work of reference. In addition to lists of members of the Corporation and of the London County Council and articles on the work of these bodies for the past year, it contains brief histories of the livery companies, accounts of the charities attached to them, addresses of officials and members, and much information of a like character. Particulars of City schools, with details of fees, scholarships, and so forth, are also given, and in the commercial section will be found an official list of the members of the Stock Exchange, the Baltic, and Lloyds. Some of the information in this book is not to be found in other annuals, and the fact that it appears at the end of the first quarter of the year is an obvious advantage, as official changes made in the early months of the year can thus be included.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

WEDNESDAY, MAY 27TH.

THE Council resumed its sittings at its offices, 299, Oxford-street, W. Sir DONALD MACALISTER, the President, was in the chair.

Penal Cases.

The Council proceeded to hear complaints against practitioners.

The first case to be heard was that of Haripado Chatterjee, registered as of 1, East View, South Moor, Stanley, co. Durham, L.R.C.P. & S. Edin. and L.R.F.P.S. Glasg., 1910, who had been summoned to appear before the Council on the following charge:—

> That, being a registered medical practitioner, you, in the year 1913, accepted the post of medical officer of an association known as the South Moor Medical Association in the knowledge that such association had through its officials, by widely distributed circulars, by personal canvassing, and by solicitation of members of the miners' union in the South Moor district, sought to secure members of such association who, on joining it, would become the patients of the medical officer thereof. And further that you have by public speaking in the South Moor district and by advertising in such speeches your own qualifications taken a prominent part in inducing and endeavouring to induce persons to join the said association and so to become your patients. And further that throughout the year 1913, knowing that you were being advertised in the South Moor district as the doctor of the said association, you acquiesced in such advertising and continued to be employed as its medical officer. And that in relation thereto you have been guilty of infamous conduct in a professional respect.

The complainants were the British Medical Association. They were represented by Mr. W. E. Hempson, solicitor.

Mr. Chatterjee attended, and was also represented by Mr. R. Strother Stewart, solicitor.

All members of the Council who were also members of the British Medical Association withdrew from the hearing of this case.

Mr. HEMPSON, in opening the case for the complainants, said that he had four cases to present to the Council this session which had many features in common. In all these cases he represented the British Medical Association. He wanted to lay stress upon that, because there were no other complainants in the matter. The sole complainants were the British Medical Association, who in the interests of the medical profession brought forward these cases which they thought merited the consideration of the General Medical Council. These cases had relation to medical aid institutions which were governed by a lay body. He should put before the Council the question whether it was possible for these institutions to be formed without the aid of canvassing and touting for patients. So far as he was concerned he had never known one. In all the cases which he would submit to the Council he would submit evidence of this. A medical man whose conduct was impugned in such a matter as this was bound to assure himself of the circumstances which existed anterior to his joining the institution. He ought to be put on his inquiry that he had thoroughly satisfied his mind that the association to which he was asked to attach himself was not one which had been formed by methods of canvassing and touting for patients. Recent legislation had altered the conditions of medical practice very considerably. He did not know whether that tended to the interest of the profession or not. It would be found in these cases which would be brought before the Council that they were due almost entirely to the altered condition of things which had caused these institutions to spring up to defeat the direct purposes of recent legislation. He wanted to bring certain circumstances before the Council. One practitioner would no doubt say: "I am extremely sorry that there should have been canvassing and touting by which this Association has been built up. I did not know of it. Now I have had it brought to my knowledge, I shall take such steps as are in my power to prevent it recurring in the future." But was such an attitude as that sufficient? He would put it to the Council that in such a case the practitioner would be taking the fruits of what had been done. If a practitioner in such a case were allowed to remain in that position unchecked, he (Mr. Hempson) would submit to the Council that that was a direct encouragement for others to do the same in regard to similar institutions, and to continue doing so. Some other practitioners would admit the fault that had occurred, and would show some repentance in regard to it by dissociating themselves from the institution of which complaint had been made. Provided they continued to practise in the immediate locality they were taking to themselves the fruits of what had occurred under circumstances which he would submit to the Council should merit its disapproval. It could not be said that medical men were without warning as to the risks which they ran. They had had warnings repeated by the Council and made known through medical journals. If a medical man had any doubts as to the circumstances in which any particular institutions had been formed he should make the fullest and most thorough inquiry so as to satisfy himself before he accepted an office that he could hold it without bringing any just professional disapproval upon himself. Mr. Hempson went on to say that he would now proceed to deal with the case which affected Mr. Chatterjee. The charge was in three parts. The first was concerned with his acceptance of a post in connexion with the South Moor Medical Association with the knowledge that that association had canvassed for patients; the second was that Mr. Chatterjee had by speaking in the South Moor district sought to attach patients to himself; and the third was that he knew during the year 1913 that he was being advertised, and yet he continued to hold the appointment. So far as he knew there was no evidence that Mr. Chatterjee proposed to do anything but hold the appointment. The association was formed early last year for the purpose of obtaining for workmen medical attendance at a reduced rate which, he believed, was to be 6*d.* instead of 9*d.* There was not the slightest doubt that taking all the evidence together there was a wide canvass in order to advertise the formation of this association. A circular or notice had been distributed. Mr. Chatterjee accepted the post of medical man under this association. He also went on the panel, and he (Mr. Hempson) was instructed that the amounts he received as a panel practitioner were to be credited in aid of the salary of £350, which was to be given to him. That was an extraordinary position from the point of view of the medical profession. It was also stated that later on there had been a distribution of transfer forms. Mr. Chatterjee's answer to the whole case was that he did not know that there was anything going on in the nature of canvassing. It was also the case that he had addressed two meetings. At one of the meetings he had given particulars as to what his past had been, where he had qualified, and with whom he had served. He went on to say that he was inferior in no way to any man in the locality.

Dr. JOHN CHARLES, of Stanley, was then called as a witness. In his declaration he stated that he had been in practice in the district for 18 years. Since the Insurance Act came into operation there had been an acute difference in the district, and the object of the South Moor Medical Association was to get medical attendance at a reduced rate, and workmen were asked to give it their support. A form or circular was sent out notifying the formation of the new association. Two medical men were advertised for, and Mr. Chatterjee was one of those appointed. The two meetings which Mr. Chatterjee attended were reported in the press. Posters were placed at the pithead intimating the hours of Mr. Chatterjee. In this way the existence of the association was kept before the workmen.

Cross-examined by Mr. STEWART, Dr. CHARLES admitted that anonymous letters had appeared in the local press commenting on the association and its doctors. He admitted further that he had written one.

It was a letter attacking the doctor that was coming?—No.

What was it then?—It was advice to the miners to take a broad view of the position and see it according to their trade union principles.

Had not Mr. Chatterjee's speech reference to that letter? If the speech is read properly is it not a reply to it?—Not at all. The letter was brought up because it condemned the policy of the association.

What you say were posters, were they not merely cards intimating the hours?—I say posters or cards.

Mr. HEMPSON then put in the joint statutory declaration of Mr. William Arthur Benson and Mr. Reginald Edward Ingram Johnson, registered medical practitioners.

HENRY PRATT, miner, South Moor, then gave evidence. In his declaration he stated that when the Insurance Act came into operation there was an agitation to reduce the fortnightly deductions at the colliery from 9*d.* to 6*d.* A large number of workmen were induced to take Mr. Chatterjee rather than the old practitioners.

Mr. STEWART (cross-examining): Was not the circular issued before Mr. Chatterjee came to the neighbourhood?—Yes.

What do you mean by saying that a circular was issued by the local lodge in support of Mr. Chatterjee?—It was in support of Mr. Chatterjee or anyone else who might come.

Then Mr. Chatterjee was never thought of then? There was no association then?—No, the idea was to form an association.

And Mr. Chatterjee did not come until the association was formed?—No; he did not come until it was formed.

The PRESIDENT: Can you tell us how long before he came it was that the circular was issued?

WITNESS: About a month.

Do you know of any canvassing after Mr. Chatterjee came?—No; not after he came.

In answer to further questions put by the PRESIDENT witness stated that formerly 9*d.* had been deducted from the miners' wages every fortnight. It was devoted to paying medical attendance on the miner and his family. After the Insurance Act the miner for his insurance contributions got medical attendance for himself. The 6*d.* was offered for attendance on his wife and family who were not insured.

Replying to the PRESIDENT, Mr. HEMPSON said that Mr. Chatterjee went to South Moor on April 2nd, 1913.

Some further evidence was called in support of the complaint.

Mr. STEWART addressed the Council on behalf of Mr. Chatterjee. He said that when the National Insurance Act came into operation many of the miners who had been in the habit of paying 9*d.* a fortnight for medical attendance on themselves, their wives, and families, came to the conclusion that they ought to obtain a reduction of the contribution. They reckoned that the medical man would get 6*s.* 6*d.* each a year for perhaps two insured members of the family, and drugs would also be supplied to them. They considered that this would mean a very considerable addition to the fees of the local medical men. The miners thought that they themselves should get the benefit of 3*d.* a fortnight. The medical men were approached, but they had objections to anything of that sort. When the medical men would not agree to their proposals the miners came to the decision that the deduction of 9*d.* from their wages should cease. The management of the mines declined to do this until they had the signatures of the miners on slips directing the deduction to cease. That was one step in the miners' negotiations with the doctors. They thought that then they would be in a position to negotiate for a lesser fee. The miners then set collectors to collect the sixpence. The sum collected in this way soon went away in providing medical attendance. It was then thought that they should invite a medical man into the district to serve them for the sixpenny rate. All this took place before the association was formed. When they found that there was sufficient to guarantee a salary to a medical man they advertised for one. Mr. Chatterjee applied and took up the appointment on April 2nd, 1913. He could not have had any idea what had gone on in the past. He told the committee of the association that there must be no canvassing. The association were to make no profit out of the arrangement. Now as to the meetings which were held some days after Mr. Chatterjee came to the district, the Council already was informed that there was a very strong agitation in the locality, and considerable prominence had been given to it in the local papers. Some very harsh things were being said, and the Council had already heard from Dr. Charles of his letter to the press. If Mr. Chatterjee's speech was read it would be seen that he was replying to it. He went to speak at what he believed were meetings of his subscribers. There was no evidence before the Council that there were anyone but subscribers there except some reporters. Mr. Chatterjee's statements about his qualifications and where he got them from were made to contradict statements which were flying about all over the district. Taken in view of the circumstances everyone could see that it was natural that Mr. Chatterjee should defend himself. As he thought that he was addressing his own subscribers he let himself perhaps go further than he would otherwise have done. He denied that advertising was going on and that he acquiesced in it. The evidence before the Council was not sufficient to support the charge.

Mr. CHATTERJEE gave evidence in his defence. In the course of his declaration he stated that he found that statements were being made about him, and he replied to the letter at the meeting. He thought that he was then speaking to subscribers. His committee assured him that no canvassing was going on. He told the committee that there must be no canvassing, and he had no reason to believe there was. If any canvassing had taken place it had not his sanction.

Cross-examined by Mr. HEMPSON, Mr. CHATTERJEE said that when he found that a circular had been issued he took steps to find out about it. He found that it had been issued some time before he took the appointment.

Did it occur to you that it was not a proper appointment to hold?—I did not see that the circular had anything to do with any appointment.

What have you received in remuneration?—I have £350 a year, a house, a trap, and drugs.

Are you a doctor on the panel?—I have got panel patients.

How many panel patients have you got?—I have 958 panel patients.

What do you receive in respect of them from the Insurance Committee?—My last cheque was for £27 18*s*.

Was that a monthly cheque?—Yes.

You therefore have from your panel patients approximately £335 a year?—It might come to that.

The amount which you receive on behalf of your panel patients is a credit to the amount which you receive for your salary?—Yes.

Mr. CHATTERJEE went on to say that the drug bill which came to a considerable amount was paid by the association. He was to get an increase of salary as the funds of the association permitted it.

Mr. JOHN REECE, checkweighman, gave evidence regarding the formation of the association. He stated that the circulars or forms were returned before March 21st, and that ended the matter so far as the association was concerned. It was from them that those concerned with the association knew that they had enough money to form it and guarantee a salary to a medical man.

Answering the PRESIDENT, witness said that those directing the association had promised to pay the whole of their fund in salary to their medical man after paying the reasonable expenses of the association. All the surplus was to be handed over to the doctors over and above the stated salary. This year they were guaranteeing £400, and they would also give the whole of the surplus. They paid for house, horse and trap, and for the drugs required for wives and families.

The PRESIDENT: It is not the intention of your association to retain any profit.

WITNESS: No; we have that thoroughly understood.

After the hearing of some further witnesses the evidence was concluded.

The Council adjourned.

THURSDAY, MAY 28TH.

The Council resumed its sittings at its offices, 299, Oxford-street, W. Sir DONALD MACALISTER, the President, was in the chair.

Penal Cases.

The Council considered *in camerâ* the case of Mr. Haripado Chatterjee, evidence in regard to which had been heard at the previous sitting.

The PRESIDENT, in announcing the decision of the Council, said: Mr. Chatterjee, I have to inform you that the Council has carefully considered the facts alleged against you in the notice of inquiry, and has found that the following fact has been proved—viz., that you have by public speaking in the South Moor district and by advertising in such speeches your own qualifications taken a prominent part in inducing and endeavouring to induce persons to join the said association and so to become your patients; but that the Council has suspended judgment till the November session when you will be required to be present and to produce evidence as to your professional conduct in the interval, and as to the methods of the association under which you have accepted employment. All the other facts alleged in the notice of inquiry have not been proved to the satisfaction of the Council.

The Council considered the case of Alexander Girvan, registered as of 8, Palace-street, Buckingham Gate, London, S.W., M.B., C.M. 1894, M.D. 1904, U. Glasg., who had been summoned to appear before the Council on the following charge:—

> That being a registered medical practitioner, you were on Dec. 4th, 1913 (after having elected to be dealt with summarily), convicted at the Westminster police court of unlawfully and wilfully making a certain false declaration under and for the purposes of a certain Act relating to the registration of deaths, and fined £10 and £10 costs.

Dr. Girvan attended. He was represented by Mr. George Elliot, K.C., Mr. H. W. Wickham, and Mr. Arthur Bryan, counsel who were instructed by Messrs. Walton and Hurd, solicitors.

Mr. HARPER, the Council's solicitor, brought to the Council's notice circumstances connected with the conviction. He said that the certificate given by Dr. Girvan in this case showed that the cause of death was primarily appendicitis and secondarily peritonitis and cardiac failure. The patient, however, had to the practitioner's knowledge, it appeared, a miscarriage while in a nursing home, and he had been asked by her not to tell her sister of her condition. The death of the woman in regard to which the certificate was given became the subject of a coroner's inquest. The jury found the cause of death to be heart failure and acute blood poisoning following a wound inflicted while unlawfully procuring abortion. The coroner's jury added to their verdict a rider that they thought the false certificate should be reported to the General Medical Council. Dr. Girvan in his defence said that he had omitted the word "miscarriage" without any improper motive and without intention to deceive, but in order to save the patient's honour. He also said that he did not know that an illegal operation had been performed, and that he had no suspicion that an illegal operation had been performed. There might be cases in which medical certificates did not state the whole cause of death. This case was different from them—a medical practitioner who suspected or ought to suspect that a crime had been committed yet gave a certificate which covered up that fact and prevented attention being drawn to the possibility of crime. It was true that Dr. Girvan had himself reported the matter to the coroner, but only after he had been told by the relatives that they were going to the coroner.

Dr. BERNARD HENRY SPILSBURY was called as a witness and he stated that he had made a post-mortem examination on the body on Oct. 3rd, 1913. He had given evidence at the inquest and again at the magisterial inquiry. There was peritonitis and three wounds. He came to the conclusion that the wounds were caused by the use of some instrument to procure abortion.

In answer to the PRESIDENT, Dr. SPILSBURY said that he thought that before the post-mortem examination the cause of death might have been uncertain. There ought to have been a suspicion as to the possibility of something improper having been done.

Dr. ALEXANDER GIRVAN then gave evidence in his defence. Examined by Mr. George Elliott, K.C., he said that during the 18 years he had been in the medical profession, with the exception of this unfortunate incident, no shadow of reproach or blame had rested on him. He had always upheld the high ideals of the profession in every way. The patient in regard to whom these proceedings had arisen consulted him at his house on August 8th, 1913. She complained of certain pains and told him that she had had an operation for appendicitis. He prescribed for her. She consulted him later. On Sept. 25th she called in the morning when he was out, but he saw her after he returned home. He found that she was in a certain condition. She was very anxious that it should not be discovered. She refused to go into hospital and he sent for a nurse from a nursing home. He had asked her whether she had been illegally treated. She denied it. She denied it again to the nurse. He saw no symptoms to lead him to believe that she had been illegally treated. She was sent to the nursing home where she became worse. The witness described her illness. On the day of her death he was describing the case to a consulting surgeon when the nurse came and said that she had died. He was justified then in thinking that appendicitis had set up peritonitis.

Mr. HARPER: Did you see any reason not to believe the statement of the girl that there had been no illegal operation?

Dr. GIRVAN: I saw no reason to disbelieve her.

Miss EMILY CARTER, a certified nurse, gave evidence as to attending the patient. Dr. Girvan had asked the patient whether she (the patient) had had anything done to her. The patient had said "No." She (Miss Carter) had impressed upon the patient that it was important for her to say whether anything had been done to her, and she denied that there had been.

In answer to the Legal Assessor (Mr. BODKIN), witness said that the patient was very anxious that nothing should be known about her miscarriage, which took place in the nursing home.

Mr. ELLIOTT addressed the Council on behalf of Dr. Girvan. Dr. Girvan, he said, had no desire to go behind his own admissions for a single moment or to attempt to shield himself so far as the omission of the word "miscarriage" or any other words was concerned. All that he desired the Council to do was to ask it to look at all the surrounding circumstances of the case, and to submit to the members whether in view of those surrounding circumstances it was a case calling for any severe or harsh decision. In similar circumstances he would not dream of acting again as he had in this case. Dr. Girvan was undoubtedly moved by his promise to this girl to shield from the knowledge of the family all the facts of her being in the condition in which he discovered she was, with a view to protecting her honour and reputation. He could only leave the case to the merciful consideration of the Council. It could not come to the conclusion that he had been actuated by improper motives. The circumstances should certainly call for the lenity of the Council.

The PRESIDENT, in announcing the decision of the Council, said: Mr. Alexander Girvan, I have to inform you that the Council has found your conviction for the misdemeanour alleged against you in the notice to have been proved; that the Council takes the gravest view of the offence of which you have been convicted; but that, having regard to the punishment which you have already received, the Council has suspended its judgment until the November session, when you will be required to attend and to produce evidence from medical men and others that in the interval your professional conduct has been without reproach.

The Council then considered the report of the Dental Committee on the case of Valleck Cartwright Mallan. The committee found that the following facts were established by the evidence:—

The said Valleck Cartwright Mallan was registered in the Dentists Register on Dec. 6th, 1878, as "In practice on July 22nd, 1878," and his address in the Register for the current year is 106, Edgware-road, London, W.

The said Valleck Cartwright Mallan practises at 106, Edgware-road, aforesaid, and issues and distributes as widely as he can a card and an explanatory pamphlet advertising his practice. The card contains a number of illustrations of American plateless teeth; the pamphlet enlarges upon the advantages of consulting the said V. C. Mallan and contains a photographic reproduction of a newspaper paragraph on the long-standing reputation of the said V. C. Mallan and his family since the beginning of the nineteenth century. The said V. C. Mallan stated that the paragraph appeared in the *Catholic Times*, and was not an advertisement, although he advertises in that paper. The complainants also submitted a two-column article which had appeared in the *Hampstead Advertiser* of July 17th, 1913, containing a portrait of the said V. C. Mallan, and a photograph of a challenge cup which he had presented in connexion with local cricket. The said article contained a lengthy and puffing description of the said V. C. Mallan as a dentist as well as a public man interested in the public affairs of Marylebone. The complainants did not offer any proof that the said V. C. Mallan was responsible for this article, but he admitted in answer to questions that he had been interviewed by the *Hampstead Advertiser* and had given the information, some of which was untrue, therein contained, that although he had not paid for it he had subscribed for 100 copies which he had sent out to various people, and that he had in fact used the article as an advertisement for his practice.

At the conclusion of the inquiry before the Dental Committee the said V. C. Mallan offered to give an undertaking that in future he would not advertise in any form of which the Council disapproved.

The complainants, the British Dental Association, were represented by Mr. R. W. Turner, counsel instructed by Messrs. Bowman and Curtis-Hayward, solicitors.

Mr. MALLAN, who attended, addressed the Council and complained of the methods adopted by unregistered dentists to advertise their business. He repeated his assurances that he would not advertise in future in any form of which the Council disapproved.

The PRESIDENT announced the decision of the Council as follows:—Mr. Mallan: The Council have considered the report of the Dental Committee in regard to the facts proved against you, and they have considered the undertaking which you have given that in future you will not advertise in any form of which the Council disapproves. The Council has deferred the further consideration of your case to the November session, when you will be required to be present and to produce satisfactory evidence as to your conduct in the interval, with particular reference to the manner in which you have carried out the undertaking regarding advertising which you have given to the Council.

The Council considered a report of the Dental Committee in regard to the case of John Winter. In their report the committee found that the following facts were established by the evidence:—

The said John Winter was registered in the *Dentists Register* on January 19th, 1888, as "In practice on July 22, 1878," and his address in the Register for the current year is 26, West Parade, Lincoln.

The said John Winter practises at 28, West Parade, Lincoln, and resides at High-street, Mablethorpe, Lincolnshire, where he also practises. He has a son, J. G. Winter, who resides at 28, West Parade, Lincoln, and there practises dentistry in the same premises as his father, but he is not on the *Dentists Register*. The said J. G. Winter practises in the name of his father, and the said John Winter covers the practice of his son.

Advertisements of the practice of "J. Winter" appear in the local press both at Lincoln and at Mablethorpe. A circular in the name of J. Winter, giving the Lincoln address, was handed to a patient at the Lincoln consulting room, who was being treated by J. G. Winter in the name of the said John Winter. The name of J. G. Winter nowhere appears except on a brass plate affixed to the wall of the Lincoln premises.

The complainants were the British Dental Association, who were represented by Mr. R. W. Turner, counsel.

Mr. Winter did not attend.

The PRESIDENT, addressing Mr. Turner, announced the decision of the Council as follows: I have to announce to you that on the facts found in the report of the Dental Committee it has been proved that John Winter has been guilty of infamous and disgraceful conduct in a professional respect, and that the Registrar has been directed to erase from the Dentists Register the name of John Winter."

The Council considered the report of the Dental Committee on the case of John William Whitehead.

In the report the committee found that the following facts were established by the evidence:—

The said John William Whitehead was registered in the Dentists Register on Sept. 13th, 1878, as "In practice on July 22nd, 1878," and his address in the Register for the current year is 10, Bellevue-street, Burnley.

The said John William Whitehead was convicted as follows: On May 14th, 1904, at Church, Lancashire, of unlawfully laying a certain pipe to communicate with another pipe belonging to the urban district council of Oswaldtwistle without their consent, contrary to the provisions of the Gasworks Clauses Acts, 1847, and was fined £1 and £1 2s. costs, or 14 days. (Note.—This offence, in non-technical language, consists in tapping the gas main of the local authority and stealing the gas.) On Jan. 22nd, 1906, at Blackburn, Lancashire, of feloniously stealing 13 books, the property of the borough of Blackburn, and was sentenced to one month's hard labour. On Feb. 24th, 1906, at Accrington, Lancashire, of feloniously stealing three books, the property of the borough of Accrington, and was sentenced to one month's hard labour.

At the end of 1904 the name of the said John William Whitehead had been erased from the Dentists Register under Section 12 of the Dentists Act. He applied in 1912 for restoration. The Executive Committee was advised that this request should be complied with, but the Registrar was directed to inform the said John William Whitehead that in the event of restoration an inquiry would be held in regard to the convictions. Notwithstanding this intimation he renewed his application and his name was restored.

The Registrar then wrote several times to the accused for an explanation of his conduct, and eventually received the following:—

"10, Bellevue-street, Burnley,
March 18th, 1914.

(No. 35651).

To the REGISTRAR, GENERAL MEDICAL COUNCIL.

RESPECTED SIR,—With reference to the convictions mentioned in your letter bearing the above number, I regret to say that I have no explanation to offer, only that I am very sorry, and if the Council can see fit to excuse me this time I shall ever feel thankful to them, and promise that no similar offence shall occur again.

Believe me to be, yours humbly and faithfully,

J. W. WHITEHEAD."

The said John William Whitehead has therefore furnished no satisfactory explanation of his convictions, nor has he offered any evidence of his conduct since 1906.

Under Section 13 of the Dentists Act, any person who has either before or after he is registered been convicted of a felony or misdemeanour shall be liable to have his name erased from the Register, provided that the name shall not be erased "on account of a conviction for an offence which does not either from the trivial nature of the offence or from the circumstances under which it was committed disqualify a person for practising dentistry."

The misdemeanour and felonies in respect of which the said John William Whitehead was convicted can be considered by the Council as sufficient to entitle the Council to erase his name from the Register.

Mr. Whitehead did not attend.

The PRESIDENT announced the decision of the Council to Mr. Harper, the Council's solicitor, as follows: I have to tell you that John William Whitehead having been proved to have been guilty of the two felonies and the misdemeanour set forth in the report of the Dental Committee, the Registrar has been directed to erase from the Dentists Register the name of John William Whitehead.

The Council proceeded to the consideration of the case of William Samuel Daroux, registered as of Station-road, Stanley, co. Durham, L.A.H. Dub. 1910, L.R.C.S. Irel. 1911, who had been summoned to appear before the Council on the following charge:—

That being a registered medical practitioner you, in the year 1913, accepted the post of medical officer of an association known as the Stanley and District Workers' Medical Association in the knowledge that such association had through its officials, by widely distributed circulars, by personal canvassing, and by solicitation of members of the miners' union in the Stanley district, sought to secure members of such association who, on joining it, would become the patients of the medical officer thereof. And that throughout the year 1913, knowing that you were being advertised in the Stanley district as the doctor of the said association, you acquiesced in such advertising and continued to be employed as its medical officer. And that in relation thereto you have been guilty of infamous conduct in a professional respect.

Mr. Daroux attended, and was accompanied by Mr. R. Strother Stewart, solicitor.

The complainants, who were the British Medical Association, were represented by Mr. W. E. Hempson, solicitor.

When the Council's solicitor had read the notice,

Mr. HEMPSON said that Mr. Daroux had severed his connexion with the association mentioned in the notice and he was no longer its medical officer. Mr. Daroux had recognised his position as untenable. In these circumstances he (Mr. Hempson) wished to withdraw the case.

Mr. STEWART said that he took exception to this statement in so far as it was contended that Mr. Daroux's position was untenable. Mr. Daroux had severed his connexion with the association and had no intention of renewing it. But he did not admit that there had been canvassing as alleged in the charge. He was, subject to this being understood, ready to assent to the withdrawal of the charge.

After deliberation *in camera* the PRESIDENT said: The Council has considered the application of Mr. Hempson to withdraw the complaint and the charges made thereunder against Mr. Daroux and has assented to the application.

The Council adjourned.

FRIDAY, MAY 29TH.

The Council resumed its sittings at its offices, 299, Oxford-street. Sir DONALD MACALISTER, the President, was in the chair.

Penal Cases.

The Council considered the case of William Blaikie Mason, registered as of 218, Somers-road, Southsea, M.R.C.S. Eng. 1893, L.R.C.P. Lond. 1893, who had been summoned to appear before the Council on the following charge:—

That being a registered medical practitioner you on Nov. 1st, 1913, signed a certificate that one Patrick Matthews, of 46, Raglan-street, Southsea, was suffering from gastric colic and was unable to follow his occupation, whereas you had neither seen nor examined the said Patrick Matthews, which said certificate was untrue, misleading, or improper. And that in relation thereto you have been guilty of infamous conduct in a professional respect.

The complainants were the Lords Commissioners of the Admiralty, who were represented by Mr. C. R. Brigstocke.

Mr. Mason attended in person.

Mr. BRIGSTOCKE said that what he wanted to bring before the Council was this. At naval ports men were given short periods of leave. Since the fleet was concentrated in the home waters the practice prevailed far more than formerly. The men were inclined to outstay their leave. Matthews went on shore and was not heard of for two days. A certificate then arrived stating that he was unable to follow his occupation. The authorities ascertained later that Mr. Mason had not seen the man before he granted the certificate. They felt that they had no check over men if they could procure certificates from medical men without being seen by those medical men. If they could not rely upon the certificates they were helpless. Mr. Mason had frankly admitted that he had not seen the man. The Admiralty had no desire to press the case personally against Mr. Mason, and their only object was to stop a practice under which such a thing could be possible.

Mr. MASON, addressing the Council on his own behalf, regretted that he had been led into granting the certificate. He had had no idea at the time that he was doing wrong. The circumstances under which he had given the certificate were these. The landlady of the man came to him and described the symptoms of the man's condition. He had formerly attended the man, and from what the landlady said he had no doubt that the man was suffering in the same way again. He gave him medicine. Afterwards the landlady, whom he knew as a respectable woman, returned and said that the man must have a certificate as he was not fit to go on board his ship in the morning. Without thinking he gave her the certificate. The certificate might be supposed to convey that he had seen the man. He was very sorry that he had given it. He would appeal to the Council not to take any further action against him. He realised now that he had done something wrong, and he promised that in the future he would not do it again. He made an unconditional promise never to give a certificate without seeing the person.

The PRESIDENT announced the decision of the Council as follows: Mr. William Blaikie Mason, I have to inform you that the Council has found that the facts alleged against you in the notice of inquiry have been proved; that the Council takes a very serious view indeed of the gravity of the matter; and that it has already marked its sense of the gravity of such offences by issuing in the medical journals and elsewhere in November, 1911, a warning notice as follows:—

Whereas registered medical practitioners are in certain cases bound by law to give, or may be from time to time called upon or requested to give, certificates signed by them in their professional capacity, for subsequent use either in courts of justice or for administrative purposes. And whereas such certificates include, *amongst others*:—

Certificates: (*a*) Under any statute relating to births, deaths, or disposal of the dead; (*b*) under the Lunacy Acts; (*c*) under the Vaccination Acts; (*d*) under the Factory Acts; (*e*) in relation to children or to excusing school attendance; (*f*) in connexion with sick benefit, insurance, and friendly societies; (*g*) in connexion with workmen's compensation; (*h*) in connexion with naval or merchant shipping; (*i*) for procuring the issue of Foreign Office passports; (*j*) for excusing attendance in courts of justice, in the public services, in public offices, or at ordinary employments.

And whereas it has been made to appear to the General Council from time to time that some registered medical practitioners have given and signed untrue, misleading, or improper certificates of the above-specified or other descriptions.

Now, therefore, the General Medical Council hereby give notice that any registered medical practitioner who shall be shown to have given any untrue, misleading, or improper certificate, *whether relating to the several matters above specified or otherwise*, is liable to be adjudged by them to be guilty of "infamous conduct in a professional respect" and to have his name erased from the Medical Register under Section 29 of the Medical Act, 1858.

In order to give you an opportunity to prove to the Council that you realise the gravity of your offence, and to produce evidence from your professional brethren regarding your character and conduct generally, the Council has postponed judgment till the November session, when you will be required to produce testimony to the effect above specified and to your conduct in the interval.

The PRESIDENT then informed Mr. Brigstocke that he would have an opportunity of appearing before the Council in November, when he could produce any further evidence in regard to Mr. Mason's conduct in the interval which the Lords Commissioners of the Admiralty might think fit. He also requested Mr. Brigstocke to convey to the Lords Commissioners the thanks of the Council for bringing the case to its notice, and for allowing him to be present to conduct it.

The Council considered the case of Michael Joseph Ryan, registered as of 106, Newport-street, Bolton, L.R.C.S. Irel. 1885, L., L.M. 1886, K.Q.C.P. Irel., who had been summoned to appear before the Council on the following charge:—

That being a registered medical practitioner you were at the assizes held at Manchester and commencing on Nov. 17th, 1913, convicted of unlawfully making false certificates purporting to be made under the Births and Deaths Registration Act, 1874, knowing same to be false, and sentenced to six months' imprisonment in the second division.

Mr. Ryan attended in person.

Mr. HARPER, the Council's solicitor, stated that Mr. Ryan had written out these false certificates on official forms.

Mr. RYAN addressed the Council on his own behalf.

The PRESIDENT announced the decision of the Council as follows:—Mr. Ryan: I have to inform you that you have been proved to have been convicted of the misdemeanour alleged against you in the notice of inquiry, and that the Registrar has been directed to erase your name from the Medical Register.

The Council then considered the case of William Young, registered as of 13, Elliott-terrace, Usworth, Durham, M.B., Ch.B., 1902, U. Edin., who had been summoned to appear before the Council on the following charge:—

That being a registered medical practitioner you, in the year 1913, accepted the post of workmen's doctor for Usworth Colliery, Durham, in the knowledge that a number of the members of the Miners' Union had been canvassed in your interest by the officials of the local branch of the said union at Usworth with a view to their becoming your patients, and that you having been appointed such doctor for the Usworth Colliery miners knowingly exhibited and caused and permitted to be exhibited at Usworth Colliery and at Washington Colliery notices signed by you inviting and soliciting persons to become your patients; and that in relation thereto you have been guilty of infamous conduct in a professional respect.

The complainants, the British Medical Association, were represented by Mr. W. E. Hempson, solicitor.

Mr. Young attended and was represented by Mr. P. Lloyd-Graeme, counsel instructed by Messrs. Rawle Johnstone and Co., solicitors acting for Messrs. Newlands and Newlands, Newcastle-on-Tyne.

Mr. HEMPSON stated that Mr. Young took up his appointment in May, 1913. A number of notices in regard to which the complaint was made emanated about October or November. Some notices were issued in public places where miners and others had an opportunity of reading them and therefore had an opportunity of becoming the patients of Mr. Young.

Dr. WILLIAM JAQUES, Naworth House, Washington, was the first witness. In his statutory declaration he stated that previous to January, 1913, deductions were made from the pay of miners at the rate of 9*d.* per fortnight for medical attendance to themselves and family. The miners' representatives after the Insurance Act came into operation wanted the rate to be reduced to 6*d.* The practitioners affected refused to accept the lower sum. No agreement was arrived at, and he was informed that the workmen were urged not to pay at the old rate. In April, 1913, a ballot was taken at the Usworth Colliery. The majority of the miners decided that the contribution should be reduced from 9*d.* to 6*d.*, and a new doctor was advertised for at a salary of £375. Mr. Young was appointed. He understood that over 600 names were put on his list. In his (Dr. Jaques's) opinion such a large number of patients could not have been obtained without canvassing. On the revision of the lists of panel patients in October, 1913, he was informed that various steps had been taken to urge workmen to sign these forms in favour of Mr. Young. A circular in regard to the Insurance Act was sent out by the miners' committee. It mentioned Mr. Young's ability and attention, and it said that the workmen now had a doctor of their own who was entitled to their loyal support. They were urged not to let the opportunity to transfer slip, because it would be 12 months before they had another. The circular was signed by W. P. Richardson on behalf of the committee.

Cross-examined by Mr. LLOYD-GRAEME, Dr. JAQUES admitted that the miners were accustomed frequently to take joint action through their trade union. He admitted also that perhaps three-quarters of the miners at Usworth village had been patients of his. He did not know that Mr. Young's appointment was approved by a meeting of the miners' lodge.

You do not wish to say that a large number of those who voted for a doctor would not naturally wish to employ the doctor who was appointed?—That would depend.

DANIEL HAMILTON, miner, Washington, stated that he had seen a notice in the miners' hall telling workmen who wanted Mr. Young to attend them what to do.

Mr. HEMPSON: Is there any doubt that these were signed by Mr. Young?

Mr. LLOYD-GRAEME: I admit that.

Several other witnesses were called and examined.

The Council then adjourned.

SATURDAY, MAY 30TH.

The Council resumed its sittings at its offices, 299, Oxford-street, W. Sir DONALD MACALISTER, the President, was in the chair.

Complaint Against Practitioner Dismissed.

Consideration was resumed of the complaint against Mr. William Young, M.B., Ch.B., the hearing of which was commenced on the previous day. The case for the defence of the practitioner was taken.

Mr. W. P. RICHARDSON, secretary to the Usworth branch of the Durham Miners' Association (examined by Mr. LLOYD-GRAEME), explained the demand on the part of the miners for a reduction of their fortnightly contributions from 9*d.* to 6*d.* A circular and a ballot paper were sent out in order to test the support which would be given for the employment of another medical man. There was no intimidation to compel the men to vote one way or other. 700 or 800 voted for it and 50 against. After the result of the ballot he was instructed to advertise for a doctor at a salary of £375 a year plus maternity fees. There were 14 applications for the post. Mr. Young was appointed, and a large number of the men at Usworth colliery took him for their doctor.

Have you ever exercised any compulsion on the men to take Mr. Young?—No.

Witness went on to say that the agreement with Mr. Young had nothing to do with the Insurance Act. He was to have the £375 for attending the wives and families of the men.

The PRESIDENT: That amount had nothing to do with the amount of his insurance money?—Nothing to do with it.

If he had 500 panel patients he would get paid out of the insurance funds for them, and he would get £375 over and above for the wives and children.—That is so.

Further examined by Mr. LLOYD-GRAEME, witness said that the circular which he signed was issued in view of the inquiries of members at the lodge meeting when the change of doctor was to take place. He was instructed to get it printed.

Did you ever show a copy to Mr. Young?—Never.

Did you ever discuss with Mr. Young what was to be put into this circular?—No.

Did you ever tell Mr. Young that such a circular was to go out?—No.

Throughout the whole of this transaction has your lodge acted in the way it usually acts as to its business?—Yes.

Have you ever heard Mr. Young canvass? Have you ever seen him ask any person to become his patient?—No.

Cross-examined by Mr. HEMPSON, witness said that the £375 was to cover attendance to wives and families, and to cover what the men would not get as panel patients. It was to cover such things as compensation notes or certificates, which the men did not receive as panel patients under the Insurance Act. They wanted these particular services for an inclusive fee.

JOHN CURRAN, of Washington, stated that numerous inquiries had been made at Washington how people could take Mr. Young as their doctor.

J. G. FLETCHER, miner, Usworth, also stated that inquiries were made by the Washington men how they could obtain Mr. Young's services. Mr. Young on being approached declined to go to a meeting and address it. He asked Mr. Young to give him something in writing to show what the Washington men would have to do to obtain his services. Mr. Young wrote something at his request.

Mr. WILLIAM YOUNG then gave evidence on his own behalf. Before he went to Usworth he knew nothing of the ballot. He knew nothing at all about the drawing up of the circular about the insurance in October, 1913, in which his name came in several times. He did not at the time know that any circular had been sent out.

Mr. LLOYD-GRAEME: Have you ever been asked by Washington men whether it would be possible for you to attend them?—Yes.

Witness went on to say that he had declined Fletcher's request that he should address the Washington men. That would have been too much like canvassing and puffing himself. Fletcher had afterwards said that he wanted something from him to show them as to how they could go about having him for their doctor. He admitted giving Fletcher the notices, but he intended merely to let those men who wanted to come to him know how to do so. He did not intend in any way to canvass. He had never attempted to get patients away from another doctor.

Cross-examined by Mr. HEMPSON, Mr. YOUNG denied that he had any intention that the notices he had given to Fletcher should be put up in public.

In answer to the PRESIDENT, Mr. YOUNG said that when the insurance circular of October came to his notice he secured the 500 or 600 which had not been issued and had torn them into small pieces.

Mr. LLOYD GRAEME and Mr. HEMPSON reviewed the evidence.

The PRESIDENT, in announcing the decision of the Council, said: Mr. William Young, I have to inform you that the facts alleged in the notice of inquiry have not been proved to the satisfaction of the Council, and the complaint is accordingly dismissed.

The Council adjourned.

MONDAY, JUNE 1ST.

The General Medical Council resumed its sittings at its offices, 299, Oxford-street, W., the President, Sir DONALD MACALISTER, in the chair.

Penal Cases.

The Council considered the case of Edward Nangle Smartt, registered as of Leven, Hull, L.R.C.S. Irel. 1884, L.K.Q.C.P. Irel. 1886, who had been summoned to appear before the Council on the following charge:—

> That being a registered medical practitioner you have sought to attract to yourself patients by canvassing in person and by an agent for subscribers to a private medical club instituted by you, and by sending out to persons who were not your patients a printed circular letter signed by you offering your services in connexion with such club, and intimating that your secretary would call on the recipient. And that in relation thereto you have been guilty of infamous conduct in a professional respect.

The complainants were the British Medical Association, represented by Mr. W. E. Hempson, solicitor.

Mr. Smartt attended and was represented by Mr. H. Dobb, counsel instructed by Messrs. Petch and Co. (for Messrs. Crust, Todd, Mills, and Sons, Beverley).

Mr. HEMPSON said that prior to the National Insurance Act Mr. Smartt had acted as medical man to certain local clubs. These owing to the Act coming into operation were disbanded, but there were in connexion with these clubs certain classes of persons who did not get the benefit of the Insurance Act. Mr. Smartt, it appeared, was approached by the representatives of these people and asked to form a private medical club, and a circular had been sent out in connexion with the matter. Mr. Smartt now regretted that by an error of judgment he had caused his fellow practitioners annoyance. If that was still his attitude the British Medical Association had no desire to press the matter harshly.

Mr. SMARTT, giving evidence on his own behalf, said that a large proportion of his practice had been with clubs, and there had been no complaint against him. He had been on the best of terms with his fellow practitioners. When the Insurance Act came into operation he was approached by the secretaries of the clubs and also by members in regard to the difficult position in which the uninsured members found themselves. A suggestion was made that a private club should be formed to take these uninsured members. He consented to assist in forming it, and he was partly responsible for drafting the circular. The other persons responsible were the secretaries of the clubs. The object of the circular was to intimate to the uninsured members of the clubs that they would be provided for as a whole. He got lists of the uninsured members of the four clubs of which he had been the doctor. He had only sent out the circular to the people in those lists. They were all members of the clubs to which he was the medical attendant. He found them all in his books. He expressed regret that he had caused his fellow practitioners so much annoyance. He was getting in all the circulars which he could recover.

Mr. DOBB suggested that in view of Mr. Smartt's statement the complaint should be withdrawn by Mr. Hempson.

Mr. HEMPSON: I think I should leave it to the Council.

Mr. BODKIN (the legal assessor): You do not dispute the frankness of Mr. Smartt's attitude?

Mr. HEMPSON: Not in the slightest.

The PRESIDENT, in announcing the decision of the Council said: Mr. Smartt, I have to inform you that the Council have found that the facts alleged against you in the notice of inquiry have been proved to their satisfaction, but they have considered the explanations and apologies you have offered as coming in good faith, and accordingly they have not seen fit to direct the Registrar to erase your name from the Medical Register.

The Council considered the case of Caspar Denis Downing, registered as of 47, Mount Pleasant-square, Ranelagh, Dublin, L.A.H. Dub. 1912, who had been summoned to appear before the Council on the following charge:—

> That being a registered medical practitioner you were convicted: On Feb. 22nd, 1913, at the city police-court, Liverpool, of being guilty while drunk of disorderly behaviour in Windsor-street, Liverpool; (2) on August 2nd, 1913, at the city police-court, Liverpool, of being guilty while drunk of disorderly behaviour in Boundary-street, Liverpool; and (3) on Dec. 13th, 1913, at the Inns-quay police-court, Dublin, of being found drunk in a highway.

Mr. Downing did not attend.

Mr. HARPER, the Council's solicitor, read letters from the practitioner to the effect that he had been suffering from depression at the times the offences were committed. He had never been in practice in either Liverpool or Dublin. He had now an appointment in the extreme West of Ireland.

The PRESIDENT, in announcing the decision of the Council, said: I have to state that the Council have found that the convictions alleged against Mr. Caspar Denis Downing in the notice of inquiry have been proved to their satisfaction, but the Council have postponed announcing judgment on these convictions until November next, when Mr. Downing will be required to attend in person and to produce satisfactory evidence of his conduct in the interval.

Midwives (Scotland) Bill.

The Council received *in camerâ* a report from the Executive Committee on the Midwives (Scotland) Bill.

When the sitting was resumed in public

The PRESIDENT said: The Council has considered the Midwives (Scotland) Bill, and I am asked to communicate to the Lord President of the Privy Council the following resolution:—

> That the General Medical Council expresses its approval of the Bill and trusts that it will be passed into law in the current session.

Service Examinations.

Certain reports were presented by Sir CHARLES BALL from the Examination Committee. One of these dealt with the returns as to the examinations for the services. It set out that 25 commissions were offered in the Naval Medical Service in March, 1914. 24 candidates competed, 17 of whom passed, and 7 were rejected—4 in medicine, 2 in surgery, and 1 in both medicine and surgery. The Royal Army Medical Corps offered 12 commissions in January, 1914. 42 candidates entered for the examination, but only 34 competed. All qualified and 12 passed for vacancies. 12 commissions, afterwards increased to 20, were offered for competition in the Indian Medical Service in January, 1914. 22 candidates entered for examination, all qualified, and 20 passed for vacancies. The committee was glad to note the small number of rejections and the absence of any unfavourable criticisms on the general education of the candidates. There still appeared to be a serious shortage in the number of candidates for commissions in the Royal Navy.

Military Assistant Surgeons in India.

Sir CHARLES BALL presented a report from the Examination Committee on military assistant surgeons in India and Indian certificates. It was stated in the report that the military assistant surgeons formed a class which had undergone a modified medical training for a period of four years in one of the Indian colleges. The Council had permitted the recognition of this course under certain conditions as equivalent to three years of study in this country, but they had not sanctioned the acceptance of the preliminary and professional examinations connected with it. Sir Charles Ball went on to explain that certain communications had taken place with the Indian authorities, and two requisitions had now been made by the Indian Government. The one was that they recommended that the form of the certificate should be altered in certain ways, and the persons who certified that the certificates were granted should be altered to some extent. To these recommendations the committee gave unqualified approval. There were certain suggestions made by the Indian Government particularly as to certificates in preliminary education given by some of the colleges in India for which the Indian Government would be responsible, and they expressed the hope that these would be received so as to enable candidates who had passed them on commencing their professional studies over here to obtain admission to the Register. The conditions which had been laid down in a recommendation were that the examination in preliminary education of an Indian student should be of the character that would be accepted by the Indian universities for a similar purpose—those universities which were capable of granting a qualification capable of registration in the Colonial List. The committee thought that it would be extremely unwise to accord recognition to an examination held in India so as to admit a man to medical studies in this country, and the same examination was not recognised in India as admitting to study for a registered qualification there. The committee thought, therefore, that these examinations sanctioned by the Government of India should be also of a standard such as would be accepted by the Indian universities granting registrable diplomas.

The report was adopted and the Registrar was instructed to transmit it to the India Office.

Inspection of Examinations.

Dr. MACKAY presented the following report by the Education and Examination Committees acting conjointly in regard to the inspection of examinations :—

> The Examination Committee and the Education Committee acting conjointly advise the Council to commence in the year 1915 a cycle of inspection of the qualifying examination held by the several licensing bodies in the United Kingdom.
>
> They also recommend that members of the Council should be appointed to act as visitors.

Dr. Mackay said that it was the statutory duty of the Council to make an inspection of the qualifying examination of licensing bodies. It was practically ten years since the last cycle was undertaken. In the interval several new bodies had sprung into existence and they had not been inspected. From that point of view it would be the duty of the Council to undertake an inspection. It was necessarily a process which involved a certain amount of expenditure, but that could not be avoided if the Council was to perform its duties. The committees were of opinion that examiners were after all mortal, and it might be that there would be inspectors whose opinion would be dissented from by the examined body. It was therefore desirable that the Council should be represented and have an independent opinion. The visitors would be members of the Council who would be particularly qualified by training and experience to give the Council the benefit of their experience.

Sir CHARLES BALL then moved :—

> That it be delegated to the Executive Committee to make all the necessary arrangements for the inspection and visitation of qualifying examinations directed to begin in 1915, and to nominate to the Council at its November meeting suitable persons to be inspectors.

Dr. NORMAN MOORE seconded.

The motion was agreed to.

Recognition of Indian Preliminary Examinations.

Dr. MACKAY submitted a report of the Education Committee upon the recognition of certain preliminary examinations in India. He said that four of the universities of India required of their students that after passing the matriculation examination they should engage in further study in subjects of general knowledge for one or two years. There was usually additional study in English. The University of Calcutta did not adopt this system. If the Council were to accept the matriculation of Calcutta as absolutely sufficient they would be accepting an examination which would not be accepted by four of the Indian Universities. The Universities required the Calcutta matriculation examination to be supplemented by the intermediate examination or the preliminary scientific examination of the University. It was the usual practice of the General Medical Council to recognise only those examinations conducted by universities which the universities themselves accepted as sufficient for their own degrees; and the committee would therefore recommend that no Indian examination should be recognised as sufficient by the licensing bodies in this country which was not accepted as such by all the Indian universities. The committee would further recommend that in the case of students in the Indian universities, study in chemistry, physics, and biology carried out within the colleges of these universities subsequent to the passing of the matriculation examination, although prior to the completion of the additional examination required by the Council, be recognised as part of the medical curriculum.

The report was adopted.

Report of the Pharmacopœia Committee.

The Pharmacopœia Committee in their report stated that :

> From November [illegible], 1913, to May [illegible], 1914, the number of copies of the British Pharmacopœia [illegible] sold by the publishers was [illegible]. The total number of copies sold in the year beginning May 28th, 1913, was 1052, a larger number than in the year preceding. Up to the present time 46.031 copies of the Pharmacopœia and 4525 copies of the Indian and Colonial Addendum have been sold.
>
> A revised proof of the Text and Appendices of the British Pharmacopœia (1914) has now been prepared, and copies of it will be laid before the Council by the chairman. This proof is submitted subject to the typographical and other editorial corrections which may be necessary, and to the addition of an Index. The Committee will presently meet to consider such corrections, &c., and to pass for publication the final draft of the work.
>
> It is suggested that, as in 1898, the Council should now delegate to the Executive Committee the duty of adopting the completed work as *The British Pharmacopœia, 1914*, of making the statutory arrangements with the Treasury, and of giving the statutory notices of formal publication.

Dr. NORMAN MOORE moved that—

> It be delegated to the Executive Committee to receive from the Pharmacopœia Committee the completed draft of the new Pharmacopœia, to adopt it on behalf of the Council as the British Pharmacopœia (1914), to carry out the statutory procedure as to fixing the price at which copies are to be sold, to give the official notices in the gazettes and to make the necessary arrangements preparatory to the issue and publication of the report.

The PRESIDENT said that he had great pleasure in laying on the table a revised proof from the Pharmacopœia Committee. It represented many years of work, but with the assistance of very able editors the committee had secured what it was hoped was quite worthy to take its place as the official medicine book of the empire.

The motion was agreed to.

Students' Registration Committee.

A report on exceptional cases was received from the Students' Registration Committee.

Dr. SAUNDBY drew attention to two applications for registration without further preliminary examination which the committee recommended should be acceded to. These, he said, came from a commander and a sublieutenant in the Royal Navy. It was stated that these gentlemen had passed examinations in all subjects required by the Council except Latin. Why should they be allowed to enter upon a medical course without having taken an examination in Latin?

Dr. MACKAY defended the recommendation of the committee on the ground that both gentlemen were highly educated men, and as such had attained a standard which made them fully competent to undertake a medical curriculum.

Sir JOHN MOORE thought that if an exemption was to be given for such a subject as Latin it should be done formally. He regarded this as the thin end of the wedge. At present he did not think the Council should exempt anyone from a compulsory subject like Latin, and this ought not to be done so long as all the drugs in the Pharmacopœia had Latin names.

Sir W. WHITLA said that the Council must not forget that one of the first things it had to do was to turn out men able to write a prescription in Latin. He thought that these gentlemen might be allowed to commence their medical studies if they undertook to pass an examination in Latin.

Dr. NORMAN MOORE declared that the committee was not attempting to carry out anything behind the back of the Council. It was its duty to decide exceptional cases and not to undertake an educational crusade. These gentlemen had no doubt passed an examination in Latin which did not come up to the standard required by the Council, but they had passed very severe examinations in mathematics and other subjects, and he thought their applications should be acceded to.

The report, including the recommendations that the applications of these two gentleman should be acceded to, was adopted.

Public Health Committee.

Sir JOHN MOORE presented the report of the Public Health Committee. It dealt in the first place with a revised form of warning notice, but this subject had earlier in the day been considered by the Council *in camerâ*. The committee, the report stated, had had before it a communication from the University of Cambridge asking for guidance as to carrying out Rule I. of the Regulations for the Diploma in Public Health. The committee approved the following answer which was sent to the Registrary of the University on Jan. 8th, 1914 :—

> Rule I., which has no notes or exceptions attached to it, requires that the curriculum must extend over not less than nine months. The other rules specify courses of particular duration, and clearly indicate

that substitutes are possible, but these substitutes are not meant to shorten the curriculum.

The report contained recommendations to the effect—

(1) That the answer sent to the University of Cambridge as to the precise meaning of Rule I. of the Regulations for the Diploma in Public Health be approved, and used as occasion may arise as a reply to any similar inquiry; and (2) that all examinations conducted for the purpose of conferring the several registrable degrees, diplomas, or certificates in sanitary science, public health, or State medicine, specified in Table G at page lxxv. of the Medical Register should be inspected, and it should be remitted to the Executive Committee to report on the necessary arrangements.

Sir JOHN MOORE said in regard to the latter recommendation that 20 years had elapsed since the diplomas in public health were inspected. Since then many institutions had established diplomas which had never been inspected. This fact made inspection essential. The committee suggested that inspection should extend over three years.

Both recommendations were adopted.

Appointment of General Registrar.

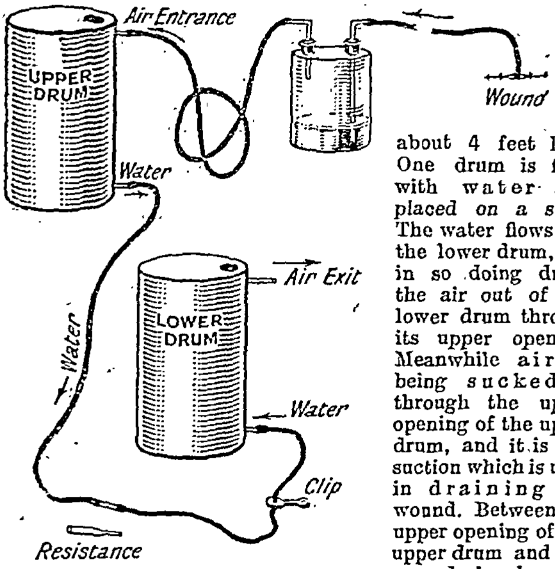
Mr. NORMAN KING was reappointed General Registrar.

A vote of thanks was passed to the President for his services in the chair. The session then concluded, and the Council rose to meet again in November.

New Inventions.

DRAINAGE BY SUCTION.

THE accompanying diagram shows the working of an apparatus which has been found of great value in the treatment of such conditions as suprapubic cystotomy, liver abscess, and empyema thoracis. An absolutely continuous suction can be readily maintained and any cavity which is opened by an operation can be kept empty, while the incision itself remains free from urine, pus, &c. The apparatus itself is easily made and so simple in action that no difficulty is met with. Two drums holding, say, four gallons are taken, and to each are attached two small projecting tubes, one at the top and one at the bottom. Any other openings in the drums are soldered up. The lower projecting tubes of the drums are permanently connected by means of rubber tubing about 4 feet long. One drum is filled with water and placed on a stool. The water flows into the lower drum, and in so doing drives the air out of the lower drum through its upper opening. Meanwhile air is being sucked in through the upper opening of the upper drum, and it is this suction which is used in draining the wound. Between the upper opening of the upper drum and the wound is placed a "bubbler" in which the pus or urine collects. Whenever the water from the upper drum has completely run out, the drums are reversed. At the same time the suction tube is changed over from one drum to the other, so that it is always attached to the upper opening of whichever drum is uppermost. It is important that all joints should be gas-tight, and this is readily secured by means of soft wax. It is convenient to place a clip on the tube which connects the lower drum openings, so that the flow may be stopped when required. It is also desirable in most cases to place a "resistance" in the lower tube to prevent too rapid a flow. A small glass tube drawn out at one end serves well for this purpose (e.g., a fountain pen filler). For drums I usually employ stout petrol drums. Ordinary kerosine oil tins have also been used and can be procured anywhere in India, &c. These, however, have the disadvantage of being noisy and may startle the patient when changed over, as the alternations of pressure from plus to minus and the reverse cause the sides to bulge or be sucked in, and this movement is sudden and disturbing. It is advisable that the tube which is in the wound should be packed tightly at the time of the operation, and there is seldom any difficulty in preventing air from entering. Usually there is no air entry at this point, and the rate of flow of water from one drum to the other corresponds merely to the rate of flow of urine or pus into the "bubbler." At the worst, even if air freely enters at the wound end, the drum need not be changed oftener than every three or four hours. I always anchor the tube in the wound by means of a suture, one loop being passed through the skin and knotted, a secondary loop being passed through the tube. If a small needle is used the punctures made in the tube give no trouble. When the tube in the wound is changed the secondary loop alone is divided, and the new tube is anchored by means of a suture passed under the primary skin-loop. The amount of suction depends of course on the difference in water level in the drums, and is thus under easy control and can be varied at will. It is often advantageous to have two tubes in the wound, one connected with the "bubbler" and the other for use in periodically irrigating the cavity. This latter is closed with a clip when not in use, and if left long the main dressings need not be disturbed while irrigation is being done.



This method of drainage has been found invaluable in the following conditions. 1. Vesical calculus. Suprapubic lithotomy is robbed of all difficulty in after-treatment. If ordinary care be taken it is perfectly easy to ensure that the wound remains free of urine: No sutures are put in the bladder, but a piece of gauze is usually placed behind the symphysis, and removed after 24 hours. As soon as it is found that the tube is gripped in the wound a smaller tube is used, and in from six to eight days all tubes can be dispensed with. The same of course would apply to prostate operations. The ease with which the after-treatment can be carried out renders suprapubic drainage a justifiable procedure in bad cases of stricture, for after draining in this way for a day or two a catheter should usually pass. 2. Liver abscess (amœbic). In neglected cases where there is a large collection of pus free drainage is, in my opinion, the safest procedure. With suction drainage there is never any fouling from the liver pus, and the wound remains perfectly clean. One can guarantee continued asepsis, although this is almost impossible to maintain if the liver pus is allowed to flow from the wound under the dressings in the ordinary way and saturate everything. It is in these large liver abscesses that the double tube is so useful, as the cavity can be repeatedly irrigated, even while the patient is asleep. The suction helps to cause collapse of the cavity walls, and in a few days it may be that all tubes can be removed even when the cavity originally contained 40 or 50 ounces. 3. Empyema thoracis. Here there should be no difficulty in securing a gas-tight wound from the outset, and no pus need get on the dressings. The suction undoubtedly helps lung expansion, and in suitable cases could be increased at will. The method has many other applications—e.g., after gall-bladder operations, &c.—although I have had no occasion to use it on such cases.

E. HENDERSON HUNT, M.Ch. Oxon.,
F.R.C.S. Eng.,
Chief Medical Officer, The Nizam's Guaranteed State Railway.
Secunderabad, India.

HEALTH AND MORALITY.—The Abolitionist Federation announces an International Conference at Portsmouth, June 15th–18th, in which constructive policy will be discussed under two headings, Reduction of Immorality and Reduction of Venereal Disease. Among the medical speakers are Dr. Santotiquido (Rome), Dr. Lornholt (Copenhagen), Dr. Rist (Paris), Sir Victor Horsley, Dr. Douglas White, Dr. Helen Wilson, and Dr. C. W. Saleeby. The non-medical speakers include the Bishop of Winchester, Mr. Bronoon Reynolds (American Federation of Social Hygiene), Councillor W. J. Dawson (Hull), M. Yves Guyot, and other visitors from France, Germany, Switzerland, &c. Programmes and tickets may be obtained from the secretary, Miss McNeill, 19, Tothill-street, London, S.W.

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THE LANCET.

LONDON: SATURDAY, JUNE 6, 1914.

Departmental Regulations Under the Mental Deficiency Act.

THE Mental Deficiency Act, which came into force on April 1st, imposes on the Lunacy Commission, enlarged and reconstituted under the title of the Board of Control, the additional duty of organising and superintending an elaborate system for the supervision and treatment of certain categories of mental defectives who have not hitherto been directly amenable to any form of compulsory care. The local authority primarily responsible for the discharge of the new functions created by the Act is in counties the county council and in boroughs the borough council, but new and important duties are also assigned to the local authorities under the Education Acts and the Poor-law, and one of the first tasks confronting the Board of Control has accordingly been to arrange for the harmonious working of its own local machinery at the numerous points where it comes into contact with the machinery of the other administrative departments. The Circular Letters and Provisional Regulations recently issued by the Board of Control, the Board of Education, and the Local Government Board would appear to show that this somewhat difficult and delicate operation has been carried through with a degree of success which is highly creditable to the energy and tact of all the departments concerned, and is in itself a striking evidence of the reasonable and temperate spirit which animates the policy of the Board of Control.

The new powers created by the Act may be considered, from a practical point of view, under two main aspects, according as they affect the feeble-minded while still within the limits of school age, or as they relate to adult defectives who have committed criminal offences or who are likely to suffer through not being under proper care and control. Criminal defectives may be left out of account for the moment—in their case no inter-departmental question arises: they are brought under the operation of the Act either at the time of conviction, when the court may hand them over to the local control authority, or, in lieu of sentence, may make an order for their treatment in some one of the methods laid down in the Act, or subsequent to conviction, when the same course may be taken by the Secretary of State. Of adult defectives other than the class we have just referred to, the majority who may come within the scope of the Mental Deficiency Act are persons chargeable to the Poor-law. The Act definitely lays down that the responsibility of the Poor-law authorities for the relief of mentally defective persons is to remain unimpaired; and it is only when certain special circumstances, defined in the Act, are present that the transfer of such persons to the local control authority can even be proposed. In any such case the method of procedure set out in the Provisional Regulations is that the Poor-law authority may report the case to the Local Government Board who, if concurring in the report, may transmit it to the Board of Control, and the Board of Control, if satisfied that the local control authority are able and willing to take the person under their charge, may issue a certificate sanctioning the transfer. As this process at each of its successive stages is purely permissive, and as the powers of the local authority are further limited by the amount of financial aid obtainable from the Parliamentary grant, it is probable that the number of such transfers will not be very large. It is to be hoped, however, that there will be no hesitation on the part of boards of guardians in having recourse to these special provisions as a means towards the protection and control of weak-minded girls.

Valuable as the Act will doubtless be in removing some of the more urgent difficulties in the management of adult defectives, there can be no question that its more important and more fruitful influence will be exercised through its application to the feeble-minded during the earlier years of life. For this reason particular interest attaches to the Regulations and Model Arrangements which have been framed by the Board of Education in consultation with the Board of Control, and which, read in the light of the circular letter issued by the former department, give a very clear idea of the policy that it is proposed to adopt in working the sections of the new Act having reference to mentally defective children. The scheme outlined in these documents is, of course, to some extent of a provisional and tentative character, but in the main it appears likely to commend itself to the approval of those who have had experience in the practical difficulties of the problem. Section 31 (1) of the Mental Deficiency Act lays upon local education authorities the duty of ascertaining what children within their area are defective within the meaning of the Act, and which of such children are incapable by reason of mental defect of profiting by instruction in special schools: and it further requires them to notify to the local control authority all children who are ascertained to be unfit for such schools, whether through inability to profit by the training or through being a source of detriment to other children, as well as children who on or before attaining the age of 16 are about to be withdrawn or discharged from a special school, and in whose case the education authority considers that it would be to their benefit that they should be brought under the operation of the Act. Notification is to be in accordance with the Regulations made by the Board of Education, which are to have effect as if enacted in the Act. The Regulations, therefore, are binding on all local education authorities. They provide that where it is proposed to notify to the local control authority any child, not being an idiot or an imbecile, as unfit for instruction in a special school, the education authority shall, if required by the Board of Education, refer the case to that department before taking action. It is the view of the Board of Education that, while children rightly classified as idiots or imbeciles are ineducable, children rightly classified as feeble-minded are educable to a greater or less degree, and should in all cases be given an adequate trial under suitable educational conditions in a special school before being pronounced incapable of instruction and being handed over to the control authority. To give effect to this view the Board require that in each case prior to notification a copy of the report of the certifying medical officer shall be submitted to them, so that they may satisfy themselves that there is no *prima facie* reason to suspect that the child is not correctly described as an idiot, an imbecile, or a moral idiot. This attitude of the Board of Education gives very great practical importance to the question of diagnosis, and to secure a high standard of accuracy in this respect the model arrangements suggest as a desirable form of report the very elaborate schedule printed in Appendix E of the annual report for 1911 of the Board's chief medical officer. While this schedule has many admirable features, it may be open to doubt whether a simpler scheme of examination might not yield better results in practice. It appears to be somewhat of a counsel of perfection to require school medical officers to enter into such psychological refinements as are involved in measuring the capacity for the "formation of motor ideas," or in estimating, under "reactions resulting from sensory stimulation," the power of forming concepts of "relationship (similarity, contrast, symbolism)." Subtleties of this sort, many of which imply adherence to psychological theories that are by no means universally accepted, are hardly suited to the purposes of a standardised form for recording clinical observations.

In this connexion we may note as somewhat singular that the memorandum of the Board, while so liberal of psychology in its appendix, does not anywhere define the border-lines between idiocy and imbecility, and between imbecility and feeble-mindedness. The definitions of these degrees of defect are of special importance in view of the marked differences in the treatment which is to be applied to them under the scheme of the Board, and the rough practical tests relied on in the first section of the Mental Deficiency Act will hardly be sufficient for the requirements of exact diagnosis. The subject is, of course, extremely difficult and obscure, and it would be unreasonable to expect satisfactory results from the first efforts to provide official guidance in its complexities. Such efforts, however inadequate, will deserve commendation if they promote, as the schedule of the Board will no doubt promote, careful study and accurate record of the facts.

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The Cow as an Agent of Diphtheria Infection.

The Local Government Board has issued an instructive report by Dr. Hugh A. Macewen on an outbreak of diphtheria occurring in the South of London in December last which was attributable to milk infection. The outbreak, which Dr. Macewen investigated in conjunction with Dr. J. Priestley, Dr. Stanley Child, and other medical officers of health concerned, affected 119 cases in 94 houses situated in Croydon, Lambeth, Penge, Camberwell, Lewisham, and Beckenham, all obtaining milk from a dairy situated in Lambeth and doing a large business in the districts named. The cases were distributed widely throughout several different sanitary areas, most of which had large populations and shared in the general prevalence of diphtheria that occurred throughout London in the autumn and winter of 1913. Had it not been for the careful nature of the inquiries made by the various public health officers the common origin of the infection in these different areas might well have been overlooked. Once the matter was gone into, however, there could be no doubt that the incidence of the disease had fallen in quite an exceptional degree upon the customers of the dairy in question, and that the milk sent out from that establishment had been infectious for a period of about three weeks. At one time it appeared possible that the infection might have been conveyed to the milk after it reached Lambeth, as certain of the distributors employed by the dairy were ascertained by Dr. Priestley to be carriers either of the Klebs-Löffler or of a "diphtheroid" bacillus. The possibility of infection occurring in course of the delivery of the milk cannot be lost sight of, and the facts as to the incidence of diphtheria on the different milk rounds of the dairy, which were worked out by Dr. Priestley, suggested that infection by these distributors might have acted as a contributory cause of the outbreak. It was concluded, however, that the bulk of the supply must have been infected before the milk was taken over by the suspected distributors, as a large number of cases occurred on the milk rounds of other distributors who were not diphtheria carriers.

The milk supplied by the dairy was mixed milk obtained from about 17 different farms, and it was presently ascertained that during the particular period in question a portion of the supply which came from one of these farms, situated in Horsham, was in all probability infected. During this period three of the milkers at this Horsham farm had suffered from ulcerated fingers, in one instance so severely that a finger was amputated. Virulent diphtheria bacilli were obtained from the amputated finger of this milker and from a sore on the hand of another milker, the specimens being taken by different observers on separate occasions and being examined in different laboratories. The sores on the hands of the third milker were healed at the time he came under observation. As Dr. MACEWEN observes, it was difficult, if not impossible, to dissociate the cows from the milkers in considering how the milk became infected; the milkers had been free from diphtheria or sore-throat infection at their homes and they could hardly have been infected one after another on the fingers apart from the agency of infection on the cows' teats which they handled. It was found that in five of the cows at the farm irregularly shaped sores had been present on the udder and teats, situated usually on the upper portion of the teats, which resembled the sores on the milkers' hands. No great attention had been paid to these sores, and it could not be ascertained how long they had been present; it appeared tolerably certain that they had been observed before the first milker's finger was affected. At the time the farm was visited the sores were practically healed, and only a dry surface remained from which no swabs could be obtained. Samples of the milk were examined for the presence of diphtheria bacilli with negative result, but as these samples were not taken until Feb. 2nd, when all the external lesions were healed, no inference could safely be drawn as to the bacterial condition of the milk of these cows during the infective period in the previous December.

The unusual features of this outbreak deserve notice, and may usefully be borne in mind in similar cases where milk is suspected, and its prolonged daily infectiousness cannot be explained by a diphtheria case or carrier having access to the milk. The suggestion that cow infection may play a part in milk epidemics of diphtheria is not new, though well authenticated cases are rare. Sir WILLIAM POWER, to whom we owe the demonstration, in 1878, that diphtheria can be spread by milk, himself suggested the possibility of cow infection when reporting in 1886 on the facts of a remarkably severe outbreak of diphtheria in York Town and Camberley. Here, although he succeeded in tracing the infection to the milk of a large dairy, inquiries failed to produce any evidence of diphtheria among the milkers, and it was pointed out that a hypothesis of continued or intermittent infection of the milk as obtained from the cow could not be disregarded. In 1906 Dr. A. ASHBY reported in detail on a condition of the udders and teats of cows, similar to that now described at Horsham, in a dairy herd the milk of which had caused a considerable outbreak of diphtheria at Twyford. In this case the milkers' hands appear to have been unaffected, but diphtheria bacilli were demonstrated in the sores on the teats of the suspected cows. It is to be regretted that in the present instance the circumstances did not suggest or permit earlier examination of the cows at the Horsham farm and so complete on the bacteriological side the interesting chain of evidence which we have summarised. In such cases it is evidently desirable to lose no time in introducing the bacteriologist to the cow.

Annotations.

"Ne quid nimis."

THE BORDERLAND OF NEUROLOGY AND PSYCHIATRY.

AT the recent quarterly meeting of the Medico-Psychological Association of Great Britain and Ireland, which was reported in our last issue, Dr. Helen Boyle, of the Lady Chichester Mental Hospital, read a paper on the question of how to improve treatment in the matter of early nervous and mental cases. The subject is undoubtedly one that is surrounded by both theoretical and practical difficulties, as several of the speakers in the subsequent discussion fully recognised. The general tenor of Dr. Boyle's paper was that neurology and psychiatry were as a rule practised separately, with not infrequently unfortunate consequences to the patient. Cases of mental disease in an early stage were diagnosed as neurasthenia and subjected to rest-cure treatment, which often was not merely useless but positively harmful. It was remarked with truth that the last person to see an early mental case was usually the alienist, who is nevertheless the specialist in that class of disease. There is, of course, no hard-and-fast line to be drawn between nervous and mental diseases. From whichever side they are approached border-line cases are constantly occurring. If the neurologist makes the erroneous diagnosis of neurasthenia in a case of exhaustion psychosis, the alienist may fail to recognise a cerebral tumour running perhaps an atypical course in a case with obvious disorders of conduct. We must admit that, broadly speaking, neurology and psychiatry have each a wide field, and that many cases are easily and readily placed as belonging to one or other category. But no one denies that leakage from one group to the other is a matter of everyday occurrence. To obviate mistakes, and, indeed, to avoid the unsatisfactory transference of cases where no mistake is made, the *neurologist* should be sufficiently familiar with the early forms of insanity, just as no psychiatrist can afford to dispense with a neurological training. No antagonism exists between the two sister sciences, and we believe that the whole tendency of modern developments in the study of disease of the nervous system is to bring them closer together than ever before. This is just as it should be. At the same time it must be said that asylum officers will often be found frankly to admit that they are conscious of having begun at the wrong end, so to speak, and that they feel that a working knowledge of the main facts of neurology should be theirs before ever they start on what is the higher study of the two—the study of the mind diseased. Comparatively few asylum officers have had such a training. In this connexion the newly instituted diplomas in psychological medicine are proving a splendid incentive to the psychiatrist to make himself as strong on the neurological side as he is on his own. Nor should the neurologist feel that because a patient begins to show so-called mental symptoms the case is passing beyond his ken. He, too, should have had at least some asylum training, and he cannot afford to ignore the importance of an adequate acquaintance with the main facts and principles of so-called mental disease. We agree with Dr. Boyle that neurology and psychiatry are parts of the medical curriculum of which as a rule the student is somewhat shy; they are not brought prominently before him, and unless the physician in the hospital wards has himself shown interest in that class of case the student may have seen very little to help him when at length he joins the ranks of the general practitioner. For this reason we welcome the advances that are unquestionably being made. Several of the large general hospitals have neurological departments; most have at least one member on their staff who is alive to the importance of these specialties, and who chooses to teach on such cases in preference to others drawn from the other sections of internal medicine. It is rather on the side of psychiatry, on the whole, that the student is still not so well catered for as he might be, but already more than one general hospital has an out-patient clinique for mental cases, and ere long London will be still better off in this connexion. We see no reason why there should not be both neurological and psychiatrical cliniques at general hospitals, and it is possible that some day the physician at the head of such cliniques will be neither neurologist nor alienist, but a teacher with full experience of both nervous and mental disease. It is our impression that on the continent there is more coöperation in the two branches than in England; at least, more neurologists are members of psychiatrical societies, and *vice versâ*, than at home. In any case, it seems clear that in order to keep abreast of advances in knowledge of the functions of the nervous system both alienist and neurologist must continue to learn each from the other. We know that prejudices die hard, and that the stigma supposed in the mind of a considerable section of the public to be attached to the word asylum is a potent factor in the continuance of the present unsatisfactory situation. But this stigma is gradually disappearing; and were the public to become more familiar, by means of hospital cliniques and otherwise, with the view that mental disease is nervous disease, it would in time vanish altogether. All endeavours to achieve that end are worthy of the strongest support.

ACUTE PANCREATITIS.

PROBABLY one of the latest abdominal lesions to be recognised was acute pancreatitis, and yet it is one of the most important and most serious of the many acute affections involving the abdominal viscera. It is not, however, so important on account of its frequency, for acute pancreatitis is one of the rarer abdominal lesions, as on account of the difficulty in recognising it, at least in most cases. The rarity of the condition renders it unlikely that most surgeons will see many cases of the disease, and, in fact, it falls to the lot of few surgeons to see more than one or two examples. In the present issue of THE LANCET we publish an interesting and important paper by Mr. A. E. Barker, who has collected the notes of six cases which have been under his own care or that of his colleagues at University College Hospital. It is of interest to note the conclusions at which Mr. Barker has arrived. He points out that in several of the cases there had been previous attacks evidently of the same nature. The sudden onset and the severity of the pain were very marked. In no case was any tumour discoverable in the epigastrium without an anæsthetic, and even after the administration of an anæsthetic in only one case could a swelling be felt. With regard to treatment, drainage of the omental sac is not sufficient in most cases, and Mr. Barker insists on the need for retroperitoneal drainage. As to the results, of the five cases in which an operation was performed four recovered. With earlier operations the danger of the condition will probably be greatly diminished.

FERRO-CHROME DANGERS.

IT appears that ferro-chrome is liable, like ferro-silicon, to give off poisonous phosphoretted hydrogen gas, and the attention of the Local Government Board having been drawn to the subject, three officers were appointed to institute an inquiry. The results obtained now appear in a report published last week, signed by Dr. S. Monckton Copeman, F.R.S., medical inspector of the Local Government Board; Mr. Samuel R. Bennett, M.A., one of H.M. inspectors of factories; and Mr. H. Wilson Hake, Ph.D. Chromium as a constituent of steel confers important physical properties, but chiefly it hardens the material and as the proportion of chromium increases the alloy exhibits a high resistance to rupture and a high elastic limit. Chrome steels are mainly used for armour plate, armour-piercing projectiles, some high-speed steels, steels for stamps and crushers, and also for files, tyres, and springs. According to Dr. Monckton's summary of Dr. Hake's investigations there would seem to be no doubt that an excess of aluminium in chrome steel alloys is coincident with a tendency to spontaneous disintegration, accompanied by evolution of phosphoretted hydrogen. It may be remembered that ferro-silicon is prone to disintegration, especially in presence of moisture, poisonous gases being given off in such quantity as to bring about fatal results in human beings subjected to such emanations. Consignments, however, of ferro-chrome had been found to evolve "acetylene smelling gas more strongly than the worst ferro-silicon." Samples were found to fall to powder very readily on exposure to air and moisture, and paper impregnated with silver nitrate assumed an intense black colour almost immediately on exposure to the gases given off from this material, while lead paper was unaffected, thus indicating the evolution of phosphoretted hydrogen in large quantity. The explanation offered was that this must have been due to an abnormally high percentage of silicon, whereas ordinary ferro-chrome is almost as hard as cast iron. It now seems fairly established, according to this report, that the disintegrating quality of ferro-chrome is not due to silicon but to an excess of aluminium present. It certainly appears to be the case with the related material ferro-silicon. A sample of this latter with pure aluminium introduced proved to be specially liable to disintegration, giving off at the same time large quantities of phosphoretted hydrogen, while another sample freed from aluminium did not disintegrate, although otherwise of practically the same composition and exposed to similar conditions in all respects. By previous methods of manufacture apparently aluminium was practically excluded, but by a later method, in which the affinity of aluminium for oxygen was made use of, the resulting alloy contained important quantities of this metal. The method consists in the reduction of chromium oxide to metallic chromium by the combustion of aluminium. The older methods, however, are capable of introducing aluminium, since this occurs in the chromium ore itself, apart from that contained in the coal employed to reduce the ore to the metallic state. The avoidance of any risk to life arising from the disintegration of ferro-chrome, which leads to the evolution of poisonous phosphoretted hydrogen, would thus appear to rest upon the elimination as far as possible of aluminium in the resulting alloy, and Dr. Hake reports that while ferro-chromes are not entirely free from danger, the dangerous samples have, until recently at any rate, been rather the exception than the rule. But in every case the offending ferro-chrome was always one containing a marked amount of aluminium (1 to 7 per cent.), whereas in the innocent specimens quite small quantities were found, a good typical specimen containing only 0·08 per cent.

JAUNDICE IN TUBERCULOSIS.

JAUNDICE is a rare condition in tuberculosis. In the *American Journal of the Medical Sciences* for May Dr. John M. Cruice has published an important paper on this subject from the Henry Phipps Institute, a source from which have emanated many valuable contributions to the literature of tuberculosis. In 570 necropsies at the institute only three cases of jaundice due to tuberculosis of the liver were encountered. There were also four cases of jaundice in which the patients left hospital, and therefore it could not be proved that the jaundice was due to tuberculosis of the liver. These seven cases of jaundice are all that have occurred in 1748 cases of tuberculosis admitted from the opening of the hospital until Feb. 1st, 1912. Like other forms of jaundice, jaundice in tuberculosis may be due to extrahepatic or intrahepatic obstruction. Extrahepatic obstruction is produced by tuberculous glands in the portal fissure pressing on the bile ducts. This is a rare condition, because these glands do not receive lymph from the intestines or peritoneum. When jaundice is of intrahepatic origin there is tuberculosis of the liver. This condition takes three forms—miliary tubercles, solitary tubercles, and tuberculous cirrhosis. Only in the first two forms has jaundice been reported. Miliary tubercles of the liver are of frequent occurrence, but jaundice due to this condition is very rare. Only one case was observed at the institute. A youth, aged 20 years, was admitted with advanced tuberculosis of both lungs. The liver extended two finger-breadths below the costal margin and the spleen was palpable one and a half finger-breadths below the costal margin. The patient became slightly jaundiced and the liver tender. He died seven weeks later. At the necropsy cavities and miliary tubercles were found in the lungs. The liver was enlarged and fatty, and on microscopic examination showed miliary tubercles. Solitary tubercle of the liver is very rare and may take three forms—conglomerate tubercle, tuberculous cavities or bile-duct tuberculosis, and tuberculous abscess. Conglomerate tubercles are comparatively large caseous masses. Dr. Cruice has been unable to find recorded a single case of conglomerate tubercle with jaundice, but two such have occurred at the institute. Of bile-duct tuberculosis Dr. H. D. Rolleston says it is remarkable that jaundice is constantly absent, although some of the ducts are obstructed. Thayer has reported a case of tuberculous cavities of the liver which showed jaundice for a week but cleared up some time before death. Warthin has reported a case of bile-duct tuberculosis with intense jaundice for three months before death. At times solitary tubercles become secondarily infected with pyogenic organisms and form abscesses. Mr. Mayo Robson has reported a case of tuberculous abscess of the liver which was successfully operated on. For three months before the operation there was a slight tendency to jaundice. From such a small number of cases Dr. Cruice does not draw conclusions, but taking them in conjunction with those reported in literature they suggest: (1) that jaundice in the course of chronic tuberculosis is probably due to some form of tuberculosis of the liver, extrahepatic or intrahepatic; (2) that the degree of jaundice is helpful in surmising the pathological condition, intense jaundice being probably due either to pressure of tuberculous glands on ducts or to some form of solitary tubercles of the liver, milder forms to miliary tuberculosis of the liver.

SCLERODERMIA.

IT was Thirial who, in 1845, first described this condition. The hardening of the skin, its loss of elasticity, its frequent distribution over wide symmetrical areas in the skin, and, when it especially involves extremities, the associated cyanosis and asphyxia of the fingers and toes, resembling markedly Raynaud's disease, present a striking clinical picture. Later observations have shown some curious relationships to this condition not previously suspected. It has been shown that sclerodermia is often associated with abnormal states of the thyroid gland; this may be atrophied or, more usually, hyperactive. Sometimes the thyroid condition may precede the sclerodermia; occasionally the reverse occurs. Further, changes in the pituitary gland have been noted; possibly other glands of internal secretion are implicated in some way not known. It is sufficient to note that there is some intimate relationship between the sympathetic nervous system, the glandular structures controlling it, and sclerodermia. Beyond these points, however, which are in the speculative stage so far as pathogeny is concerned, there have been many interesting observations upon the condition itself. An instructive case has been recorded by Bertolotti in the *Nouvelle Iconographie de la Salpêtrière* (1913, vol. iv., p. 291). The patient was a woman aged 36. There was evidence of atrophy of the thyroid gland; there was some pigmentation of the face suggestive of Addison's disease; the wrinkles of the face were exaggerated and immobile. Hardening and thickening of the subcutaneous tissues was present over most of the body, but most marked in the neighbourhood of the extremities. There were asphyxial troubles of the fingers exactly resembling Raynaud's disease. There was in addition localis[illegible] muscular atrophy; the muscles had in some places undergone an induration sclerosis by a process of interstitial myositis. The tendons were retracted, hard, and presented signs of calcification. In other parts the muscular changes were similar to primitive myopathy. In some places there were in the skin small hard nodules filled with a calcareous substance of dark colour. Radiographic examination showed a certain degree of pituitary hyperplasia. There was, finally, a limitation of perspiration to the hands, an unusual condition, the reverse being more often the case. This writer calls attention to the resemblance of this disease when it has reached this stage to the syndrome known as that of Profichet. In this syndrome the prominent feature is the presence of muscular atrophy and hardened areas in the skin, which can go on to the formation of calcareous nodules. At the necropsy of one of these cases there was found myocarditis and atrophic viscera. It is suggested that this syndrome represents but a further stage of sclerodermia, in which condition similarly fibrous cirrhosis of the liver has been found. The diagnosis of sclerodermia may have to be made from Raynaud's disease when the extremities are especially involved, from von Recklinghausen's disease when there are multiple nodules, and also from gout. In the latter condition the nodules are transparent to X rays, whereas the sclerodermic masses are impervious on account of the calcareous deposit. Treatment is often of little avail, although the intimate relation to thyroid disease suggests the giving of thyroid substance, which has in some cases been followed by good results.

INFANTILE MORTALITY IN THE PHILIPPINE ISLANDS.

AN excessive mortality is known to be occurring among infants in the Philippines, and this massacre of the innocents is greater in the capital city of Manila than in the provinces. In recent years energetic efforts have been made by the American medical officers stationed in those islands with a view to reduce this sacrifice of infant life, but for various reasons, among others owing to the invincible apathy of the Filipino people, little progress has been attained, and much therefore still remains to be done. Some interesting and valuable information on the subject is furnished in an article contributed to the current number of the *Philippine Journal of Science*, Section of Tropical Medicine (Vol. VIII., No. 6), by Dr. W. E. Musgrave, of Manila. It appears that the high infantile death-rate is due to a multiplicity of causes, prominent, however, among which is the very important question of food. The adults of the masses of the population have often the appearance of being ill-nourished, and this to a great extent arises from the poorness of the quality of the foodstuffs forming the staple of their dietary. Among these foodstuffs unpolished white rice has bulked largely for some time, and, as might have been anticipated, beri-beri is far from infrequent, attacking even infants at the breast. The evidence of this insufficiency of nourishment is most marked among the nursing mothers, many of whom unsuccessfully attempt in their half-starved condition to provide adequate nourishment from their breasts for their hungry offspring. It is a curious fact and worthy of note, being contrary to all ordinary experience, that in Manila the death-rate is higher among breast-fed babies than amongst those who are artificially fed. No one disputes nowadays the statement that mother's milk is the ideal food for very young children, but it seems to be otherwise in the Philippines, since the mothers, at least among the lower classes, are unable to furnish to their sucklings milk that is of a quality good enough to meet their requirements. Unfortunately, it is not possible to substitute for the mother's milk clean and fresh cow's milk, for this is not obtainable in sufficient amount, and what little is available is too costly to let it come within the reach of the masses who need it. The milk-supply in Manila is to a great extent obtained from caraboas (a kind of Indian buffalo) and goats, but from the sanitary point of view this supply is dangerous owing to the shocking conditions under which much of it is produced for sale. The methods of collecting, transporting, and using this milk are, according to Dr. Musgrave, "unbelievably filthy." As sold in the streets of Manila, it is generally from 26 to 30 hours old; it has already been diluted with tap-water—or worse; it has been collected and transported in dirty vessels, and has been milked by unclean persons from unclean animals. It is condemned by chemical and bacteriological examination, and often contains dangerous bacteria. It seems, therefore, that in existing circumstances, a raw fresh milk being unattainable, it becomes necessary to consider the advisability of sterilising or pasteurising the available supplies. Dr. Musgrave very properly points out that in the climate even sterilised milk rapidly deteriorates unless kept in ice, a course impossible for the great majority of the Filipino population. The conditions for the growth of micro-organisms are ideal in the Philippines, so that when preserved and condensed milk is used it must be consumed as quickly as possible after the tin is opened, otherwise it is apt to become dangerous from the rapid growth of bacteria. Another source of peril to the child is the dilution of condensed milk, after the tin is opened, with unboiled water derived from a contaminated source. The best brands of condensed milk are available in the Philippines, but the poorer classes insist on buying the cheapest kinds, the worst from the nutritional point of view, lacking largely a sufficiency of the substances which the child needs for its growth. Before any great improvement can take place it is obvious that education of the common people, especially of young women and girls, is necessary with regard to the best and most nutritious articles of diet, and as to the care and management of infants, along with the establishment of public nurseries where practical instruction can be given. It is, however, essential in the Philippines, if this wastage of child life is to be checked, that public opinion on the subject be thoroughly awakened. We are glad to learn that the whole matter is now under the consideration of the Philippine legislature.

PARALYSIS AGITANS TREATED BY NUCLEINATE OF SODA.

ON the hypothesis that Parkinson's disease may be due to defective quantities of metabolised nuclear material, especially in the nervous elements of the body, it has been suggested that nuclein may perhaps improve metabolism and consequently relieve the symptoms of the disease. Dr. N. Büia reports the results which he has gained in a series of cases of paralysis agitans treated by nucleinate of soda in the *Comptes Rendus de la Société de Biologie* (1914, vol. lxxvi., p. 507). The period over which the observations were made was five months—a sufficiently long time, he claims, for the effects, certainly beneficial, of this treatment to be judged. The preparation used was nucleinate of soda, 10 per cent. strength in physiological serum. It was tried by mouth, hypodermically, and intravenously. By mouth no effects were observed. Hypodermically 40 centigrammes were given, starting, however, at a lower figure and increasing the amount by 5 centigrammes every two days. 40 centigrammes were not exceeded and the treatment lasted for a month. Improvement in the mental capacity was observed and the patients (five in number) were stated to be generally benefited. Much better results, however, followed the intravenous method. The same solution was used. Effects were noted 15 minutes afterwards. Three types of response were observed. In a few the response was insignificant; in others there was a well-marked thermal rise, sometimes to 39·8° C. occurring within half an hour. There was a sensation of cold and shivering. These immediate effects were followed by later general improvement. In a third class of case there occurred sudden loss of tremor, there was lessening of muscular rigidity, a rise of temperature which subsided to normal in about four hours, and some rise of blood-pressure. Continuance of treatment in such cases showed definite psychic improvement; there was a lessening of the tremor, and a definite increase in muscular force was gained. These effects presented some degree of permanency. In the treatment no untoward symptoms occurred, though in some cases larger doses of nucleinate of soda than 35 to 40 centigrammes caused nausea, vomiting, and vertigo. There were also, occasionally, tachycardia, dyspnœa, and headache. These effects, however, need not be anticipated in moderate doses of the drug. The results appear sufficiently encouraging to warrant further observations upon similar lines.

VOLVULUS AS A SEQUEL TO A BOXING COMPETITION.

A VIOLENT effort may be the exciting cause of volvulus. In the *Australasia Medical Gazette* of April 4th Mr. E. Buckley has reported a case following a boxing competition. A youth, aged 18 years, took part in an amateur boxing competition after a medical examination in which he was found quite sound. He fought six rounds of two minutes each, the whole being considered a strenuous battle, and won. No ill effects were noticed. About midnight he arrived home and his bowels acted half an hour later. Soon after he complained of severe abdominal pain not limited to any particular area. At 6 A.M. he vomited. At 8.30, when Mr. Buckley saw him, he was in great pain and the abdomen was tender all over, particularly in the lower part, but it moved freely on deep respiration. Enemata were given without result. At 11 the abdomen still moved on respiration, but the muscles were slightly "on guard." He was not complaining of pain, but this may have been due to the administration of a quarter of a grain of morphine. At 5 P.M. his appearance had greatly changed. He looked anxious, the pulse was 66 and the temperature 98·6° F. The lower segment of the abdomen was slightly distended and the abdominal muscles were decidedly on guard. At McBurney's point tenderness was acute. He was removed to hospital with a view to operation. The pulse rose to 100, and he vomited bile-stained material for the third time. The abdomen was opened in the appendix region. On incising the peritoneum bright red blood rushed out. A black shining coil of small intestine presented. Other coils were distended and showed numerous hæmorrhagic patches. The junction of the cæcum and the ileum formed a volvulus. The proximal end of the vermiform appendix was included in the constriction, and the distal part was greatly swollen. The twist was relieved without difficulty. The brevity of the illness suggested that the circulation in the intestine would be re-established, and the abdomen was closed. During the night two motions, consisting of dark blood, with much flatus, were passed. At 11 A.M. next day the patient became collapsed, and at 2 P.M. he died, 36 hours after the onset of the illness. It was not possible during the operation to discover accurately the anatomy of the region involved. Unfortunately a necropsy could not be obtained. During the boxing no blow was received on the abdomen. Mr. Buckley suggests that some anatomical condition may have predisposed to the volvulus which was brought about by the exertion of the boxing match.

THE OPERATIVE TREATMENT OF PULMONARY TUBERCULOSIS.

Mr. H. Morriston Davies has recently contributed to our columns an article on the great advances made in the last past decade in the surgical treatment of pulmonary tuberculosis.[1] Of the various methods the induction of pneumothorax by injection of nitrogen into the pleural cavity is the simplest, and should be adopted when temporary collapse of one lung is indicated. But in many cases this operation is impossible owing to pleural adhesions. In such the more severe operation of rib resection has been adopted. A less drastic method, termed "pneumolysis," has been devised by M. Tuffier and recently practised. In conjunction with M. G. Loewy he has described it, and given its results in the special tuberculosis number of the *Interstate Medical Journal*. His method differs from artificial pneumothorax in that only the diseased pulmonary region is immobilised, while in the latter the whole lung is, which M. Tuffier regards as a mistake. He has recently modified and perfected the technique, which is as follows. To produce detachment of the apex an incision 6 centimetres long is made in the second intercostal space, commencing a finger-breadth from the sternum. The intercostal muscles are exposed and divided after inserting a director as deep as the posterior surface of the space. The pleura is reached and carefully detached. A strong toothed-rack retractor is then introduced. At the bottom of the space made by forced retraction between the second and third ribs is exposed the pleura, which is often adherent. With the index finger the parietal pleura is detached, the finger resting against the bone and not against the pleura, and by degrees working its way towards the apex of the lung. The detachment is continued in an upward direction anteriorly until the apex is entirely freed, then posteriorly, where detachment is decidedly difficult. During the operation the lung is seen to collapse on each inspiration. The inspiration and expiration of air in the cavity will soon cause an extrapleural pneumothorax, which may lead to infection. M. Tuffier therefore during detachment has the whole denuded surface covered with a piece of thin silk, which he sometimes coats with a thin layer of vaseline, so that the air does not come in contact with the wound. The lung having been separated, there remains a large extrapleural cavity which must be filled. This he does with adipose tissue, fresh or preserved, Beck's bismuth paste, or bismuth paraffin. The foreign substance must be maintained in place, which is a difficulty. Complete suturing of either the fibrous or muscular tissue, or between the intercostal muscles and periosteum, or autoplasty is performed. The detachment of the lung from the ribs permits of obliteration of a septic pulmonary cavity by facilitating retraction of the lung towards the hilus, and the retraction is rendered permanent by the filling. In a case seen four months after operation the fat used was found to have retained its vitality. The operation was first performed in March, 1912, and subsequently 15 times. In one case it was bilateral for disease progressing on both sides. On the right 450 c.c. of adipose tissue, which had been kept five days on ice, was grafted into the pleuro-parietal space; on the left bismuth paraffin in about the same quantity was introduced. The symptoms were ameliorated and the cough disappeared. Of the other 14 patients, secondary suppuration occurred in four and the graft was eliminated in the abscess. In the remaining ten decided benefit was shown by lowered temperature and diminished expectoration (in one case complete suppression). But as all the cases date from only a few months the value of the method still remains to be decided. Recently Jessen has reported six cases of pneumolysis with results generally satisfactory.[2] M. Tuffier thinks that this method should be adopted early in the disease, just as in a tuberculous joint the surgeon does not wait until suppuration occurs and sinuses form.

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[1] THE LANCET, April 4th, 1914, p. 950.

MYASTHENIA GRAVIS WITH PSYCHIC SYMPTOMS.

THE pathogeny of this strange, but by no means very rare, disease is still rather obscure. There is, however, little doubt that the glands of internal secretion cannot escape some responsibility. The weakness of the muscles is not dependent solely upon the pathological "lymphorrhages," small collections of small lymphocytes which are distributed in an irregular manner amongst the muscular fibres; the condition is not altogether on a par with the muscular dystrophies. The evidence that the secretory glands are concerned is suggested by several facts. In a very considerable number of myasthenia cases there is enlargement of the thyroid gland; the thymus is often larger than normal; in some cases of Basedow's disease the myasthenic muscle reaction is obtained. There is in both myasthenia gravis and Basedow's disease an increase of oxygen metabolism and nitrogen output. Finally, the extraordinary exacerbations in myasthenia, shown by the way in which these patients may on occasion completely recover, may fluctuate in the intensity of their symptoms, and may be subject to both a chronic and, in some instances, very acute onset of the condition, suggest a close clinical analogy with the similar vagaries seen in Graves's disease. Simple muscular change cannot explain all these variations, for the dystrophies are characterised by their peculiarly insidious onset and their progressive and chronic clinical course. They are associated, too, with no mental disturbance. There has lately been described a case of myasthenia gravis in which the patient had occasional lapses of consciousness, and in the proceedings of the Société de Neurologie de Paris (Dec. 4th, 1913) MM. Souques and Mignot record a case of somewhat similar character. The patient was a man aged 35. He was well in every way till four years ago. Then he noted feebleness of the legs, and later this weakness extended to the arms, trunk, and neck. Such an onset is not unusual. There occurred, however, when in this state a violent paralytic crisis. It involved, not only the above muscle groups, but also the face and the eyes, which showed ptosis and diplopia. Mastication and swallowing became almost impossible. Speech became difficult. In this paralytic state the patient remained for three and half months; then slow recovery ensued, and a year later he was able to leave the hospital. He then had no signs of paralysis. For three months he remained well, and even did some work. But again many signs of weakness gradually returned. Since then for the last year he has remained in an enfeebled state, showing varying degrees of improvement and retrogression. During this time he had two crises. It was in these that he showed mental symptoms. There was marked diminution of the power of memory; his intellect was dimmed; volition impaired. There was also impairment of the senses of taste and smell. The case is instructive in showing the range of variation in intensity of the disease; it shows also that the central nervous system may participate in the response to whatever is the responsible cause of the condition. Adrenal gland was given in this case, but without noticeable benefit.

ATROPHY OF THE MUSCLES OF THE HAND FROM COMPRESSION NEURITIS.

IN the *Review of Neurology and Psychiatry* for April Dr. J. Ramsay Hunt, of Columbia University, New York, contributes another paper on an interesting subject to which he had previously directed attention. Atrophic paralysis of the small muscles of the hand is a very common neurological symptom. It may occur in spinal cord diseases, such as progressive muscular atrophy, syringomyelia, and local lesions in the lower cervical and upper dorsal regions. It may follow involvement of the anterior spinal roots, as in hypertrophic cervical pachymeningitis, and it is often seen in lesions of or after injuries to the brachial plexus or to the ulnar and median nerves. The association of the muscular atrophy with sensory changes, when the latter occur, usually aids in the determination of the topographical localisation of the lesion. Dr. Ramsay Hunt draws particular attention, however, to a type of wasting of the small muscles of the hand in which sensory changes are not found, so that it presents a certain resemblance to an early myopathy or myelopathy. It is due, nevertheless, essentially to a peripheral lesion of purely motor branches of the median and ulnar nerves, and may be divided into a thenar and a hypothenar variety. In the first of these, compression of the thenar branch of the median as it passes behind the anterior annular ligament of the wrist results in a secondary atrophy of the abductor pollicis, opponens pollicis, and outer head of the flexor brevis pollicis. Sensibility in the distribution of the median nerve is normal, while fibrillation is absent. A reaction of degeneration in the affected muscles is obtained. It is this strict limitation of the atrophy which suggests a local lesion, and it is not likely to be confused with any other condition, except the atrophy sometimes seen in cases of cervical rib. In the latter case, however, subjective or objective sensory changes occur, while an X ray photograph will prove of diagnostic value. The hypothenar variety is characterised by paralysis with atrophy of all the small muscles of the hand supplied by the ulnar nerve, and according to Dr. Ramsay Hunt results from compression of the deep volar branch as it passes between the tendons of origin of the short abductor and the short flexor of the little finger. In this case also sensory changes are absent as the nerve involved is purely motor. An interesting minor point in connexion with this variety is the question of preservation of function of the palmaris brevis; that small subcutaneous muscular fasciculus is supplied from the superficial palmar branch of the ulnar nerve, and therefore escapes injury in compression of the deep palmar branch. The exact localisation of the site of compression can be definitely made. As all the muscles supplied are paralysed the injury must take place at a spot central to where the nerve breaks up into its muscular twigs; this is placed between the tendons of origin of the little finger muscles above mentioned, where the nerve comes into close relationship with the hook-like process of the unciform bone. Dr. Ramsay Hunt gives several illustrative instances of these varieties, the recognition of which is of much practical importance.

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[2] Münchener Medizinische Wochenschrift, July 22nd, 1913, p. 1591.

THE Croonian lecture before the Royal Society will be delivered by Professor E. B. Wilson, Columbia University, on the Bearing of Cytological Research on Heredity, on Thursday, June 11th, at 4.30 o'clock.

THE vacancies in the medical appointments to the King caused by the death of Sir Francis Laking have been filled as follows: Sir Bertrand Dawson, K.C.V.O., physician extraordinary to his Majesty, is appointed physician in ordinary to the King; and Dr. Frederick Stanley Hewett is appointed surgeon-apothecary to the King and apothecary to his Majesty's household. Queen Alexandra also has appointed Dr. Hewett Surgeon Apothecary to Her Majesty and to Her Majesty's Household, in the room of Sir Francis Laking.

THE French Academy of Medicine has elected Sir William Osler as a Foreign Associate of the Academy.

MEDICINE AND THE LAW.

Lord Gorell's Matrimonial Causes Bill.

THE Bill introduced in the House of Lords by the chairman of the recent Royal Commission on Divorce seeks to embody the principal recommendations to be found in both the Majority and Minority Reports. It is not for that reason entirely free from proposals likely to afford food for controversy, but these need not be discussed here. The provisions of the Bill which are briefly indicated below are those which suggest the extent to which the medical profession may have to furnish evidence in matrimonial causes if the measure should become law. It enables husband and wife equally to obtain divorce on the ground of adultery (including any unnatural offence), specifying circumstances which shall afford either absolutely or in the discretion of the court a defence to proceedings in which either divorce or judicial separation is claimed. It enables a decree of judicial separation to be obtained for habitual drunkenness. The words "habitual drunkard" (of either sex) are defined to mean a person who habitually takes or uses any intoxicants, and while under the influence of such intoxicants or in consequence of the effects thereof is at times dangerous to himself or dangerous or a cause of terror to others, or the cause of serious harm or suffering to members of his family or others, or incapable of managing himself or his affairs. The expression intoxicant is to include "any intoxicant, liquor, or sedative, narcotic, or stimulating drug or preparation." It will be observed that the wife or husband of what may be called a "harmless" drunkard will not be able to obtain a separation from him or her unless an incapacity to "manage" be established which may not be easy to prove. The proposed grounds for obtaining a decree of nullity of marriage are: (*a*) incapacity of either party to consummate, or failure to do so owing to the unreasonable refusal of the defendant; (*b*) "that the defendant was at the time of the marriage of unsound mind or in a state of incipient mental unsoundness which has become definite within six months of the marriage, or was at the time of the marriage subject to epilepsy or to recurrent fits of insanity"; (*c*) "that the defendant was at the time of the marriage suffering from venereal disease in a communicable form" or "pregnant by some person other than the applicant." Part II. of the Bill is devoted to the regulation of separation and maintenance orders obtainable on the ground of cruelty or habitual drunkenness. The power to make separation and maintenance orders is accompanied by power to make other orders providing for the care of children and for matters rendered necessary by the making of a separation order. Where a court makes a separation order on the ground of habitual drunkenness it is enabled in addition to order that the defendant shall submit to treatment which it may specify, or be detained in a licensed retreat. The following definition of cruelty is to be noted:—

> The expression "cruelty" means such conduct by one married person to the other party to the marriage as makes it unsafe having regard to the risk of life, limb, or health, bodily or mental, for the latter to continue to live with the former; and proof of the following facts: (*a*) that one party to the marriage has knowingly or negligently infected the other with venereal disease, or (*b*) that a husband has compelled his wife to submit herself to prostitution, shall without prejudice to the generality of the foregoing definition be sufficient proof of "cruelty" as defined.

Specific provision is made in the Bill for the hearing *in camera* of proceedings, if the Court of Appeal or a judge of the High Court so orders in the interests of "decency, humanity, morality, or justice." For similar reasons a court of summary jurisdiction may order the same procedure. This appears to be the second time only that hearing *in camera* has been authorised by statute, the other Act referred to being the recent penal statute dealing with incest, no definition of what is to constitute hearing *in camera* being given. The Bill under discussion also proposes that it shall be unlawful

> To publish any report of any proceedings under this Act until the conclusion of the proceedings, or to publish any pictorial representation of or in connexion with any such proceedings, or to publish any report of any proceedings or such part thereof heard *in camera* as aforesaid.

This last is an interesting and important provision which will generally be welcomed by parties and witnesses alike. The only argument against the forbidding of the publication of reports of proceedings during their progress and of pictorial representations is to be found in the possibility that such publication may lead to important witnesses coming forward who otherwise might not be discoverable, and might not know that their evidence was needed in the interests of justice. The repeals proposed by the Bill are those rendered necessary by the innovations which it introduces.

Bland v. Yates: House Flies as a Nuisance.

An action was recently brought in the Chancery Division by Mr. and Mrs. J. O. P. Bland, the latter being the owner of a house and grounds at Shepperton-on-Thames, against Mr. H. S. Yates, a market gardener owning land adjoining the plaintiffs' garden. The plaintiffs asked for damages and for an injunction to restrain the defendant from depositing manure on his land so as to interfere, by reason of the offensive smell or the breeding and collection of flies, with the reasonable and ordinary comfort of existence of the plaintiffs as occupiers of the premises, or to cause injury to the plaintiffs' health. The plaintiffs claimed sums of money spent by them in trying to exclude flies and unpleasant sights and smell from their house and grounds. The defendant had purchased his land in 1910, the year in which Mrs. Bland bought her house, and had converted meadow land into a market garden, using a system known as intensive French cultivation, necessitating the application of a large quantity of manure which was accumulated and matured at a point close to the plaintiffs' wall until the proper season for putting it on the land. Evidence in support of the plaintiffs' contention that the flies and the smell of manure constituted a nuisance was given by, among others, Mr. E. H. Ross and Sir Ronald Ross, and on the behalf of the defendant denying the alleged nuisance by Professor Kenwood, Dr. J. C. Thresh, and Mr. E. E. Austen of the Department of Entomology, British Museum. Mr. Justice Warrington, who delivered judgment without calling upon counsel for the plaintiffs to reply, said that the question he had to determine was whether the defendant by his operations interfered with the physical comfort of the plaintiffs and their family in the occupation of their house according to the ordinary notions prevalent among reasonable English men and women. He had to take the matter into consideration in connexion with all the circumstances of the locality. He found that during the warm months the plaintiffs did suffer interference with their comfort as occupiers of their house and garden according to ordinary notions. As to whether this amounted to a nuisance at law due to the defendant's gardening operations, if a manure heap and the handling of manure were found it did not need much to convince anyone who had had experience of bad smells that these were due to the manure. With regard to flies, the evidence was that the house fly and lesser house fly bred by choice in horse manure, and he could but come to the conclusion that the provision of the flies' breeding-place had had its natural result and that the flies complained of came from the defendant's manure heap. He was reluctant to interfere with a profitable and good industry, but he must grant an injunction restraining the defendant from depositing or stacking manure on his land so as, by reason of offensive smell or the breeding and collection of flies, to occasion a nuisance to the plaintiffs. He did not intend to stop the defendant's garden, but only to prevent him from carrying it on so as to occasion a nuisance to the plaintiffs. He ordered the defendant to pay the costs of the action. The above summary of Mr. Justice Warrington's observations indicates the points to be established and to which evidence must consequently be directed in an action of this kind. The evidence had shown that the manure heap was a large one, and that the spot selected for it had been chosen because the soil where it was deposited was less suited for cultivation than that at a more distant part of the defendant's land.

Workmen's Compensation and the Cause of Death.

Conflicting medical evidence was heard in a case under the Workmen's Compensation Act at the Liverpool county court recently, the claimant being the widow of a joiner named Little, and the respondents a firm of builders. The chief question at issue was whether an accident which had taken place had been the cause of the man's death or had had nothing to do with it. When Little was hanging a door it struck the ceiling, and limewash thus dislodged fell into his left eye, causing injury which eventually necessitated its removal. After this had been done he returned to work, but his health broke down and he contracted bronchitis and died. Dr. Nathan Raw, called as a witness, was of opinion that the mental and physical distress caused by the accident and by its results might have predisposed the deceased to be affected by the illness which caused his death, and that his power of resistance had been diminished. Evidence was given by Dr. J. Drummond as to the deceased's robust condition of health at the time of the accident, and Dr. John Owen had come to the conclusion from reports of the case that the injury could not have been without effect in bringing about the fatal termination of the bronchitis. For the employers, Mr. C. A. A. Dighton, who had removed the eye, refused to trace any connexion between the loss of it and the bronchitis, and Mr. J. F Roberts, who had attended the deceased at the time of his death in the Mill-road Infirmary stated that he died from acute capillary bronchiti due to the extraordinarily foul condition of hi teeth, which he attributed to the excessive chewin of tobacco. Other evidence was given by workmen to the effect that the deceased had worked wel after the accident. The arbitrator was not calle upon to decide the case, which eventually wa settled by mutual consent, the employers agreein to pay a sum of £82 to the widow. His honou Judge Thomas expressed his approval of th arrangement.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the thirty-eighth meeting of the Royal Commissio on Venereal Diseases evidence was given by Sir Willia Osler, Bart., Regius Professor of Medicine in the Universit of Oxford.

Sir William Osler stated that the official statistics deaths published by the Registrar-General were totall inadequate to represent the actual incidence of venere diseases; for instance, in 1910 the deaths from syphilis i England and Wales were given as 1649, but this was a ver unsatisfactory and incomplete estimate. It was necessary take into consideration and add a very large number of death appearing under other descriptions. If regard were had these, he thought that it would be safe to say that of th killing diseases syphilis came third or fourth. Gonorrh he regarded as one of the great disabling diseases, causin an enormous amount of ill health and playing a very large part in the production of blindness. Sir William Osler laid stress on the importance of early treatment of these diseases, and was of opinion that every general hospital should provide in respect of them out-patient accommodation and proper accommodation in the wards. It was part of the work of the governors of hospitals to provide for these diseases, and they ought not to be left out; in the past they had been too much neglected by the charitable public.

Sir William Osler was in favour of compulsory notification of venereal diseases, and considered there was a possibility that this would result in some concealment, but he thought that this was a risk that might now be taken. On the question of the education of medical students he was strongly opposed to their being dealt with as a special subject added to the curriculum, with special lectures and an additional set of separate examination questions. He considered that if this education could be given in out-patients' clinics and in the wards and by general teachers it was as much as could be expected of the student, looking at the short space of time at his disposal and the great congestion of the curriculum. Sir William Osler thought that it would have an immense effect if the public were instructed by means of lectures regarding venereal diseases. Lectures of this kind, he thought, should not be given by a layman, but by a well-trained medical man who should be provided with proper diagrams and slides. It would be a very useful thing if the lecture could be widely given to the senior forms of the big public schools, in the universities, and at large institutions employing many persons. He was not in favour of teaching sex physiology or hygiene to young children.

At the thirty-ninth meeting Dr. J. H. Sequeira, physician to the Skin Department of the London Hospital, gave evidence. He stated that the statistics of adult cases treated in the London Hospital Skin Clinic during 1913 showed that 13 per cent. both in the case of men and women were suffering from obvious syphilis of the skin and mucous membranes. In the case of the women the proportion in the primary and secondary stages was smaller than in the case of the men, and this he attributed to the fact that a larger number of women were unaware that they were affected with the disease. He gave a number of instances of innocent syphilis, and said that in his hospital experience he found that a larger number of women were infected during their married life. With regard to the use of salvarsan and neosalvarsan, he was confident as a result of his experience of a large number of cases that these remedies provided a most powerful means of influencing the disease. He was, however, of the opinion that it was necessary to combine salvarsan and neosalvarsan treatment with the use of mercury. By prompt treatment the risk of the spread of infection could be enormously diminished.

Dr. Sequeira was not in favour of compulsory notification of syphilis, as he thought it would result in many people seeking advice from quacks. On the other hand, he thought there were conditions in which a medical man should be armed with some power to prevent the spread of infection. It should be held to be the duty of a medical man to do all in his power to prevent the spread of infection, and he should be held to be immune from any penalties in the exercise of his duty. Dr. Sequeira insisted strongly on the need for increasing the accommodation available in general hospitals. There should, he said, be no hindrance whatever to any patient receiving treatment, and the fact of his or her suffering from the disease should be the sole indication for admission.

PRESENTATION TO A MEDICAL MAN.—The townspeople of Horsham, Sussex, on May 26th presented Mr. E. I. Bostock, M.R.C.S. Eng., with a testimonial to mark the close of nearly 40 years' connexion with the local governing body of which he was the head for 30 years. Mr. Bostock was presented with an illuminated album containing an address and the names of the subscribers, and a silver tray, framed portraits, and a cheque for £315 in recognition of the long and valuable services rendered by him to Horsham.

THE LONDON COUNTY COUNCIL AND THE MENTAL DEFICIENCY ACT.

A MEMORANDUM has just been issued by the London County Council to various societies, public bodies, and institutions in the County of London in connexion with the Council's duty of ascertainment of mentally defective persons under this Act. We are asked to give publicity in our columns to the terms of this notice in order that it may be brought to the knowledge of members of the medical profession in London to whom it may be useful to know what is the procedure for the notification of such cases of mental defect as require to be dealt with.

Mental Deficiency Act, 1913.

Under the provisions of this Act, which came into force on April 1st, 1914, the following classes of persons who are mentally defective are deemed to be defectives within the meaning of the Act:—

(*a*) Idiots; that is to say, persons so deeply defective in mind from birth or from an early age as to be unable to guard themselves against common physical dangers.

(*b*) Imbeciles; that is to say, persons in whose case there exists from birth or from an early age mental defectiveness not amounting to idiocy, yet so pronounced that they are incapable of managing themselves or their affairs, or, in the case of children, of being taught to do so.

(*c*) Feeble-minded persons; that is to say, persons in whose case there exists from birth or from an early age mental defectiveness not amounting to imbecility, yet so pronounced that they require care, supervision, and control for their own protection or for the protection of others, or, in the case of children, that they by reason of such defectiveness appear to be permanently incapable of receiving proper benefit from the instruction in ordinary schools.

(*d*) Moral imbeciles; that is to say, persons who from an early age display some permanent mental defect coupled with strong vicious or criminal propensities on which punishment has had little or no deterrent effect.

If, in addition to being a defective as above defined, any person comes within one of the following categories, i.e., if he (or she) is a person—

(i.) Who is found neglected, abandoned, or without visible means of support, or cruelly treated; or

(ii.) who is found guilty of any criminal offence, or who is ordered or found liable to be ordered to be sent to a certified industrial school; or

(iii.) who is undergoing imprisonment (except imprisonment under civil process), or penal servitude, or is undergoing detention in a place of detention by order of a court, or in a reformatory or industrial school, or in an inebriate reformatory, or who is detained in an institution for lunatics or a criminal lunatic asylum; or

(iv.) who is an habitual drunkard within the meaning of the Inebriates Acts, 1879 to 1900; or

(v.) who is a person in whose case such notice has been given by the local education authority as is hereinafter in this section mentioned; or

(vi.) who is in receipt of poor relief at the time of giving birth to an illegitimate child or when pregnant of such child,

such person may be dealt with under the Act.

It is the duty of the London County Council as the local authority under the Act to ascertain what persons within their area are defectives subject to be dealt with under the Act as set forth above, and thereafter to provide suitable supervision for such persons, or, if such supervision affords insufficient protection, to take steps for securing that they shall be dealt with by being sent to institutions or placed under guardianship in accordance with the Act.

The Council is prepared to receive information as to defectives within the County of London who are subject to be dealt with by the Council under the Act as set forth above. Such information should be given on forms which can be obtained on application to the Clerk of the Asylums and Mental Deficiency Committee, 6, Waterloo-place, S.W.

The Council may if it thinks fit:

(*a*) Maintain in a suitable institution, or

(*b*) contribute towards the expenses of maintenance in such an institution, or the expenses of guardianship of persons who are defective within the meaning of the Act but who do not come within one of the categories of defectives referred to (i., ii., iii., iv., v., or vi.).

Applications for action to be taken by the Council under this provision also should be addressed to the Clerk of the Asylums and Mental Deficiency Committee. Every such application will be considered and dealt with on its individual merits.

The London County Council, it should be noted, has no duties with regard to defectives who for the time being are provided for by boards of guardians or by the Metropolitan Asylums Board (except to the extent prescribed by certain provisional regulations under the Act); or to defective children between the ages of 7 and 16 who are being dealt with by the local education authority.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet-Surgeons: J. Shand to the *Victory*, additional, for Portland Hospital; H. W. Finlayson to the *Marlborough*, and P. E. Maitland to the *King Edward VII.*, both for the general staff duties; W. J. Bearblock to Portsmouth Dockyard; W. B. MacLeod to the *Bellerophon*; P. H. Boyden to the *Collingwood*; and E. C. Ward to the *Cornwallis*, on becoming parent ship. Staff-Surgeon: E. S. Wilkinson to the *Marlborough*. Surgeons: J. S. Elliott to the *King Edward VII.*; W. Miller to the *Victory*, additional, for disposal; A. Simpson to the *Victory*, additional, for disposal; A. C. Paterson to the *Fisgard*; D. H. C. Given to the *Vivid*, additional, to be lent to Plymouth Hospital; F. W. Quirk to the *Vivid*, additional, for disposal; H. M. Langdale to the *President*, additional, and for Haslar Hospital, as Anæsthetist and Radiographer; W. Bradbury to the *Pembroke*, additional, for disposal; G. M. Levick, A. T. Rivers, and H. F. Briggs to the *Victory*; and M. P. Fitzgerald to the *Vivid*; A. E. P. Cheesman to the Royal Marine Division, Chatham; F. L. Smith to Pembroke Dockyard; M. F. Caldwell to the *Indus*; E. C. Holtom to the *Excellent*; A. J. Tonkinson to the *Vivid*, additional, for disposal; and J. S. Orwin to the *Vivid*, additional, for disposal.

Fleet-Surgeon George Robert MacMahon has been placed on the Retired List at his own request (dated May 24th, 1914). Fleet-Surgeon Henry Frederick Iliewicz has been placed on the Retired List at his own request (dated June 1st, 1914).

ROYAL ARMY MEDICAL CORPS.

The undermentioned Captains to be Majors (dated June 1st, 1914): Percival Davidson, D.S.O., John Mackenzie, Norman D. Walker, Arthur H. Hayes, Henry J. Crossley, Reginald Storrs, Raymond L. V. Foster, Frederick A. H. Clarke, George A. K. H. Reed, John M. H. Conway, Sydney M. W. Meadows, William W. Browne, William D. C. Kelly, and Norman E. J. Harding.

Colonel C. Cooper Reilly has been selected for appointment as Assistant Director of Medical Services to the Chatham District. Colonel R. H. Firth has taken up duty at Cherat Cantonment as Assistant Director of Medical Services. Brevet-Colonel F. Smith, D.S.O., has joined Army Headquarters at Dublin.

Lieutenant-Colonel R. Holyoake has been selected for appointment as Senior Medical Officer in charge of the Military Hospital at Kamptee Cantonment. Lieutenant-Colonel J. J. Gerrard has embarked for a tour of service in the Sierra Leone Protectorate. Lieutenant-Colonel C. Dalton has been transferred from Ireland to the Aldershot Command. Lieutenant-Colonel F. S. Le Quesne, V.C., has been placed under orders for a tour of service in India. Lieutenant-Colonel F. W. Hardy has been selected to hold charge of the Military Hospital at Calcutta. Lieutenant-Colonel F. Caton Jones has taken up duty at Meerut Cantonment.

Major G. T. K. Maurice has been appointed Senior Medical Officer of the Officers Training Corps Camp at Salisbury Plain. Major L. P. More has been transferred from Secunderabad Cantonment to Wellington. Major J. Matthews has been appointed to the Northern Command. Major A. G. Thompson has arrived home from India. Major E. F. Q. L'Estrange has been appointed to the Irish Command. Major H. P. Waller Barrow has been appointed Deputy Assistant Director-General at the Medical Division of the War Office, vice Lieutenant-Colonel B. H. Scott. Major E. E. Parkes has embarked for India. Major P. J. Probyn, D.S.O., has been appointed Senior Medical Officer in charge of the Officers Training Corps at Hagley Park Camp. Major St. J. B. Killery has taken up duty at Lucknow. Major H. K. Palmer has been appointed to the Southern Command. Major J. V. Forrest has taken up duty in the Medical Division at the War Office. Major E. T. Inkson, V.C., has been appointed Deputy Assistant Director of Medical Services to the Wessex Division. Major E. W. Bliss has been transferred from the Chatham District to the Military Hospital at Tidworth, Salisbury Plain. Major A. E. Hamerton, D.S.O., has arrived home for duty from Nyasaland. Major J. T. Johnston has been transferred from Lucknow Cantonment to the Military Hospital at Naini Tal. Major R. Rutherford has joined at Cardiff.

Captain R. Storrs has been appointed to hold charge of the Military Families Hospital at Portland on transfer from Dorchester. Captain C. W. O'Brien has taken up duty at Pirbright. Captain D. M. Corbett has arrived home for duty from Ambala. Captain B. G. Patch has joined at Kirkee Cantonment. Captain W. J. Dunn has been granted six months' general leave of absence home from India. Captain C. W. Holden has taken up duty at the Royal Army Medical College. Captain J. T. McEntire has been appointed to the Cork District. Captain J. A. Turnbull has been transferred from the Military Hospital at Kamptee to Jubbulpore Cantonment. Captain R. J. C. Thompson has been appointed to the Chatham District. Captain W. F. M. Loughnan has arrived home for duty from Aden. Captain F. H. M. Chapman has joined at Delhi. Captain H. C. Winckworth has been transferred to the Quetta Cantonment from Woolwich. Captain C. H. Denyer has arrived home from India. Captain A. C. Elliott has been appointed to Colchester. Captain C. R. Millar has been transferred from Ballincollig to the Military Hospital at Cork. Captain G. O. Chambers has been appointed to the Military Hospital at Alexandria. Captain R. C. Paris has been appointed Specialist in Dermatology and Venereal Diseases to the Fourth (Quetta) Division of the Southern Army. Captain A. G. Jones has been appointed Specialist in Electrical Science and Radiography to the Second (Rawal Pindi) Division in India. Captain S. Field has arrived home from Jamaica. Captain J. M. Weddell has been transferred from the Military Hospital at Fyzabad Cantonment to Delhi. Captain E. B. Lathbury has been appointed to hold medical charge at Kilworth Training Camp. Captain W. K. Beamen has arrived home from Malta. Captain E. W. Vaughan has been appointed to hold medical charge of the Royal Artillery Practice Camp at Okehampton.

Lieutenant R. F. Bridges has been appointed to the staff of the Military Hospital at Cherat Cantonment. Lieutenant D. Reynolds has been transferred from Attock to the Sialkot Brigade. Lieutenant E. B. Allmett has taken up duty at Poona on transfer from Purandhar. Lieutenant T. J. Hallinan has been appointed to the Military Hospital at Mooltan Cantonment. Lieutenant W. L. E. Fretz has been transferred from the Ambala District to Peshawar Cantonment. Lieutenant C. M. Finny has been appointed to the Military Hospital at Barian Cantonment. Lieutenant R. Davidson has been transferred from the Eighth (Lucknow) Division to Meerut Cantonment. Lieutenant E. C. Deane has joined at Agra. Lieutenant J. D. Kidd has been appointed to the Military Hospital at Secunderabad Cantonment. Lieutenant T. E. Osmond has been transferred from the Sirhind Brigade to the Military Hospital at Lucknow Cantonment. Lieutenant W. McNaughtan has joined the Karachi Brigade. Lieutenant W. S. R. Steven has been appointed to the Military Hospital at Quetta Cantonment. Lieutenant R. T. Vivian has been transferred from the Bangalore Brigade to the Military Hospital at Secunderabad Cantonment.

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel S. B. Smith has been appointed to officiate as Sanitary Commissioner in the Punjab. Lieutenant-Colonel C. P. Prall has taken up duty as Superintendent of the Central Prison at Lucknow. Lieutenant-Colonel E. P. Maynard has been granted six months' combined leave of absence home from India. The services of Lieutenant-Colonel E. Jennings have been placed at the disposal of the Home Department. Lieutenant-Colonel R. Bird, M.V.O., C.I.E., has been granted six months' combined leave of absence home from India. Lieutenant-Colonel D. H. Graves has taken over medical charge of the 72nd Punjabis.

Major G. P. Groube, medical officer of the 113th Infantry, has been appointed to officiate as Civil Surgeon of Lakhimpur, in addition to his regimental duties, during the absence on special duty under the Government of Bengal of Major W. V. Coppinger. The services of Major J. M. Woolley have been placed permanently at the disposal of the Government of Burma. Major R. E. Lloyd has been confirmed in the appointment of Professor of Biology at the Government Medical College, Calcutta. Major W. D. Hayward has joined at Madras. Major E. C. Hepper has been confirmed in civil employment in the United Provinces of Agra and Oudh. Major E. O. Thurston has been appointed to officiate as Professor of Surgery at the Government Medical College, Calcutta, and Surgeon to the College Hospital. The services of Major J. Woods have been placed at the disposal of the Government of the Punjab for employment on plague prevention duty. Major W. V. Coppinger has been appointed to officiate as Ophthalmic Surgeon at the Government College Hospital, Calcutta. Major R. M. Dalziel has been granted one year's combined leave of absence home from India. Brevet-Major S. R. Christophers has been appointed to officiate as Director of the Central Research Institute at Kasauli Cantonment during the absence on leave of Major W. F. Harvey. Major V. E. H. Lindesay has been appointed to officiate as Civil Surgeon at Shahabad. Major J. H. Hugo, D.S.O., has been appointed Agency Surgeon at Baghelkhand.

Captain G. S. Husband has been appointed to officiate as Superintendent of the Central Prison at Mooltan. The services of Captain G. Holroyd have been placed temporarily at the disposal of the Government of the United Provinces of Agra and Oudh for employment in the Prison Department. Captain H. C. Keates has been appointed to officiate as Civil Surgeon and Superintendent of the Prison at Attock. Captain A. Whitemore has been appointed Police Surgeon and Pathologist to the General Hospital at Rangoon. Captain E. C. Taylor has taken up duty at Kurram.

Army Medical Service.

Surgeon-General Sir William L. Gubbins, K.C.B., M.V.O., is placed on retired pay (dated June 1st, 1914). Surgeon-General Sir Arthur T. Sloggett, C.B., C.M.G., honorary surgeon to the King, to be Director-General, and to rank as Lieutenant-General, vice Surgeon-General Sir W. L. Gubbins, K.C.B., M.V.O. (dated June 1st, 1914).

Colonel Richard W. Ford, D.S.O., to be Surgeon-General, vice Sir W. L. Gubbins, retired (dated June 1st, 1914). Colonel Tom P. Woodhouse, from the half-pay list, to be Colonel, vice R. W. Ford, D.S.O., promoted (dated June 1st, 1914).

Special Reserve of Officers.

Royal Army Medical Corps.

The undermentioned to be Lieutenants (on probation):—Cadet Lance-Corporal James Melvin, from the Aberdeen University Contingent, Officers Training Corps (dated May 7th, 1914). Cadet William Walker, from the Aberdeen University Contingent, Officers Training Corps (dated May 7th, 1914). Cadet David Murdoch Marr, from the Aberdeen University Contingent, Officers Training Corps (dated May 8th, 1914). Cadet Corporal John McCallum Orme, from the Edinburgh University Contingent, Officers Training Corps (dated May 13th, 1914).

Territorial Force.

Royal Army Medical Corps.

North Midland Mounted Brigade Field Ambulance, Royal Army Medical Corps: Captain Arthur C. Goodwin to be Major (dated June 3rd, 1914).

3rd South Midland Field Ambulance, Royal Army Medical Corps: John Percy Ingham Harty to be Lieutenant (dated April 1st, 1914).

Attached to Units other than Medical Units.—Captain William M. Mackay to be Major (dated March 26th, 1914).

Lieutenant Geoffrey S. Hett resigns his commission (dated June 3rd, 1914).

Deaths in the Services.

Surgeon-Major-General Robert Lewer, at Southsea, on May 30th in his 81st year. He received his first commission in 1857, having previously served in the Royal Navy, was appointed brigade-surgeon in 1882, surgeon-colonel in 1886, and retired with the rank of surgeon-major-general in 1895. He served in the Russian war, 1855, and with the Baltic expedition. He was present at the bombardment of Sweaborg (medal), and served in the Afghan war, 1878–80. He took part in the night attack on rear guard of June 6th, 1879, the operations around Kabul and Sherpur, the defence of Sherpur, the march from Kabul to the relief of Kandahar, and battle of Sept. 1st (mentioned in despatches, medal with two clasps, and bronze star).

The Military Surgeon.

From the May issue of the *Military Surgeon* (Chicago) we learn that the New Field Service Regulations of the United States Army have increased the total strength of a division by 14·74 per cent., but have decreased the relative strength of the medical department from 116 officers and 1005 men to 92 officers and 826 men. The divisional field hospitals are reduced from 4 to 3, but the medical department hopes to increase the capacity of these that are left. A regiment in peace has a combat equipment, litters (carried on ammunition wagons), and an aid station equipment (carried on the regimental pack mule); these always remain with the regiment, even when in brigade, or division, or in war, but the regiment in quarters or training by itself has attached—not assigned—to it a wagon belonging to the divisional sanitary train and marked "Sanitary Train ...... Division." This wagon carries in peace time and on detached service the regimental field hospital. When the regiment joins its division for war this wagon joins the other 11 wagons of the divisional sanitary train. Eight carry the field hospital equipment, the others each carry regimental infirmaries, one practically for each brigade. The "trains" belong to the divisions, "columns" to the line of communications. "Sanitary" service in the United States army, as on the continent, includes all the medical services as well as those specially preventive in function.

Captain Louis C. Duncan gives a very valuable account of the wounded at Ojiinaga (January, 1914) in Mexico, close to the United States frontier. Both the armies were wretchedly equipped, the soldiers filthily dirty; the battles were fought in clouds of dust ("one breathes it and eats it"). There was no sanitary service, apparently no one to care for the "patient, dog-like" wounded. "The Mexican army was a mediæval army in all but firearms," yet of 200 wounded who were received into hospital some three miles from the battle only 10 died. There were no severe cases of pyæmia or septicæmia, none of erysipelas or tetanus. Wounds of spine were fatal; patients recovered astonishingly from wounds of chest and abdomen; there was almost no shock. Captain Duncan was lucky, he thinks, in finding a moving picture man's tent (50 × 25 feet) weighing 800 pounds. It held 45 patients in cots in three rows, was perfectly lighted, being white, and required only two lights at night. The patients who remained had ultimately to be carried 70 miles in wagons. "The Mexican soldier who was wounded was in luck if he had a woman along." One mother did the 70 miles crouching in a wagon beside her desperately wounded boy. They also did the dirty, disagreeable work the men refused to do.

The British is not the only navy short of medical officers. A special Bill has passed Congress allowing a former naval medical officer "on account of his fitness, his excellent record, and the urgent need of more medical officers in the navy," to rejoin with his old position on the list at his retirement six years ago. The officers of the United States Naval Medical Department are very pleased to think that at Vera Cruz their men have suffered less from malaria than those of two other nations lying alongside. This they believe due to their lectures to their men against mosquitoes, screening ports, daily prophylactic doses of quinine, all men down below after dark but those on duty, and they wearing gloves and veils.

Society for Relief of Widows and Orphans of Medical Men.—The annual general meeting of this society was held on May 27th. The report stated that the year 1913 marked the 125th anniversary of the foundation of the society, and that a munificent legacy of £37,250 had been received from the trustees of the late Mr. James Brickwell. The income from this legacy—namely, £1331 10*s.* per annum—will be available for the increase of grants to widows over the age of 65 by £25 per annum and under the age of 65 by £10 per annum. Grants under the Copeland Fund may be increased by £20 per annum, and grants to orphans may be increased in certain cases by £15 per annum. The invested funds of the society amount to £139,500. from which sum is derived in interest £4511 10*s.*, and £330 8*s.* was received in annual subscriptions and donations. During the year 1913 the sum of £3760 was distributed among 46 widows and 10 orphans. On Dec. 31st, 1913, there were 46 widows and 13 orphans on the funds. Since the last annual meeting five new members of the society have been elected and seven have died. At the present moment the society consists of 300 members, a very small proportion of the number of medical men who are eligible for membership. This is to be regretted, for the advantages of joining the society are considerable, especially to the younger members of the profession. Membership is open to any registered practitioner who at the time of his election is resident within a 20-mile radius from Charing Cross. Should any member remove beyond the limits of the society he still continues to be a member. The annual subscription is 2 guineas, the payment of this sum for 25 years constituting the subscriber a life member. Further particulars and application forms may be obtained from the secretary, 11, Chandos-street, Cavendish-square, W. A special general meeting of the society will be held on June 24th to confirm the alteration of certain by-laws.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(Continued from p. 1492.)

XLVII.—UNANIMITY IN THE BURY ST. EDMUNDS AREA.

FROM Colchester I went to Bury St. Edmunds, taking that city as a typical agricultural centre. The impossibility of staying at more than a certain number of places during such an investigation as that which I was engaged upon forced me to omit, at any rate for the moment, the larger and more commercially important town of Ipswich.

Bury St. Edmunds, the ancient capital of Suffolk and the seat of the new East Anglian bishopric of St. Edmundsbury and Ipswich, is the centre of a division of the British Medical Association which is almost identical with the newly formed Bury St. Edmunds insurance area. Newmarket, on the Cambridgeshire border, is also included in the Bury St. Edmunds insurance area, but the interesting and ancient little town on the Norfolk border, Thetford, has been handed over to the Norfolk insurance area. The West Suffolk insurance area is about the same as the county council area, and much of the insurance work is done in its centre, Bury St. Edmunds. The city of Bury St. Edmunds has a population of 16,785; but the surrounding purely agricultural country is fairly well populated, and there are about 35,000 insured persons in this area, with a panel of 59 doctors. But some of these doctors do not actually reside in the West Suffolk area; they live on the outskirts. Indeed, for eight of them most of their work is not within the area. Such overlapping renders the gathering of statistics very difficult. Every available practitioner went on the panel except one doctor, who could not overcome his antipathy to the new legislation.

How the Act Works in the Bury St. Edmunds District.

At Bury St. Edmunds, as at Colchester, the members of the medical profession were in the negotiation stages of the Act unanimously in opposition. When ultimately they yielded, they attributed the fault to their geographical neighbours rather than to themselves. It was the overlapping of medical practice from other districts that made the Bury St. Edmunds district fear the danger that doctors who had given way elsewhere would overrun the places where the doctors still held out. West Suffolk doctors were afraid of the men of Essex, Cambridge, and Norfolk, just as I had found the doctors at Colchester complaining that they could not rely on the medical profession around them if any continued stand were made. The Insurance Committee are still accused of subtlety in their way of conducting negotiations and of intimidating the local practitioners. A circular was sent round saying the panel would be closed on the ensuing Monday. Then came another circular that it would be closed without fail at 10 in the evening of the following Thursday, but after all the panel was kept open indefinitely. The members of the profession, however, did end by being panic-stricken and then they all went on the panel. Apparently they have been quite satisfied ever since. In any case there is no bickering and friendly relations are well maintained.

Speaking to one of the leading local practitioners, he explained to me that as a result of the Act he had lost some private practice among domestic servants and small tradesmen. But instead of 200 club members at 5s. each he had 600 insured persons at 7s. each, and this more than covered his loss in private practice. The longest panel list in the area numbers, I ascertained, about 2000; there is a firm with 3000, but it is composed of three partners.

Here, as at Colchester, the members of the old clubs have remained faithful to their original club doctors. But it was pointed out to me that the abuses for which club practice has become notorious did not prevail at Bury St. Edmunds. This bears out a remark of mine, which I understand has been criticised, that now and again the old medical aid associations worked without injustice. There were no bad clubs in this district paying 2s. 6d. or 3s. per head per annum for all sorts of medical attention and drugs. On the contrary, instead of such monstrous capitation fees or even the usual 4s. the sum generally subscribed was 5s. a year, and the members of the clubs did not complain of carelessness on the part of their medical officers. On the other hand, I could find no evidence that the Act had done anything that enabled insured persons to obtain better treatment than they were in the habit of receiving as members of clubs and Friendly Societies.

That being the case, there are a certain number of small tradesmen and others who would much prefer paying fees than to be treated as contract patients under the Act. But if they are willing to pay medical fees they are not willing to pay income-tax, and therefore they have enrolled themselves under the Insurance Act, as a proof that they are below the attention of the Income-tax Commissioners. As an instance in point, I was told of a youth of the neighbourhood who, accompanied by members of his family, called on his panel doctor, when a long examination and consultation ensued in regard to a nasal polypus. After much discussion it was decided that the youth should go to London to have the polypus removed. The panel doctor naturally felt it rather hard that this 7s. a year patient, after giving him so much trouble, should pay a fee to some London surgeon which would amount to at least 5 guineas; the inevitable question was whether a patient who could on occasion find such sums of money was fairly within the contemplation of the scheme of the Act. The incident is related not as an individual case, but as one of many showing that insured persons are often well able to pay the usual medical fees.

In the Bury St. Edmunds district the calling on insured servants was brought to my attention as being often a troublesome duty for panel practitioners; such visiting entails a greater sacrifice of time than should be expected for contract work. As a rule, not only has the servant to be seen, but the servant's mistress then wants to know all about the case. She asks whether she ought to keep the servant in the house, how long the illness is likely to last, and is it necessary to get another servant. To discuss all these points may take up a long time, while irksome questions of duty in the matter of professional confidence may always arise. But the panel practitioner cannot cut such interviews short for fear of losing as private patients the family employing the servant.

Attempt to Avoid Election of Panel Committee.

In regard to the Medical Committee and the Panel Committee I found the position at Bury St.

Edmunds somewhat similar to what I had seen at Colchester. The action of the medical profession in regard to these bodies has been firm and very unanimous. Indeed here, as elsewhere, the agitation in regard to the Act has done much to weld the profession together. At the outset hostility to the Act was such that when the Insurance Committee first appointed its Medical Benefit Subcommittee there was not a single medical man on it. After a while, however, not only was a medical man secured for this committee, but eventually a practitioner of Bury St. Edmunds who had taken a very prominent part in the organisation of the profession was selected. Fortunately, the shortage of medical men on the subcommittee led to no trouble. Though the Act has been in force for more than a year, no complaint whatsoever has been made against any doctor in the area.

The Local Medical Committee was constituted on March 13th, 1913. Twelve members were elected. The one doctor who, though in active practice, refused to go on the panel, was unanimously elected on the Medical Committee. Another doctor who is also not on the panel, but who is not in active practice, was likewise elected to the Medical Committee. The remaining ten members of the Medical Committee are all panel doctors. It will be seen, therefore, that efforts were made to secure the representation of every possible interest on the Medical Committee. But the new regulation insisting on the election by panel doctors only of a Panel Committee produced difficulty. At Bury St. Edmunds no one wanted this committee, as, with but the two exceptions mentioned above, it would be a mere duplication of the Medical Committee. However, there is a clause which says that where no Panel Committee is formed the Commissioners might recognise any existing committee. Therefore nothing was done, and after waiting till the last day for electing a Panel Committee had passed the Commissioners were written to and invited to recognise the Local Medical Committee as the best existing committee. The Commissioners, however, refused to see the matter in the same light. Though the date for electing a Panel Committee was passed they insisted that such a committee should be elected. An inspector even was sent down by the Commissioners a little before Christmas (1913). Then 20 nomination forms for the Panel Committee were sent to the secretary of the Medical Committee. Thereupon a general meeting of the profession was convoked, and they proceeded to elect a Panel Committee on their own lines.

Funds for Medical Organisation Secured by Law.

The problem has arisen in many places whether the profession shall go through the form of keeping both the Medical and the Panel Committees in existence. In this matter the financial aspect of the question has also to be considered. The Medical Committee has no other resources save that of voluntary levies paid by its members. The Commissioners seem desirous of doing away with the Medical Committees, so as to give all the power to the men who are working the Act, but at Bury St. Edmunds it is the same men who are on both committees, a position that has arisen elsewhere and is bound to continue to arise. The Commissioners will not effect any real change if the Medical Committee does cease to exist. The Medical Committee met 24 times last year. This means sending out notices, keeping a book of minutes, and a good deal of work which generally has to be done by one or two devoted members. Such work ought not to be gratuitous, and the Panel Committee have powers to make a levy.

From all this there arose the present very interesting situation. Throughout the country there are many insurance areas where practically all the medical men in active practice are on the panel. This is notably the case at Southend, Colchester, and Bury St. Edmunds, the last three places I have visited. It does not mean that the Insurance Act was readily accepted; on the contrary, a very stout and unanimous resistance was made. The fact that all the doctors are on the panel only means that, as the Act could not be prevented, it was best to control its operations as far as possible. Now that official Panel Committees have been created this is much more easy than formerly. Formerly the great difficulty was the want of money to pay secretaries and working expenses generally. But to-day the Panel Committees have powers to make compulsory levies—that is, to deduct a halfpenny or more from the floating sixpence: money thus obtained only to be spent for administrative purposes and in a manner approved by the Commissioners. The latter, however, cannot exercise any control whatsoever over a voluntary levy. On the other hand, a good many practitioners might object to pay the levy. But the position is quite changed. The practitioner can hardly avoid a levy now; he can only decide which sort of levy he prefers—a compulsory levy imposed by the Panel Committee with the money so raised controlled by the Insurance Commissioners, or a voluntary levy of about the same amount, but which the subscribers would themselves control and spend in the way they thought best.

(To be continued.)

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

LIVERPOOL.

Liverpool Hospital for Consumption and Diseases of the Chest.

THE fiftieth annual report in connexion with the Liverpool Hospital for Consumption and Diseases of the Chest, which was presented at the annual meeting held recently, showed that the hospital in Mount Pleasant and the sanatorium at Delamere Forest are fulfilling an important and beneficial work for the community. The Lord Mayor, who presided, moved the adoption of the report. It was to be regretted, he said, that the resources of the laboratory attached to the hospital could not be utilised to their fullest extent owing to financial difficulties. The Government had appointed a medical research committee to direct research into the problems connected with tuberculosis. There were funds available for the purpose, but up to the present no grants had been made. State aid was not forthcoming, and the scientific study of tuberculosis, which was a national question, was left to private endeavour and philanthropic effort.

School After-care.

The chief subject of discussion at the last meeting of the Liverpool education committee was a suggested change in the method of ensuring the after-care of children. It was proposed that the control of this work should be transferred from the control of the medical officer of health to the school attendance and care subcommittee. Dr. J. G. Moyles said that nobody had done more for the health of the school children than the schools medical officer (Dr. E. W. Hope), and yet the education committee without consulting Dr. Hope proposed to take out of his hands the following up and taking care of school children. The change was strongly opposed by several members, but was eventually approved.

Death of Mr. T. Moore Dawson.

I regret to announce the death of Mr. T. Moore Dawson, L.R.C.P. & S. Edin., one of the best-known medical practitioners in the city. Mr. Dawson had been in failing health for the last two years, and had recently retired to Hooton, where he died in his sixty-first year. He was for many years surgeon to the A and C Divisions of the Liverpool Police Force. He will be best remembered for his untiring energy in connexion with the Volunteer movement, for which he was awarded the V.D., finally rising to the command of the 2nd Field Ambulance, R.A.M.C., and the further distinction of A.D.M.S. of the West Lancashire Division. For the past 30 years he was closely connected with the St. John Ambulance Association, and he received recognition of his services by his appointment as an Associate of the Order of St. John of Jerusalem in England. As a judge in ambulance work and competitions he was greatly in demand.

June 2nd.

WALES.

Welsh Memorial Sanatorium.

About a year ago the Welsh Memorial Association purchased an estate and mansion near Talgarth at a cost of £15,600. It is about 600 feet above sea-level and looks out upon the Black Mountains and the Breconshire Beacons. The house has been occupied by patients for some months, but it has been decided to enlarge the accommodation at an additional cost of over £50,000. When the new buildings are completed there will be accommodation in the institution for 300 patients.

Coal Dust as a Nuisance.

The inhabitants of colliery districts have hitherto put up with the discomfort connected with residence in these localities and have apparently considered that they have no redress against the clouds of coal dust which are emitted from the surface workings. It is possible that they may not in the future be so complacent, for a butcher in the Pontardawe district has succeeded on appeal in obtaining an injunction against a colliery company, the coal dust from whose colliery was alleged to have been a serious nuisance to his slaughter-house, sausage factory, and stables.

King Edward VII. Hospital, Cardiff.

In spite of the large additions which have been made of late years to the Cardiff Hospital they have never been sufficient to cope with the number of patients eligible for admission. This has been partly due to the fact that although new buildings have been erected and wards have been equipped, the board of management has not been able to fill the beds provided owing to lack of funds for their daily needs. This very prudent course needs to be adopted no longer, and it has been decided that the last 50 beds available shall be placed at the disposal of the waiting patients. There are now provided at the Cardiff Hospital enough beds to justify the General Medical Council in recognising it for the purposes of a complete medical school, in connexion with which a sum of £60,000 has been promised to complete the school buildings conditionally on the Treasury making a sufficient grant for the maintenance, administration, and upkeep of the school. In addition to this sum Sir James Thomas, a colliery proprietor in the Rhondda Valley, has contributed £30,000 for the establishment of a physiological department.

Supply of Radium for Swansea.

The need for a supply of radium has recently been urged upon the board of management of the Swansea General Hospital by the members of the medical staff, and the question has been seriously discussed by the board, with the result that it has come to the conclusion that the expenditure involved is greater than it would be justified in recommending. In these circumstances it has been decided to form a limited liability company with a capital of £1500, for which sum 100 mgm. of radium can be obtained. The scheme, as outlined by two members of the medical staff, Mr. W. F. Brook and Dr. R. C. Elsworth, provides for the charge of a fee of £5 5*s.* a day for the use of the radium. It is anticipated that it may be required outside the hospital on at least 100 days during the year, so that after the lapse of two or three years the whole of the capital together with interest can be refunded to the shareholders, when it is intended that the radium shall be handed over to the hospital authorities.

June 2nd.

SCOTLAND.

Notification of Tuberculosis in Scotland.

In accordance with the Public Health (Scotland) Act, 1897, the Local Government Board at Edinburgh has issued to local authorities copies of Regulations providing for the compulsory notification as from July 1st next of cases of tuberculosis in Scotland. These Regulations provide for notification of all forms of tuberculosis and supersede those made by the Board two years ago for notification of pulmonary tuberculosis alone. Local authorities are instructed to send a copy of the Regulations to each medical practitioner in their districts. The Regulations follow closely the form and requirements of the earlier Order, except that notification is now required of cases of non-pulmonary tuberculosis as well as of pulmonary tuberculosis. Notification is to be made on the strength of evidence other than that derived solely from the tuberculin test. A notification fee of 2*s.* 6*d.* is payable to a medical practitioner in respect of each case occurring in his private practice, and 1*s.* if the case occurs in his practice as medical officer of any public body or institution, but no fee is payable to school medical officers. In so far as the new Regulations touch upon the work of school medical officers they have the concurrence of the Scotch Education Department.

Report of Lunacy Commissioners.

The Commissioners in Lunacy for Scotland have just issued their annual report. They state that on Jan. 1st last there were in Scotland, exclusive of insane persons maintained at home, 19,346 insane persons of whom they had official cognisance—an increase of 158 upon the previous year's total. The admissions into establishments during the year 1913 numbered 3682.

Housing Conference in Glasgow.

On May 26th and 27th a conference of representatives of Scottish local authorities was held in the Glasgow town hall to consider the practical administration of the Housing and Town Planning Act of 1909. Sir Thomas Hunter, town clerk of Edinburgh, presided. Among those who took part in the proceedings was Mr. T. McKinnon Wood, Secretary for Scotland.

A Convalescent Home for Mothers and Infants.

The Broomfield Convalescent Home for Mothers and Infants was formally opened on May 30th by Mrs. Pearce Campbell in the unavoidable absence through illness of the Countess of Eglinton and Winton. This home has been founded by Mr. A. F. Yarrow for the treatment of recently confined women and their infants. It is situated in six acres of ground upon the shores of the Gareloch at Shandon. The home is under the care of Professor Robert Jardine, of Glasgow, and Dr. Leonard Findlay, physician to the Glasgow Royal Hospital for Sick Children. Each mother received into the home is entitled to remain for a fortnight. All the rooms were occupied by patients with their infants on the date of the opening ceremony.

Death of Professor George Dean.

I regret to announce the death on May 30th of Dr. George Dean, Regius professor of pathology in the University of Aberdeen. Professor Dean was 50 years of age and had held the chair of pathology for the past six years. He was a native of Aberdeenshire and a former student in the University of Aberdeen, graduating M.B. and C.M. with honours in 1889. He studied bacteriology in Berlin and Vienna. In 1897 he was appointed bacteriologist in charge of the serum department of the Lister Institute in London, and later became chief bacteriologist to the Institute.

Aberdeen Sanatorium and Central Dispensary.

The proposed scheme for a central city dispensary in Aberdeen, to be constructed in Golden-square, has received the sanction of the Local Government Board and of the National Insurance Commissioners, and the report in connexion with this and with the proposed joint sanatorium was passed at a meeting of the Aberdeen county council held on May 29th.

The Parkin Prize.

The triennial Parkin Prize of £100, in the gift of the Royal College of Physicians of Edinburgh, has been awarded to Dr. H. J. Johnston-Lavis. The subject set was: On the Effects of Volcanic Action in the Production of Epidemic Diseases in the Animal and in the Vegetable Creation, and in the Production of Hurricanes and Abnormal Atmospherical Vicissitudes. Dr. Johnston-Lavis for some years held the professorship of vulcanology in the Royal University of Naples.

June 2nd.

IRELAND.

Delegates' Meeting of the Irish Medical Profession.

A MEETING of delegates of the entire medical profession of Ireland was held last Tuesday in the Royal College of Surgeons, under the presidency of Mr. P. J. MacNamara. Each county and county borough was represented by five delegates. The report of the Irish Medical Committee was first read. It related the efforts made by the committee to come to an agreement with the Insurance Commissioners on a scheme for certification of insured persons, and their failure. The delegates decided to re-appoint the Irish Medical Committee with the same constitution; duties, and powers as before. Certain changes in the financial arrangements of the committee were recommended. The delegates passed the following resolutions: (1) reiterating the opinion expressed by two previous annual meetings of delegates that all medical certificates should be issued by the medical attendant, and (2) that any system whereby the primary certification of patients for sanatorium benefit is relegated to salaried officials to the exclusion of the medical attendant would prevent the discovery of early cases and their efficient treatment.

Conversazione at the Royal College of Surgeons.

On Friday evening, May 29th, the President of the Royal College of Surgeons and Miss Purefoy entertained a large party of guests at the Royal College of Surgeons to meet the Lord Lieutenant of Ireland and the Countess of Aberdeen. The military uniforms and academic costumes of the guests made an imposing spectacle in the beautifully decorated large hall. Refreshments were served in the library, and the orchestral band of the Royal Irish Constabulary, with songs by the Misses Purefoy and Mr. W. S. Haughton, provided entertainment.

Royal Medical Benevolent Fund Society: Belfast Branch.

At the annual meeting of the Belfast and District Branch of the Royal Medical Benevolent Fund Society of Ireland, held in the Medical Institute, Belfast, on May 22nd, it was reported that the net contribution of the branch was £139 13*s.*, a reduction of 10 guineas as compared with the previous year. The report stated that "an amount of apathy unhappily existed amongst a proportion of the medical practitioners in the district, who do not seem to consider this charity, the only one confined to the profession in Ireland, worthy of support." In Belfast 140 out of a total of 224 practitioners alone subscribe, but Belfast is not the only place in Ireland where the same state of affairs exists.

Ulster Medical Society.

At the annual meeting of the Fellows and Members of the Ulster Medical Society, held in the Medical Institute, Belfast, on May 28th, the following officers were elected for 1914–15:—President: Dr. J. S. Morrow. Vice-Presidents: Dr. John Rusk and Dr. A. E. Knight (Donaghadee). Council: Dr. A. G. Robb, Dr. J. C. Rankin, Mr. P. T. Crymble, Mr. T. A. Davidson, Mr. R. Reid (Whiteabbey), and Mr. John O'Doherty. Honorary treasurer: Mr. H. Stevenson. Honorary librarian: Dr. W. L. Storey. Honorary secretary: Dr. S. T. Irwin. Honorary editorial secretary: Dr. C. G. Lowry.

Antivaccination Campaign in Belfast.

The Belfast Poor-law elections have resulted in the complete rout of the antivaccination party, not one of whom has been returned. Indeed, with one exception they made a very poor show at the polls. One of the unsuccessful candidates issued a poster calling upon the electors to vote for himself and liberty.

Royal Victoria Hospital, Belfast.

The annual street and house-to-house collection in aid of the Royal Victoria Hospital took place on May 30th, and the total returns amounted to £684, which is an increase of over £100 from the districts concerned. Twenty-five districts have still to make returns, and it is expected the total this year will be close on £1200.

Death of Mr. Edward Taylor.

I regret to announce the death, at his residence, Bessmont Park, Monaghan, on May 24th, after a few days' illness, of Mr. Edward Taylor, L.R.C.P. & S. Irel. Mr. Taylor was formerly resident medical superintendent of the Cavan and Monaghan lunatic asylum at Monaghan; but some years ago was compelled by failing eyesight to resign. Within the last few years he became totally blind. Mr. Taylor studied medicine at the College of Surgeons School in Dublin, and qualified in 1869 as L.R.C.S., and in 1870 as L.R.C.P. He was held in very high esteem all around Monaghan. He leaves a widow and a son of 15 years.

June 2nd.

PARIS.

The Congress of Practitioners.

I REFERRED last week to this Congress, which was meeting at the time of writing, under the presidency of Dr. Gairal. It lasted four days. The question that occupied most time dealt with the number of representatives of the medical syndicates that would be accepted by the Minister of Labour for the commission created to regulate the differences relating to contracts between the mutual aid societies, and such like, and the medical men employed by them. Dr. Léon Labbé, the well-known surgeon, who is also a senator, made known on the part of the Ministry at the beginning of the Congress that the number of medical representatives in the grand council, which was originally three, would be raised to six. Dr. Le Fur and a large contingent of the Assistance Publique were for absolute refusal, in opposition to the Minister, that any member of the syndicates should take part in this commission. M. Hartmann and M. Netter advocated the view that medical men should take part in this commission, so as to know what took place there and to oppose as far as possible measures detrimental to the medical practitioners and to resign if they did not succeed. The Congress upheld Dr. Le Fur and named a delegation of 30 members to approach the Minister of Labour and make known to him the abstention of the syndicates. It also voted for a complete separation between practising medical men and those charged with official duties or administrative work, officialism being incompatible with the preservation of professional secrecy, the free choice of doctor by the sick, and freedom in the matter of fees. The Congress then adopted the conclusions of a remarkable report by Dr. Jacques Bertillon, calling urgently for the prosecution of the struggle against alcoholism, the cause of so much crime, madness, degeneration, and sterility.

The Congress of Forensic Medicine.

The Fourth Congress of Legal Medicine for the French-speaking medical profession took place recently at Paris under the presidency of Professor Guilhem, of Toulouse. Pleuro-pulmonary tuberculosis of traumatic origin was one of the principal subjects considered. M. Georges Brouardel, nephew of the late renowned authority on medical jurisprudence, presented a noteworthy report. Dr. Simonin, the delegate of the Minister of War, dealt with the same subject as regarded its application to soldiers. Communications were also made by M. Corin and M. Stokis on cadaveric phenomena; by M. Dufour on survival after wounds of the heart; by M. Régis and M. Martin on the necessity for a medical examination of young prisoners; by M. Ménard on fractures of the neck of the femur which permit of walking; by M. Du Bousquet on the possibility of recognising the medical man in attendance as a medico-legal expert on behalf of his patient; and by Dr. Gilbert Ballet on the validity of the wills of subjects of melancholia. Some curious cases were reported; a suicide by self-strangulation with the hands was narrated by M. Mégerand, and a case of spontaneous muscular rupture by M. Ribierre. M. Minet and M. Cordonnier spoke on the use of the polarising microscope in legal medicine, and M. Etienne Martin, of Lyons, on the possibility of crying out and speaking after wounds of the larynx and the lungs. M. Nicloux demonstrated the working of a remarkably simple apparatus of his own invention for determining the amount of carbon monoxide contained in the blood after poisoning by this gas. The next meeting was fixed for May 15th, 1915, at Liége, under the presidency of M. Corin, professor of legal medicine at the university.

The Opposition to Antityphoid Vaccination in the Personnel of Hospitals.

In my letter in THE LANCET of May 23rd I referred to this subject. M. Mesureur, director of the Assistance Publique of Paris, has justified before the Académie de Medecine the measures taken by him with regard to his own personnel, which includes more than 8000 male and female nurses, constantly exposed to contagion by soiled linen, dejecta, and other objects. In ten years more than 300 such persons contracted typhoid fever during their service, furnishing a mortality of 12 per cent. Antityphoid vaccination began in 1912, and was first administered to the personnel of the nursing school. At present there are two vaccinating centres in Paris for the hospital personnel, one for women at the Salpêtrière, the other for men at the Saint-Antoine. Up to date 1064 employees have been immunised and more than 4000 injections made without any accident. According to M. Mesureur, the opposition made by the syndicate is only the work of agitators, who on the least pretext thrust themselves into every conflict with the administration. All the academicians approved these views. M. Chantemesse, M. Vincent, M. Netter, and M. Chauffard took up the defence of antityphoid vaccination. M. Chauffard particularly cited the case of a male attendant in his service, whom he had hesitated to vaccinate because the man was affected at the time with a cervical adenitis, which gave rise to fears of unfitness for this procedure. But he had speedily to regret it, for the man contracted typhoid fever and died. Up to the present time, however, it was shown that the vaccination had never been made compulsory on the personnel of hospitals, but had been voluntary. Only the candidates for a post on the nursing staff find it required of them. The discussion will now probably cease.

June 2nd.

INDIA.

India's Sanitary Progress.

THE Government of India will shortly publish a general review of sanitary progress in India in which its policy in this respect will be defined.

Tuberculosis in India.

Dr. A. C. Lankester, of the Peshawar Medical Mission, has been selected, under arrangements of the Indian Research Fund, to conduct inquiries in connexion with the prevalence of tuberculosis in India.

Calcutta Health Officers.

The general committee of the Calcutta corporation has decided that in respect of one of the appointments the maximum pay of the grade—viz., Rs.700 per month—be offered to a specially qualified candidate with practical experience who will be capable of acting as health officer, and will be required to sign an agreement to remain in the service for at least five years. Thirty-two applications have been received. The health officer has examined the applications, and has given his opinion as to the three best qualified candidates. It was resolved that the question of selection be referred for consideration and report to a subcommittee.

The Milk-supply of Calcutta.

A report just published by the chemical examiner to the Government of Bengal shows that the authorities at certain hospitals had a good deal of trouble with their milk-supply last year. But Calcutta has not only to complain of an unsatisfactory supply of fresh milk. The Bengal Chamber of Commerce has been concerning itself with the inferior quality of some of the condensed milk that is supplied in tins, alleging that before condensing the manufacturers skim off the cream. Last year the Government of India decided that all condensed milk imported into India, which analysis showed had been prepared from a milk containing less than 3 per cent. of fat, should be marked "prepared from skimmed milk"; and, further, that the condensed milk should contain a higher percentage of fat in proportion to the degree of concentration, 3 per cent. of fat being the proportion of uncondensed milk. It is now proposed to revise the system so that the classification of condensed milk should be based on a fixed percentage of fat for each tin. It is proposed to allow a minimum proportion of 12 per cent., and in cases where this amount is not reached the tins should be marked "prepared from skimmed milk."

Water Famine at Bombay.

Bombay is just now passing through a season of water famine. The irregular supply of water is causing great hardship. The cotton fires at Colaba have drained a large quantity of the reserve during the last month and are the chief source of deficiency.

Paying Patients in Indian Hospitals.

The Government of the United Provinces has decided upon a step in the right direction which was bound to be made sooner or later, and one which it may be safely assumed the other provinces will eventually follow. That which is given away is never appreciated at its proper value. The United Provinces Government has therefore resolved to give the people of those provinces the opportunity to realise fully the benefits of Western medical science and skill by making them pay for it. The important resolution notifying this fact will be read with interest in the Punjab, where the subject is no new one. The resolution points out that hospitals wholly or in part supported by public funds are not, and never were, intended for the relief of patients who can afford to pay for the treatment they receive, but for the poorest classes only, and quotes a Government Order as far back as 1886 in proof thereof. Hitherto Government has contented itself with the enunciation of this principle, deterred from its enforcement by the practical difficulty of differentiating between patients who can and cannot afford to pay, and also through fear of doing anything to hinder the growing popularity of the Western system of medicine and medical treatment. Attendance at hospitals and dispensaries in the United Provinces, however, has increased at such a rate of recent years that the practical difficulty of differentiation, if differentiation is insisted upon, is now overshadowed by the still greater practical difficulty, if it is not insisted upon, of the medical institutions of the provinces being unable to cope with the burden placed upon them. In the words of the resolution, unless measures are taken to prevent those who can afford to pay resorting to public hospitals, then "it may before long be beyond the power of the Government to provide adequately for the helpless and indigent who have the first claim on a form of public charity which is a direct charge on the general taxpayer"; and "in the opinion of the Government the interests alike of the public funds and of the private practitioner demand that action should be no longer delayed." The resolution then refers to recommendations made by the committee of inquiry under the presidency of Lieutenant-Colonel J. K. Close, I.M.S., in its report received by Government last November. The committee recommended that in all hospitals and dispensaries to which a medical officer of not lower rank than an assistant surgeon is attached action should be taken to prevent the admission of well-to-do patients and members of their families to the benefits of free medical attendance, and urged that conspicuous notices should be posted in prominent places to the effect that the hospital or dispensary is a charitable institution and is intended only for the treatment of the poor. The Lieutenant Governor, the resolution announces, finds himself in agreement with the general tenour of the committee's findings, and action on these lines is to be taken. As is pointed out, this new departure can only be made effective with the coöperation of local bodies, by whom the majority of medical institutions are maintained or aided, and it is confidently anticipated that they will see the desirability, in their own interests, of coming into line with State-aided and State-maintained institutions. There is, very wisely, to be one important exception to the policy of enforced payment—in the Dufferin Hospitals no charge is to be made, it being considered undesirable to do anything that might jeopardise the slow-growing popularity of medical relief for women.

Sanatorium for Consumptives.

The Bihar and Orissa Government is looking for a suitable site for a sanatorium for consumptives. The claims of Hazaribagh and Ranchi were first considered, but judgment was pronounced against them, and the Government is now looking for a site outside the province. Naini Tal in the United Provinces and Dharampur in the Punjab have each been advocated, but with such an arrangement the Biharis do not concur while there are such healthy localities as Puri, Deoghur, and Koilwar to be found in the province.

Precautions Against Plague at Travancore.

The native State of Travancore is one among the few places which have not yet had a serious outbreak of plague. Of late, however, much anxiety has been felt that it might at any time make its appearance owing to the fact that the surrounding country, especially Coimbatore and Ceylon, are infected. The Travancore Darbar are taking all precautions. Any person arriving from an infected area is subjected to a medical examination for ten days from the date of arrival. A special staff has recently been appointed for this purpose.

Sanitation in Lahore.

In a letter to the papers Mr. C. A. Owen, the officiating health officer of Lahore, says that the system of subsidising zemindars to carry away the excreta of the town and civil station is faulty in the extreme, and that it is not possible to dispose of it in this way without grave effects on the health and comfort of the inhabitants. The filth drops on the road and merges with the dust. Then a breeze or a passing motor whirls the contaminating material into the nose, eyes, and mouth of every passer-by. It is not enough that every householder should see to the cleanliness of his own little sanitary department. That will not meet the case as long as the stuff has to be carried away by human agency. What is required is a system that will carry away all excreta directly before it is deposited in depôts. Such a system is the only sure safeguard, as other measures must fall short of efficiency.

May 7th.

AUSTRALIA.

Federal Quarantine.

Dr. J. H. L. Cumpston, the Director-General of Quarantine, has published by direction of the Minister of Customs a pamphlet defending the system of quarantine adopted in Australia. It is claimed that the practice is based on the procedure followed by all the leading European nations and America.

Small-pox in Sydney.

Considerable dissatisfaction has been expressed at the announcement made by the New South Wales Board of Health that in future small-pox contacts would not be isolated at the quarantine ground, as it was unable to find accommodation. At a conference last November it was agreed by the various States that quarantine should be lifted from Sydney if patients and contacts continued to be isolated. The quarantine station belongs to the Commonwealth, and it recently notified the State Board that contacts must be housed elsewhere. The board replied by the intimation that it could not isolate them at all. A statement has been made by Mr. Groom, Federal Minister of Customs and Quarantine. He said that the State officials had been informed some months ago that the station would be required for overseas cases of disease, and the arrival in the meanwhile of two mail steamers with small-pox patients had compelled the Commonwealth authorities to insist on the removal of contacts sent from inland. The whole history of the Sydney epidemic discloses the unworkable nature of the present system of quarantine in which authority is divided between two sets of officials. Dr. R. T. Paton (the State Director of Public Health in New South Wales) has frankly admitted there is a breach of the agreement with other States, but says there is no place where contacts can be isolated and that his State finds it impossible to keep its agreement. The epidemic in Sydney has never completely disappeared, and within the past few weeks cases have been discovered in various parts of the suburbs in increasing numbers. The Acting Premier of Queensland has asked the other State premiers to urge a consideration of the matter.

Melbourne Medical School Jubilee.

The ceremonies arranged for the celebration of this event were inaugurated on April 29th by a dinner at the Grand Hotel. The Governor of Victoria (Sir A. Stanley) presided over a large gathering, and various congratulatory speeches were made. The toast of "The Medical School" was acknowledged by Sir Henry Allen, and that of "Our Guests" by Sir Hartmann Just, of the Colonial Office.

Melbourne Hospital.

The last return issued for the quarter ending March 28th shows that the expenditure had increased over the corresponding period of 1913 by £2238. The members of the committee were considerably surprised to find such a marked increase, and some of them were alarmed. The chairman stated that a large part of the increase was represented by wages, as there had been numerous additions to the staff. It was resolved that a statement should be submitted giving the number of patients treated in the two periods.

Death of Dr. John Williams.

The death was announced on April 21st of Dr. John Williams, one of the oldest physicians of Melbourne. The late Dr. Williams, who was Welsh by birth, was a graduate of Edinburgh University, and came to Melbourne in 1870. He was soon after appointed outdoor physician to the Melbourne Hospital, and from that time till 1904 was an active member of the staff, afterwards becoming indoor physician. In 1904 he retired and was made consulting physician. Dr. Williams had a singular gift for clinical teaching, and his name was a byword with generations of students at the Melbourne Hospital. He was also for some years lecturer on materia medica at the Melbourne University. He enjoyed a large practice as a consultant, and his reputation in his day was very high as a skilful and sagacious physician. He was president of the Medical Section at the first Australasian Medical Congress and for many years a member of the University Council.

April 30th.

EDUCATIONAL REFORM.—A large number of societies interested in education will take part in the educational conference to be held at London University on June 18th, 19th, and 20th, among them being the Ratan Tata Foundation of the University of London and the School Medical Officers' Association. The speakers will include Mr. N. Bishop Harman, who will deal with vision as affected by type in school books; and Dr. J. Kerr, research officer, London County Council, who will take for his subject the ventilation of schools. Dr. J. Letitia Fairfield, assistant medical officer to the London County Council, will also speak, and Mr. J. L. A. Paton, the headmaster of Manchester Grammar School, will open a discussion on Sex Instruction.

Obituary.

ROBERT MUSGRAVE CRAVEN, M.R.C.S. ENG., L.R.C.P. EDIN., D.P.H. CAMB.

Robert Musgrave Craven, who died suddenly at Southport on May 17th, was medical officer of health for the combined county districts of Westmorland. He was the son of the late Robert Craven, F.R.C.P., J.P., and was born in 1851 at Rothwell, near Leeds. His family removed to Southport while he was a boy. He studied at London, Edinburgh, and Liverpool, and qualified as M.R.C.S. Eng. and L.R.C.P. Edin. in 1873. In 1886 he took the Diploma in Public Health at Cambridge after an examination in which very few of a large number of candidates succeeded. Before entering on private practice at Southport he was resident surgeon at Worksop Dispensary; and he became later one of the honorary medical officers of the convalescent home at Southport. He took an active interest in the affairs of the town, and was well up in postal and railway matters, but he was never a candidate for municipal honours.

A colleague writes: "Mr. Craven was too frank and outspoken to make a conspicuous financial success of private practice, for he never hesitated to tell his most remunerative patients when their troubles were the result of their own indiscretion, and that they could remove them if they would without the aid of a physician. In 1889 he was appointed medical officer of health for the Westmorland combined districts, which include the whole of that county with the exception of the urban district of Kirkby Lonsdale, and he entered into his duties with a zest that never wore off. His cheerful manner and obvious sincerity enabled him to deal firmly with the owners of insanitary property and yet leave in their minds no sense of injury or of having been treated in any way but what was right and necessary, and he thus obtained great results with little friction.

Mr. Craven was one of the most efficient medical officers of health in the country. As he seldom attended medical or public gatherings of late years he was but little known to the younger members of his branch of the profession, who were sometimes surprised to find the high estimation in which his opinion, always severely practical, was held by their colleagues who were well acquainted with him."

On the formation of the Sanitary Corps of the Territorial Force he was offered and accepted a commission as major *à la suite*. He has left a widow, one son, and two daughters.

ARTHUR AUGUSTUS CÆSAR, L.F.P.S. GLASG., L.S.A. LOND.

THE death occurred at Pevensey, Sussex, on April 20th, of Mr. Arthur Augustus Cæsar, at the age of 74. He had resided at Pevensey for a good many years since his retirement from strenuous public service in the metropolis, where for 35 years he was a Poor-law medical officer of Mile-end. For nearly 20 years he was resident surgeon of the East London Children's Hospital, and for some time was the resident medical officer of the Tower Hamlets Dispensary. Mr. Cæsar was a native of Cork, being the fourth son of Dr. Henry Augustus Cæsar, principal of the Cork School of Medicine. He pursued his medical studies at Cork and at the London Hospital, and became a Licentiate of the Faculty of Physicians and Surgeons in Glasgow in 1866, and a Licentiate of the Society of Apothecaries, London, three years later. His death is sincerely mourned at the pretty little Sussex township, where Mr. Cæsar was a warm supporter of the various charitable institutions.

Correspondence.

"Audi alteram partem."

INTRAMUSCULAR INJECTIONS OF QUININE.

To the Editor of THE LANCET.

SIR,—In reply to the letter of Sir Ronald Ross in your issue of April 4th, 1914, I should like to make a few remarks on the subject of intramuscular injections of quinine. Your correspondent states that it has been shown that quinine is absorbed with very great difficulty from muscle and subcutaneous tissue, yet the experiments of Sir David Semple seem to me to show the reverse. This writer in his article on the Relation of Tetanus to the Hypodermic or Intramuscular Injection of Quinine says: "When large doses of quinine are given hypodermically to rabbits and guinea-pigs, they rapidly come under its influence, and death takes place in a few hours." He further states: "In the case of rabbits the lethal dose by the stomach would at least be double the hypodermic lethal dose." Surely one would infer from this that quinine is readily absorbed when injected into muscle. Further, clinical evidence of the absorption of quinine when administered intramuscularly is afforded by those cases of malaria in which quinine given by the mouth produces no effect on the temperature, which, however, is very quickly reduced to the normal line when the intramuscular method of treatment is substituted for the oral. Major A. C. MacGilchrist, I.M.S., showed that quinine given by the mouth is more rapidly absorbed than when given intramuscularly, but that the curve of absorption is more sustained in the latter case; in other words, in oral administration the maximum absorption occurred in about four hours, whilst intramuscularly the absorption curve was at its maximum from the eighth to the sixteenth hour. Thus it appears that normally quinine is more readily absorbed from the stomach. A possible explanation of the clinical observation that injections of quinine do good when oral administration fails is that in malaria the co-existing catarrhal condition of the gastro-intestinal tract may considerably inhibit the absorption of quinine. Sir Ronald Ross notes that "these injections still appear to be largely used." I agree that they are still very popular, but I think it unlikely that the practitioner in the tropics would give the care and the time necessary to their preparation unless he firmly believed that some material advantage was to be gained for his patient and unless his results from this mode of treatment were clinically more satisfactory than those obtained by the much simpler action of writing a prescription.

Your correspondent also writes: "Sir David Semple has shown the danger of tetanus attending injections, and it is to be noted that the case mentioned had some convulsions." From this I infer that Sir Ronald Ross means the convulsions which occurred in the case reported by me in THE LANCET of March 28th were in some manner related to the treatment which I adopted. If the convulsions were due to the quinine itself, then their occurrence is proof conclusive that the drug was absorbed; if, on the other hand, they were a manifestation of tetanus—as it seems to me is inferred—then, in my opinion, this patient would never have recovered. Clinically, the case referred to presented no similarity to tetanus as it occurs in man, and I consider that the convulsions had nothing to do with either the absorption of quinine or with tetanus, or any other infection incidental on the treatment. I would attribute these convulsions to the same cause which produced the coma—viz., toxins which had been liberated from the malarial parasites, and which, circulating in the brain, irritated the various centres.

Sir David Semple certainly showed in his experiments on guinea-pigs that the injection of quinine did produce conditions favourable for infection with "washed tetanus spores" injected into other sites. These experiments, however, have never convinced me that quinine injections as used in practice are dangerous, or that their administration requires the simultaneous injection of tetanus antitoxin, a condition which would place quinine injections beyond the reach of most practitioners. His experiments on guinea-pigs, which most closely resembled the lines of treatment by injection in man, were those in which $\frac{3}{4}$ grain of quinine was injected hypodermically into each of eight guinea-pigs. In only one of these was the tetanus bacillus subsequently isolated from the site of injection, the presumption being that the infection was autogenous. Now a dose of $\frac{3}{4}$ grain of quinine given to a guinea-pig of 500 grammes weight would correspond to injecting considerably over 100 grains to a man of 11 st. The conclusions were that quinine injections favoured the development of tetanus in two ways: (1) by paralysing the phagocytes; and (2) by a destructive action on the tissues at the site of injection. This being so, it seems to me that the larger the dose of quinine the more favourable would the conditions be for the development of tetanus. It would be interesting to know what percentage of guinea-pigs, if any, would develop tetanus after injecting 1/15 grain of quinine, which is the proportionate dose for a guinea-pig of 500 grammes weight, assuming that 10 grains is a suitable dose for a man of 11 st. I still think that Sir Patrick Manson was right when he said that "it was not the quinine that caused the tetanus; it was the tetanus bacillus, and this tetanus bacillus was introduced either on a dirty needle or in a fouled solution."

Finally, Sir Ronald Ross writes that "cases of malaria, even often in pernicious attacks, generally recover temporarily without any treatment at all." This may be so, but I have not seen any such cases; in the case recorded by me I feel sure that recovery would not have ensued without treatment, and I must therefore continue to express my faith in intramuscular injections.

I am, Sir, yours faithfully,
A. G. TRESIDDER, M.D. Lond.,
Jhelum, May 13th, 1914. Captain, Indian Medical Service.

DIATHERMY IN VESICAL HÆMORRHAGE.

To the Editor of THE LANCET.

SIR,—I am much interested in the letters under the above heading from Dr. C. E. Iredell and Mr. Ralph Thompson and from Mr. Frank Kidd. Both letters criticise my lecture on Tumours of the Urinary Bladder, which was recently published in THE LANCET, in that I made no mention of diathermy in the treatment of vesical tumours. My error, if such it be, is one of commission rather than omission, as I was fully aware of the work of Bell and other surgeons in this mode of treatment, but my personal experience of it was too limited to make any definite statement upon it. As, however, the omission has caused surprise to some of your readers, I trust I may be allowed space for a brief reply.

The letters published in THE LANCET of May 16th and 23rd last bring out two entirely different uses of diathermy. Dr. Iredell and Mr. Thompson write of the success in their hands of diathermy in the arrest of severe hæmorrhage for some months in four cases of advanced vesical carcinoma. In cases under my own care I have found so much relief given by the formation of a permanent suprapubic fistula, and the arrest of hæmorrhage under direct vision with the bladder opened has presented so little difficulty, that I have not tried the effect of diathermy. However, should a suitable case come forward in which hæmorrhage is the prominent symptom—apart from pain and the distressing increased frequency of micturition which so frequently accompany it—I shall certainly try it.

Mr. Kidd, on the other hand, would use diathermy in the radical treatment of a villous papilloma to the exclusion of operative removal and "does not believe that the bladder need ever be opened in the future for simple growths." Now one point I tried to emphasise in my lecture was the absolute necessity to remove not only the papilloma but the surrounding mucous membrane of the bladder at its attachment, to insure freedom from recurrence, and time alone will show if diathermy is as effectual in destroying the tumour cells at the base of the growth as their removal by open operation. Further, I attempted to show not only the close relationship between a papilloma and a villous carcinoma of the bladder, but the difficulty that may arise in the diagnosis between them in a cystoscopic examination. If we are to rely upon diathermy in the treatment of these cases I am sure that an early malignant vesical growth will occasionally be overlooked and valuable time in which a carcinoma may be eradicated with some hope of freedom from recurrence will be lost. For these reasons I look upon diathermy in the treatment of vesical tumour as still in an experimental stage, and accordingly cannot include it as a "standard method" of treatment.

I am, Sir, yours faithfully,
Wimpole-street, W., June 1st, 1914. R. H. JOCELYN SWAN.

INTRATHECAL TREATMENT WITH SALVARSANISED SERUM.

To the Editor of THE LANCET.

SIR,—That good can be effected in parenchymatous syphilis, notably in tabes dorsalis, by intrathecal injections is to my mind certain, but it must be conceded that this method of treatment has not yet passed the stage of probation. Admitting the principle, we have still much to learn as to matters of detail, and we can only arrive at a perfected technique (as to the medicaments to be employed, their dosage, the number of injections, &c.) by experience. It therefore behoves all physicians adopting the intrathecal method to make a careful record of the results obtained, not only as regards the general clinical features of the disease, but, what is even more important, the changes effected in the cerebro-spinal fluid.

The improvement which this treatment produces—e.g., in tabes—shows itself, as Dr. Gordon Spencer points out,[1] by a disappearance of the lightning pains and by a diminution in the incoördination; but, inasmuch as sceptics might be inclined to attribute such improvement to suggestion, it is desirable that careful records should be made of the effect of the treatment as regards such clinical features as the light reflex, the knee-jerks, and the weight of the patient. Observations on the light reflex demand particular care, and should always be checked by a second observer. The most accurate method of gauging the improvement brought about by the intrathecal treatment, however, is by observing the changes in the cerebro-spinal fluid. At every intrathecal injection a specimen of this fluid should be secured for testing purposes, and a record made of the Wassermann reaction, the lymphocyte count, the globulin reaction, and the percentage of albumin.

By comparing the results obtained by different methods in a large number of patients we shall be able to discover the most efficient one.

I am, Sir, yours faithfully,

Wimpole-street, W., June 2nd, 1914. HARRY CAMPBELL.

HELMINTHEMESIS.

To the Editor of THE LANCET.

SIR,—There is an interesting note on "helminthemesis" in THE LANCET of April 25th. It begins with the statement that "vomiting or expulsion by the mouth of intestinal parasites is a rare occurrence," and I would ask you to allow me to qualify this by adding the words "except in Persia." Here intestinal worms are exceedingly common, and I think I am safe in saying that every Persian is infected at one time or another in the course of his life, and that a large proportion of Europeans fails to escape. The common worms in the North of Persia are ascaris lumbricoides, oxyuris vermicularis, and taenia saginata, and they occur in this order of frequency.

So far is the vomiting of a round worm removed from being a rare occurrence that I now hear of the event with composure, though not a little astonished at its frequency when I first came to Tehran. I regret that I have not kept a record of the cases which I have met, but I can only say that they have been numerous. The expulsion of the worm is very often accompanied by serious general disturbance. I well remember the first case of grave illness to which I was called after arriving in Tehran eight years ago. It was that of a child aged 4 who was unconscious, with high fever, a rapid irregular pulse, and Cheyne-Stokes breathing. Meningitis was my diagnosis, but within 24 hours the child vomited a round worm and promptly got well. I have seen other cases of obscure and apparently grave illness, both in adults and children, terminated by the vomiting of a worm; I should say round worm, for I have never seen a tapeworm expelled from the mouth. To omit to give santonin in most cases of gastro-intestinal disturbance, and to many patients whose symptoms cannot be correlated with any definite diagnosis, might here in Tehran, to my mind, almost be dubbed mal-praxis!

Before closing I would like to describe a case of helminthiasis the like of which I have not read nor seen again. A child aged 7, wasted to skin and bone, face drawn with pain, fever, irregular bowels, and occasional vomiting. Abdomen full of lumps, some as big as hen's eggs, and tender. Diagnosis: tuberculous peritonitis. Prognosis: hopeless. Treatment: calomel and santonin in small doses, as a beginning. In three days the child was brought back looking a different creature and the lumps in the abdomen gone. Unfortunately I had been too sure of my diagnosis to order the results of my prescription, if any, to be brought for inspection. But the expressive gestures of the mother were sufficient to show that scores of round worms must have been expelled.

I am, Sir, yours faithfully,

H.B.M's Legation, Tehran, May 11th, 1914. A. R. NELIGAN.

RE-EDUCATION OF THE DEAF.

To the Editor of THE LANCET.

SIR,—In THE LANCET of May 23rd, p. 1449, Mr. Richard Lake has published an article on my method of treatment of deafness. In order to explain the lack of success which he has experienced, in contradiction to the results obtained in France during 15 years, results which are officially recognised by the Academy of Medicine, one of the three following hypotheses must be admitted: (1) Either he has modified the apparatus, however little, which has transformed the vibrations; or (2) he has turned his attention to patients who are not amenable to the siren (and this is evident at the end of a week's treatment); or (3) he has not followed the rules of clinical treatment.

I enclose my communication to the Academy of Medicine and the report of that body. In the interest of patients and medical men it would appear to me desirable that you should publish my letter and the report of the Academy in your journal.

There is no question here at all of a commercial matter, as in the case of other methods which Mr. Lake seems to confound with mine, since anybody who likes may construct my apparatus.

I am, Sir, yours faithfully,

M. MARAGE,

Docteur en Médecine et Docteur ès Sciences Chargé de Cours à la Sorbonne.

19, Rue Cambon, Paris, June 2nd, 1914.

*** We have translated Dr. Marage's letter. The communication to the Academy of Medicine (which we have not space to reprint) is entitled "Règles Acoustiques et Cliniques de la Ré-éducation Auditive," and is published by the author at his address.—ED. L.

A PRINCIPLE OF DIETETICS.

To the Editor of THE LANCET.

SIR,—It appears that the time has arrived when a subject interesting alike to physicians and the public generally should be discussed in the medical journals. It seems to me undesirable that medical men in authoritative positions should speak dogmatically to lay audiences upon subjects which they may not have studied closely and upon which there appear to be widely divergent views. I am prompted to suggest this discussion in THE LANCET by having had my attention drawn to some remarks by Dr. Robert Hutchison, reported in the *Times*, at a conference of teachers on domestic subjects. Answering questions, Dr. Hutchison said: "A good deal of nonsense was being talked about the effects of bad teeth. The most absurd instructions were issued, and in one leaflet he had seen it was stated that every meal was to end with raw fruit to clean the teeth out, and that the children were to have a raw apple each night before they went to bed, but nothing was said about a toothbrush."

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[1] THE LANCET, May 30th, 1914.

It is not my intention to attempt to defend all that may be said as to how dental diseases may be prevented, and although no doubt the eating of an apple before going to bed might do the teeth no harm, for other reasons I certainly would not defend the procedure. At the same time, I am in most hearty agreement with the statement that every meal should end with raw fruit or food of a detergent nature so that the mouth will be physiologically clean at the end of the meal. To say that the advocacy of ending a meal with raw fruit in order to clean the teeth was a most absurd instruction seems to overlook a principle of dietetics of first-rate importance now recognised by many medical men in highly responsible positions—namely, that a meal should terminate in such a way that the mouth and teeth will be left physiologically clean. Indeed, on June 1st, 1912, in an article on Dietary Reform in Secondary Schools, THE LANCET said that "everyone will agree with the recommendation of raw fruit as a termination for a meal." To scout this principle leads not only to the destruction of the teeth from caries but also to "oral sepsis" and all its attendant consequences. To indicate that this principle can be flouted and that the evils resulting from ending a meal with non-detergent or unhygienic foods can be rectified by the use of a toothbrush is reverting to a system of preventing dental diseases which has been found in the past to be most unreliable and relatively inefficacious.—I am, Sir, yours faithfully,

Harley-street, W., June 2nd, 1914. J. SIM WALLACE.

"THE MENACE OF CANCER."

To the Editor of THE LANCET.

SIR,—The question, Is cancer on the increase? is no doubt extremely difficult to answer in the affirmative if accurate and reliable statistics on the subject be demanded as a necessary basis for the reply. Where such reliable statistics do not exist—which is, I imagine, the condition in most countries at the present time—it may be necessary for a community to make up its mind on the subject without them, aided by such figures as may be available and the general knowledge of the community. On account of the serious nature of the disease it would seem important for all communities to satisfy themselves on the point and to realise, as one of your correspondents puts it, "the seriousness of the cancer problem, ... the frequency of cancer occurrence," and the necessity "of arousing a public interest in the necessity of educating the public in the plain facts of cancer as a pre-requisite for a nation-wide campaign for cancer control"; and should an increase of the disease be evident, as Mr. Hoffman compels one to believe is the case in America,[1] it is of equal or greater importance to know the reason why. To judge from recent literature on the subject, Britain does not seem to be in any better case—e.g., the medical officer of health of Edinburgh in his annual report last year called pointed attention to the increase of this disease, the mortality from which has been for years almost the same as that from phthisis. An interesting letter appeared in the *British Medical Journal* of Feb. 14th last, p. 368, from "F. H.," with diagram, relating the occurrence of 17 cases of cancer along a four-mile stretch of road within the period of five years. Nor is this increase of cancer confined to Britain and America. South Africa is in an equally unfortunate condition. Speaking from personal experience during the last 29 years (for statistics we have none) at the beginning of that period cancer was decidedly a rare disease; it has increased in the white population gradually and continuously during these years, and to-day it is comparatively a common disease, so much so indeed that it is attracting public attention.

When a common condition is so widely spread there is probably a common cause. In the Physiological Section, British Association, 1913, Dr. F. C. Shrubsall, speaking on the relative fertility and morbidity of defective stocks, having studied 700 families, is credited with stating that consumption was extremely common among degenerate stocks, that insanity was infinitely more frequent in defective stocks, and that cancer was more frequent and infantile mortality ten times greater in defective than in normal stocks, a degenerate condition unquestionably showing a greater susceptibility to disease. It is, I think, generally accepted to-day that syphilis is the great agent by which degeneration of stocks is accomplished. Thirty odd years ago some of the older surgeons believed in a close relationship between syphilis and cancer: as I have heard it expressed by one of them, "people acquire syphilis late in life and die of cancer." This belief seems to have been "on the shelf" for a good many years, but is again finding expression in a cautious manner—e.g., Mr. D'Arcy Power, in his evidence before the Royal Commission on Venereal Diseases, at its twenty-second meeting, is reported as stating that "the expectation of life was materially shortened for a person who had been infected with syphilis; the immediate danger extended to the second generation, and the vitality of the stock seemed diminished for several generations. ...... It predisposed," Mr. Power thought, "to cancer and tubercle."[2]

In South Africa there seems little doubt that cancer favours syphilitics, and that the two diseases have increased side by side. The same is true of tuberculosis, the preference of which for syphilitics has been specially pointed out in papers by me in THE LANCET of May 11th, 1912 ("Report on an Enquiry into the Prevalence of Syphilis in the South African Native and its Influence in Aiding the Spread of Tuberculosis"), and of April 11th, 1914 ("The Mortality on the Rand: Some of its Causes"). South Africa has its full quota of physical and mental degenerates, the responsibility for the mass of which must be attributed to venereal diseases. In addition to these we have another disease which also seems to be dependent for its spread on the presence of a syphilitic foundation—viz., leprosy. Nor is this surprising in view of the close affinity of the organisms of leprosy and tuberculosis. So close that one asks, Are they distinct organisms or variations of the same organism? Possibly the development of Mme. Victor Henri's work may throw some light on this important matter in the near future. In 25 years the number of lepers in Basutoland has increased from 300 to 800. In Natal, along the Basutoland frontier, the increase of cases has been so great that the attention of the

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[1] THE LANCET, April 11th, 1914, p. 1079.

[2] THE LANCET, March 21st, 1914, p. 846.

Government was called to it in the Union Parliament during the present session. In Europe the increase is also marked. In Paris, it is stated, the number of lepers has increased in a few years from 50 to 300. This is also true of Russia. India shows a like tendency, the increase being placed at 10 per cent. for ten years.

In consideration of these facts it would seem that, while not neglecting these various diseases, there may be a better way of directing a nation-wide campaign than against cancer, as suggested by Mr. Hoffman—viz., towards the elimination of venereal diseases. With its success one might venture to hope for the disappearance of most of the others to a very marked extent. The only army with which any hope lies of carrying such a campaign to a successful issue requires to be composed of the *children of the nation* who have received a common-sense education in those subjects which concern so nearly their own and the nation's welfare. "The foundation of every nation is the education of its youth."

I am, Sir, yours faithfully,
BENJAMIN G. BROCK.

Germiston, South Africa, April 30th, 1914.

THE CHEMICAL TREATMENT OF CANCER.

To the Editor of THE LANCET.

SIR,—The treatment of inoperable cancer by chemical agents is, in fact, that of the disease itself. If growths of long standing can be safely removed by their use greater success will be obtained when more recent growths are attacked. The basis of such treatment rests upon the fact that the bodily resistance to disease can be increased artificially by the exhibition of such chemical substances as the cinnamate of sodium and the orthocoumarate of sodium, and that an element destructive to the life of cancer cells can be introduced without involving the destruction of healthy cells. The introduction of colloidal copper has placed in my hands the coping-stone for which I have been seeking since 1903.[1] In 1912 D. T. Gaube du Gers published a paper in Paris, "De la Décancérisation," in which he published some cases treated with a colloidal copper solution, and I recognised the fact that the coping-stone for which I had been assiduously looking had been found. The successive steps taken have been published in THE LANCET,[2] and I claim that they have been taken in an orderly manner, and based upon a sufficient working hypothesis. Dr. Morgan, since 1903, has made various metallic organic compounds such as the coumarate of copper, but none of them have been found to be of practical therapeutic use owing to insolubility or other reasons. Dr. Martindale, of New Cavendish-street, has now made a solution which he is sending out in sterile form and which contains copper in the form of a protalbuminate or lysalbuminate, and he confidently asserts that the copper content is in a colloidal state and chemically very labile and reactive. From the therapeutic aspect there is no doubt that the solution is active, that it is well tolerated, and gives rise to no unpleasant reactions in patients.

I have administered 5 c.c. of this solution subcutaneously twice weekly to a patient suffering from advanced carcinoma of the liver, and Mr. C. B. Lockwood, who has seen the patient, thinks that there is extensive intestinal involvement in addition. On April 1st this woman, aged 64, was very deeply jaundiced, there was no bile in the motions, and the urine was the colour of mahogany. Vomiting and diarrhœa were incessant. After a fortnight's treatment there was definite improvement in the general condition of the patient, the large masses of growth had much diminished, and the vomiting had disappeared. After eight weeks' treatment the improvement was very marked, vomiting and diarrhœa were absent, the urine was less discoloured, and there was less pigmentation of the skin.

It appears, therefore, that the treatment of cancer can be successfully undertaken with the aid of chemical substances, and it is for this I have contended for many years past. During the last four or five years certainty existed in my mind that my chemical friends, Dr. Morgan and Dr. Martindale, would sooner or later provide me with the copper compound for which I was seeking, and when the latter sent me the colloidal copper solution I recognised the fact that success was secured. So much success had already been obtained with the aid of coumaric acid compounds aided by oleate of copper in the cases where the latter could be applied locally, that the only doubt remaining was as to the toleration of copper in the colloidal form by the patient in doses which would be sufficient for the attack upon large masses. This doubt has now been removed, and it can be asserted that there is no danger to the patient when colloidal copper is exhibited in the dose contained in 5 c.c. of Dr. Martindale's solution.

In conclusion, may I express the hope that no more will be spent upon the exploitation of radium as a cure for this disease? Its use has not been unaccompanied with grave disasters, and, if the truth is told, its therapeutic possibilities are limited to the treatment of easily accessible growths, and always will be. Growths situated even a comparatively short distance from the spot exposed to the rays must be uninfluenced by their action.—I am, Sir, yours faithfully,

June 1st, 1914. LOVELL DRAGE, M.D. Oxon.

TOUCHING FOR THE KING'S EVIL.

To the Editor of THE LANCET.

SIR,—In the last part of the Proceedings of the Section of the History of Medicine, Royal Society of Medicine (p. 234), Dr. Raymond Crawfurd added a note referring to the supposed bronze touch-piece of Charles I., for the first public announcement of which he thought we were indebted to Mr. Henry Symonds. I have looked up Dr. Crawfurd's reference to Mr. Symonds's announcement (*Numismatic Chronicle*, London, fourth series, 1910, vol. x., p. 395), and find that amongst "the accounts of the wardens of the exchange and moneys within the Tower" (1625–1649) Mr. Symonds specially noted an entry (1635–1636) recording the allowance of a payment to the chief graver "for making tokens used for the healing of the king's evil and delivered to William Clowes, sergeant chirurgeon, at *2d.* the piece; the number being 5500." Mr. Symonds proceeds: "This is an interesting discovery, proving, as it does, that Charles used a touch-piece of base metal when the gold angels had become too valuable to be distributed at such ceremonies." I do not think it proves anything of the kind. It is far more likely to my mind that the pieces in question were given as mementos to visitors allowed to watch the ceremony, or were used in some way as "passes" or "tickets" in connexion with the ceremony. There can, however, be no doubt that Mr. Symonds and Mr. Grueber are right in their suggestion that the bronze piece referred to is the one engraved in W. Boyne's "Seventeenth Century Tokens" (first edition, London, 1858, Pl. 36, No. 11), having on the obverse the design of a hand from the clouds over the heads of four men, and on the reverse a rose and thistle under a crown; the legend, partly on the obverse and partly on the reverse, is: HE TOVCHED THEM AND THEY WEARE HEALED. It may be here observed that Dr. T. J. Pettigrew already in 1844 had suggested that the piece in question was a touch-piece. He had it engraved amongst "royal touch-pieces" on the frontispiece to his book "On Superstitions Connected with Medicine and Surgery" (published by J. Churchill, London, 1844). By the style of the piece it must almost certainly belong to the reign of James I. or Charles I., but for the following reasons I think it cannot have been a real "touch-piece": 1. It is hardly ever met with pierced with a hole for suspension, like regular touch-pieces invariably are. 2. It is met with either struck from dies or as a *cast of the period*, like many other medalets of the Stuart sovereigns. 3. It seems very improbable that in 1635–1636 King Charles I. should have taken such a liberty with an ancient and cherished religious ceremony, as would have been the case had he used bronze instead of gold pieces in touching for the king's evil. Even the Stuart "pretenders," James III., Charles III., and Henry IX., during their most adverse times, never used touch-pieces of a metal inferior to silver when they "touched" (as they frequently did) for the king's evil. 4. Had bronze touch-pieces really been used by Charles I. instead of the proper gold pieces, it is almost certain that definite references to the fact would have come down to us in the literature and ordinary records of the time.

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[1] THE LANCET, Nov. 7th, 1908.

[2] THE LANCET, July 12th, 1912, and Sept. 7th, 1907.

On all these grounds, therefore, I maintain that until further information is forthcoming the bronze pieces in question must be regarded as medalets or tickets of some kind connected with the ceremony of touching for the king's evil, but not as actual touch-pieces.

I am, Sir, yours faithfully,

F. PARKES WEBER, M.D. Cantab.

Harley-street, W., May 27th, 1914.

SOCIETY OF TUBERCULOSIS OFFICERS.

To the Editor of THE LANCET.

SIR,—Regarding the suggestion thrown out by Dr. Crowe in a letter in THE LANCET of March 21st that a society of tuberculosis officers should be formed, I am not aware that this has yet been taken up, but possibly the reason is that such officers are engrossed with the details of the organisation and development of their work. For various reasons it appears advisable for such a society to be formed, and it has occurred to me that an opportunity might offer itself during the forthcoming annual conference of the National Association for the Prevention of Consumption and other Forms of Tuberculosis in Leeds. A preliminary meeting might be called for the evening of Wednesday, July 8th, and if a sufficient response be made to this suggestion a suitable meeting-place could be selected. I shall be glad to learn the views of other tuberculosis officers.

I am, Sir, yours faithfully,

THOMPSON CAMPBELL, M.D. Glasg.

The Limes, Wakefield, June 1st, 1914.

THE STETHOSCOPE IN ENGLAND.

To the Editor of THE LANCET.

SIR,—In the interesting account of the dinner to celebrate the centenary of the Royal Hospital for Diseases of the Chest, City-road, published in your issue of May 16th, it is stated that Dr. Thomas Davies introduced the stethoscope into England in 1862. May I ask you to correct the date, which is misleading? It should be *1825* not 1862. Dr. Thomas Davies died in June 1839.

I am, Sir, yours faithfully,

ARTHUR T. DAVIES,
Senior Physician to the Royal Hospital for Diseases of the Chest, City-road, London.

Tokenhouse-yard, E.C., June 3rd, 1914.

THE NATIONAL INSURANCE ACT.

COMPLAINTS AGAINST LONDON PRACTITIONERS.

IN the monthly report on complaints against practitioners presented on May 28th to the London Insurance Committee was included a case in which the Medical Service Subcommittee found that a doctor wrongfully made a charge for services rendered, and that he refused to issue a death certificate until payment of 3 guineas was forthcoming. The latter allegation was denied by the doctor. Extenuating circumstances in the case appeared to be that the patient had been attended by another practitioner as a private patient, and on moving into another district came under the care of the doctor against whom complaint was made. The patient was in a very grave condition, and a conflict of evidence arose as to whether he was accepted as a private or an insured patient. On the documentary evidence available the subcommittee decided against the doctor on this point. Mr. O. E. Warburg, chairman of the subcommittee, mentioned that in this case the new form of procedure had been recommended of sending the papers to the Insurance Commissioners with a request that they would bring them to the notice of the General Medical Council. The dereliction of which the practitioner was found to have been guilty was not one concerning the *efficiency* of the medical service, the treatment having been quite satisfactory. A grave breach of professional practice was alleged, and the matter should come before the professional tribunal, which could deal with it adequately. The committee approved this course. In another case, in which a doctor was censured for a breach explainable by illness and had since died, Mr. Evan Jones moved the reference back with a view to the case being expunged from the records, but by a majority the committee rejected the motion.

DISTRIBUTION OF THE UNALLOTTED FUNDS.

The question of the distribution of the moneys accumulated in the Medical Benefit Fund in respect of insured persons who have not chosen a doctor was again before the London Insurance Committee on May 28th, when the special subcommittee, which was instructed a month ago[1] to prepare a scheme for distribution, recommended a method whereby an allotment would be made on paper to all practitioners on the panel of the whole amount in the Medical Benefit Fund for 1913—viz., £490,000 (including £28,436 for domiciliary treatment and the £91,000 unallotted money). Sums would be credited to each practitioner in accordance with the number on his list, the amount already received in the form of quarterly cheques during 1913 would be deducted, and a remittance would be sent for the balance. It was stated in the course of debate that the Insurance Commission had advised this as the proper and indeed the only possible course, but as it appeared that this information was not received in an official way, but only by word of mouth, and as various documents issued by the Commission seemed to contemplate alternative methods of distribution, the committee decided to refer the matter back to the subcommittee once more.

London Practitioners and the Budget Proposals.

The London Panel Committee has opened its meetings to representatives of the medical press, and at the first meeting held under these conditions resolutions were passed with the object of stating the professional view as to the best ways in which the money provided by the Budget to aid the establishment of laboratories, and for the provision of skilled nursing, &c., could be expended. The resolutions declared that the services of medical referees should be available to practitioners on the panel without fee, that the referees should not combine with these duties the ordinary duties of a consultant or be engaged in general practice in the same area. The conditions under which the services of nurses should be available to practitioners were defined, and it was declared that laboratories for chemical, pathological, and bacteriological examinations should be available to practitioners on the panel without fee, that arrangements should be made for closer coöperation between practitioners and institutions for specialised treatment, and that more hospital accommodation was needed in London for women. A deputation was appointed to place these views before the Chancellor of the Exchequer.

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[1] The Lancet, May 2nd, p. 1239.

Hospital Sunday in London.—June 14th is Hospital Sunday in the metropolis, and it is announced that the Lord Mayor and Sheriffs of London will attend in state the morning service at Westminster Abbey and the afternoon service at St. Paul's Cathedral.

Chelsea Hospital for Women.—Viscount Castlereagh, President of the Hospital, will take the chair on the occasion of the laying of the foundation-stones of the new hospital and nurses' home by the Earl and Countess Cadogan on Tuesday, June 9th, at 3·30 P.M. The Rector of Chelsea, Archdeacon Bevan, will conduct the dedication service.

Donations and Bequests.—By the will of the late Mrs. Ann Smith, of Nottingham, the Nottingham Children's Hospital will receive £1000.—Under the will of the late Mr. Samuel Heilbut the London Hospital, St. Mary's Hospital, the Great Ormond-street Hospital for Children, and the Jews Hospital and Orphan School, Norwood, will receive £1000 each.—An anonymous donor has given £1500 to the Royal London Ophthalmic Hospital for the endowment of a bed and a cot.

Medical News.

University of Cambridge.—The following medical degrees have been conferred:—

M.D.—F. C. Trapnell, King's; F. O. Arnold, Trinity.

University of London.—At examinations held recently the following candidates were successful:—

Third (M.B., B.S.) Examination.

Honours.—*Henry Julyan Hoyte, Westminster Hospital; †Fede Margherita Mackenzie, London (Royal Free Hospital) School of Medicine for Women; and *John Beaufoy Randall, B.Sc., St. Bartholomew's Hospital.

* Distinguished in Medicine. † Distinguished in Midwifery and Diseases of Women.

Pass.—Francis Cooke Alton, St. Thomas's Hospital; Thomas Izod Bennett, Guy's Hospital; Geoffrey Andrew Bird, B.Sc., St. Thomas's Hospital; John Bostock and Michael Joseph Cronin, London Hospital; Hector Wynne Davies, University College Hospital; Robert Ellis, University of Birmingham and St. Bartholomew's Hospital; Henry William Evans, Guy's Hospital; Edward Alex. Marie Joachim Goldie, University College Hospital; Frank Arthur Grange, London Hospital; Peregrine Stephen B. Langton and Oliver Cuff Link, Middlesex Hospital; Robert John McNeill Love, London Hospital; Wilfrid Egerton Milligan, St. Thomas's Hospital; Cresswell Lee Pattison, St. Mary's Hospital; Richard Amyas Preston, London Hospital; Maitland Radford, University College Hospital; Cecil George Richardson, Westminster Hospital; Arthur Montgomery Marsh Roberts, University of Liverpool; Helen Lawson Robertson, London (Royal Free Hospital) School of Medicine for Women; William Henry Price Saunders, Middlesex Hospital; Clive Justin Hicks Sharp, University College Hospital; George William Shore, King's College Hospital; William Simpson, St. Bartholomew's Hospital; John Smith Sloper, St. Thomas's Hospital; Sidney Smith, King's College Hospital; Henry James Drew Smythe, University of Bristol; William Edward Tanner, Guy's Hospital; Victor David Collins Wakeford, St. Bartholomew's Hospital; Aubrey Harrison White, University of Bristol; Alfred Wills, B.Sc., Oscar Reginald Lewis Wilson, and Charles Witts, Guy's Hospital; and Bernard Woodhouse, University College Hospital.

The following candidates have passed in one of the two groups of subjects:—

Group I.—Basil William Armstrong, St. Mary's Hospital; William Claude Percy Barratt, University College Hospital; Robert Maitland Beath, Queen's University, Belfast; Alexander Decimus d'Array, University College Hospital; Una Griffin, Mary Esther Harding, and Mildred Archer Jukes, London (Royal Free Hospital) School of Medicine for Women; John George Owen, B.Sc., King's College Hospital; Cyril Sherris, Guy's Hospital; Godfrey Alan Walker, London Hospital; and Thomas Burges Welch, St. Bartholomew's Hospital.

Group II.—William Roy Blore, Victoria University of Manchester; William Burt, St. Thomas's Hospital; Noel St. John Grey Dudley-Buxton, University College Hospital; John Alfred Wylde Ebden, Westminster Hospital; George Dunluce Eccles, Guy's Hospital; Thomas Percy Lewis, St. Mary's Hospital; Thomas Bond Paul, Middlesex Hospital; Edna Mary Powell, London (Royal Free Hospital) School of Medicine for Women; Arthur Leslie Hanworth Rackham, Middlesex Hospital; Philip Smith, Guy's Hospital; Trevor Richard Snelling, London Hospital; Grace Stapleton, London (Royal Free Hospital) School of Medicine for Women; Joseph Alexander Tsoi-A-Sue, London Hospital; Ernest Haines Walker, St. Thomas's Hospital; and Arthur Graham Winter, London Hospital.

N.B.—This list, published for the convenience of candidates, is issued subject to its approval by the Senate.

Glasgow University Club, London.—Emeritus Professor John Cleland presided at the half-yearly dinner of the Glasgow University Club, London, held in the Trocadéro Restaurant on May 27th. A large proportion of the members are medical graduates. Amongst those present were Director-General Sir Arthur Sloggett, A.M.S., Sir Henry Craik, M.P., Lieutenant-Colonel Sir W. B. Leishman, R.A.M.C., Sir John McCall, Sir Thomas Oliver, Mr. Charles Stonham, Professor W. R. Smith, Principal J. Yule Mackay, Mr. Charles Ryall, Dr. Guthrie Rankin, Dr. Dan McKenzie, Lieutenant-Colonel Legge, Inspector-General of the Australian Forces; Dr. Norris, Commonwealth medical officer in London; and Dr. Alexander Macphail and Dr. D. S. Roxburgh, the honorary secretaries. The Chairman, in proposing "The University of Glasgow," said that his association with it had been long. He had performed the duties of professor of anatomy for 32 years, and at a previous period to that he had been for two years a demonstrator. The latter post he had held under Professor Allan Thomson, a most genial man, who raised the teaching of anatomy in the University to a height which had not been reached in it before. Besides that, he was the first man in this country to teach that very important part of his subject which went by the name of embryology. He was sorry that very few professors who were teaching at the time when he took up the duties of his chair, now remained.

There was only one who still continued at work in his chair, Professor Ferguson, but he was glad that a few others still lived. It was the medical school with which he had most to do, and it had produced many distinguished men in the medical profession. One of those distinguished men was present with them in the person of Sir W. B. Leishman. Sir Henry Craik (the representative of the University in Parliament), in proposing the health of Mr. W. Craig Henderson, who had retired from the office of honorary secretary, congratulated him on the success of his efforts in his professional character as a barrister in saving the University from the attempt to run the Glasgow tramways through its vicinity. Mr. Craig Henderson replied. The Rev. Dr. John Smith responded to the toast of "The Guests," which was proposed by Professor John Adams. Principal Mackay, in submitting the health of the chairman, spoke as an old student of the high ideals which Professor Cleland had set in his teaching. He was the kind of teacher who was looked up to with feelings of admiration, respect, and love by all who had had the privilege of being his students. The toast was drunk with Highland honours.

ROYAL MEDICAL BENEVOLENT FUND.—At the last meeting of the committee 35 cases were considered and grants amounting to £310 voted to 30 of the applicants. The following is a summary of the cases relieved:—

Widow, aged 52, of L.R.C.P. & S. Edin. who practised at Walsall and Bethnal Green. Ill-health and unable to do much work, only earning about 5*s.* per week by nursing. One son, unable to help. Granted £12 in 12 instalments.—Wife, aged 48, of M.R.C.S. Eng. Deserted by her husband. One daughter who with her mother earn a few shillings each week by teaching children. The mother's health very bad. Granted £12 in 12 instalments.—Daughter, aged 57, of M.R.C.S. Eng. who practised in London. Until a few years ago was able to earn her living as housekeeper, but owing to the death of employer and ill-health following through overwork is unable to obtain employment. Granted £12 in 12 instalments.—L.R.C.P. & S. Edin., aged 58, who practised at Leith, suffering from locomotor ataxy and quite unable to work. His wife only a small annuity. Voted £18 in 12 instalments.—Widow, aged 68, of F.R.C.S. Eng. who practised at Putney. Has tried to live by letting off portion of house she rents. Is now suffering from arthritis deformans and quite helpless. Recommended for an annuity. Voted £12 in 12 instalments.—Widow, aged 64, of M.D. Aberd. who practised at Fulham until early this year. Only income £16 per annum. Four children, unable to assist. Voted £12 in 12 instalments.—Widow, aged 49, of L.R.C.P. & S. Edin. who practised in Jamaica. Only certain income 30*s.* per month from another society and friends. Three children unable to assist. Relieved six times, £72. Voted £12 in 12 instalments.—Daughter, aged 62, of L.F.P.S. Glasg. who practised at Widnes. Income £40 per annum from two charities. Suffering from laryngitis. Relieved four times, £20. Voted £5.—Daughter, aged 59, of F.R.C.P. Edin. who practised at Cheadle. Failing health and unable to obtain suitable employment. Allowed £25 per annum by a friend, and earns about £6 10*s.* a year by own efforts. Relieved nine times, £74. Voted £12 in 12 instalments.—Widow, aged 73, of M.R.C.S. Eng. who practised in the Old Kent-road, S.E. Suffering from rheumatoid arthritis. Only income an old age pension. Relieved four times, £40. Voted £12 in 12 instalments.—Widow, aged 43, of L.R.C.P. & S. Edin. who practised in South Wales. Has endeavoured to earn a living for herself and two daughters by nursing, but work has been very uncertain of late. Referred to the Guild. Relieved eight times, £60. Granted £5.—Widow, aged 68, of M.R.C.S. Eng. who practised at Heathfield. Two children, both married, but unable to help. Applicant helpless with rheumatism. Only income £20 per annum. Relieved six times, £63. Granted £12 in 12 instalments.—Widow, aged 51, of L.R.C.P. & S. Edin. who practised at New Quay. Has recently fractured her leg and otherwise been very ill. Two sons who are sailors only able to help slightly. Relieved 12 times, £113. Granted £12 in 12 instalments.—Daughter, aged 75, of M.R.C.S. Eng. who practised at Hackney-road, N.E. Lost all her private income by the failure of her trustee. Only income £52 per annum from friends and relations. Relieved twice, £24. Voted £12 in 12 instalments.—Widow, aged 62, of M.D. Aberd., who served in the I.M.S. Suffers from acute rheumatism. Only income about £28 per annum. Relieved once, £12. Granted £12 in 12 instalments.—Daughters, aged 64 and 67, of F.R.C.S. Eng. who practised at Stokenchurch; both have very indifferent health and quite unable to work. Only joint income about £56 per annum. Relieved twice, £20. Granted £18 in 12 instalments.—Daughter, aged 61, of M.D. Lond. who practised at Goxhill. Suffering from locomotor ataxy. Only income £7 per annum. Relieved five times, £62. Granted £18 in 12 instalments.—Widow, aged 80, of L.R.C.P. & S. Edin. who practised at Skirlaugh. Only income the old age pension. Only son unable to help. Relieved twice, £24. Granted £18 in 12 instalments.—Daughter, aged 86, of M.D. who practised at Manningtree. Receives £13 per annum from another charity. Cause of distress the failure of an annuity of £100. Relieved once, £12. Granted £12 in 12 instalments.—Daughter, aged 59, of L.F.P.S. Glasg. who practised at Mauchline. Health very indifferent. Only income £12 per annum from another charity. Relieved seven times, £80. Granted £10 in two instalments.—Widow, aged 67, of M.R.C.S. Eng. who practised at Pedrham and Jamaica. Three children, none able to help. Health very bad. Only income £26 per annum from friends in Jamaica. Relieved ten times, £65. Granted £10 in two instalments.—Daughter, aged 66, of M.R.C.S. Eng. who practised in India and Bishops Teignton. Earned her own living until six years ago, when she was obliged to give up in consequence of ill-health. Relieved once, £12. Granted £12 in 12 instalments.—Daughter, aged 65, of M.D. Aberd. who practised at London, Ramsgate, and Worthing. Earned her living for 40 years as a teacher of music, but in consequence of ill-health and age unable to continue. Receives an annuity of £21 from another charity. Relieved [illegible] times, £70. Granted £12 in 12 instalments.—Daughters, aged 42 and 50, of L.R.C.S. and L.M. Dub. who practised at Sydenham and [illegible]stead. Elder sister suffering from migraine, the younger one is epileptic. Joint income only £45. The recent death of the mother, who had an annuity of £50, the immediate cause of distress. The cases referred to the Guild for report. Relieved seven times, £75. Granted £5.—Wife, aged 4[illegible], of M.R.C.S. Eng. who practised in Westminster and other places. Deserted by husband. One daughter who earns a little. Applicant, who is lame, has earned a little by teaching English and needlework, but insufficient to support herself. Has an opportunity of purchasing a small teaching connexion. Relieved four times, £[illegible]. Granted £10 in two instalments, the first amount to be utilised in purchasing the teaching connexion.—Widow, aged 53, of M.R.C.S. Eng. who practised at Stockton-on-Tees. Has two children; only help slightly. Earns a little by needlework, but eyesight very bad and getting worse. Relieved ten times, £88. Granted £9 in 12 instalments.—Two other cases were considered and emergency grants of £[illegible] to each were made and the cases referred to the Guild for report.

Contributions may be sent to the honorary treasurer, Dr. Samuel West, 11, Chandos-street, Cavendish-square, London, W.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.—Professor C. S. Sherrington, F.R.S., will deliver the Morison Lectures in the hall of the College, 9, Queen-street, Edinburgh, on Monday and Wednesday, June 22nd and 24th, at 5 o'clock. The subject of the lectures will be the Limb as an Organ of Sense and of Reflex Action Compared.

COLONIAL NURSING ASSOCIATION.—The annual meeting of this association will be held on Tuesday next, June 9th, at 3.30 P.M., at 4, Whitehall-gardens, S.W., by invitation of the Crown Agents for the Colonies. H.R.H. Princess Henry of Battenberg, patroness of the association, will be present. Sir Claude MacDonald will preside.

BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, AND CO., London.

Autolycus in Arcady. By H. W. Tompkins, F.R. Hist. S. Price 3*s.* 6*d.* net.
Old French Romances. By W. Morris. Price 2*s.* 6*d.* net.

CHURCHILL, J. AND A., London.

Molecular Physics. By James Arnold Crowther. Price 3*s.* 6*d.* net.
A Manual of Bacteriology, Clinical and Applied. By R. Tanner Hewlett, M.D., F.R.C.P., D.P.H. Lond., Professor of Bacteriology in the University of London. Fifth edition. Price 10*s.* 6*d.* net.
Immunity, Methods of Diagnosis and Therapy, and their Practical Application. By Dr. Julius Citron (Berlin), translated from the German and edited by A. L. Garbat, M.D. (New York). Second edition. Price 14*s.* net.

FROWDE, HENRY, AND HODDER AND STOUGHTON, London.

The Science and Practice of Dental Surgery. Edited by Norman G. Bennett, M.A., M.B., B.C. Cantab., L.D.S., with an Appendix on Dental Jurisprudence by P. B. Henderson, B.A. Oxon. 993 Illustrations. Price £2 2*s.*

GREEN, W., AND SON, Edinburgh and London.

Auricular Flutter. By W. T. Ritchie, M.D., F.R.C.P.E., F.R.S.E. Price 10*s.* 6*d.* net.

KING, P. S., London.

The Case for Voluntary Service: a Handbook of the Voluntary Service Committee. Price 1*s.*

LAURIE, T. WERNER, London.

Golf for Women. By George Duncan. Price 3*s.* 6*d.* net.
The Ways of Society (a social guide). By Mrs. Danvers Del[illegible]. Price 5*s.* net.

LEHMANN, J. F., München.

Atlas und Lehrbuch wichtiger tierischer Parasiten und ihrer Ueberträger, mit besonderer Berücksichtigung der Tropenpathologie. Von Dr. med. et phil. R. O. Neumann, o.ö. Professor der Hygiene und Direktor des Hygienischen Instituts der Universität Bonn; und Dr. med. Martin Mayer, Abteilungsvorsteher am Institut für Schiffs- und Tropenkrankheiten in Hamburg. Mit 1300 farbigen Abbildungen auf 45 lithographischen Tafeln und 237 schwarzen Textfiguren. Price M.40.

LEWIS, H. K., London.

I.K. Therapy. With Special Reference to Tuberculosis. By W. E. M. Armstrong, M.A., M.D. Price 5*s.* net.

PULMAN, GEORGE, AND SONS, Ophthalmoscope Press, London, W.

Sclero-Corneal Trephining in Operative Treatment of Glaucoma. By R. H. Elliot, M.D., B.S. Lond., Sc.D. Edin., F.R.C.S. Eng., Lieutenant-Colonel I.M.S. Second edition.

THE J. D. RIEDEL CO., Walbrook, London, and New York.

Riedel's Mentor, 1914 (Riedel's Berichte).

The Scientific Press, Limited, London.

Ionic Medication: Theory and Practice. By Lytton Maitland, M.D. Lond., formerly Assistant in Electrical Department, Charing Cross Hospital. *Price 1s. net.*

Case Book for Massage and Weir-Mitchell Treatment, specially ruled to meet the requirements of the I.S.T.M. Containing 56 pages, divided into sections for recording Massage and Weir-Mitchell Cases. Price 6*d*. net.

A Complete Handbook of Midwifery. By J. K. Watson, M.D. Edin. Third edition, completely revised, with several new illustrations added. Price 6*s*. net.

Midwives' Pocket Book. By Honnor Morten. Thoroughly revised and containing recent Examination Questions of the C.M.B. Price 1s. post free.

The Southworth Company, Troy, New York.

Diagnostics of the Fundus Oculi. By Edward L. Oatman, M.D. One volume of text, with 234 illustrations and 4 coloured plates and two portfolios containing 79 stereograms and 8 diagnostic cards.

Times of India Office, Bombay.

Sanitation in India. By J. A. Turner, M.D., D.P.H., Executive Health Officer, Bombay Municipality. With contributions by B. K. Goldsmith, M.B., S. C. Hormusji, M.D., K. B. Shroff, L.M. & S., and L. Godinho, M.D.

Dr. Werner Klinkhardt Verlagsbuchandlung, Leipzig.

Die menschliche Intelligenz durch Hygienische und Therapeutische Massnahmen. Eine Anleitung zum rationellen Denken. Von Dr. med. A. Lorand. Price M.4.

Leitfäden der Praktischen Medizin herausgegeben von Prof. Dr. Ph. Bockenheimer. Allgemeine Chirurgie. Band 9. I. Teil: Chirurgische Operationslehre. Band 10. II. Teil: Chirurgische Erkrankungen mit Ausnalme der Geschwülste und Zysten. Band 11. Teil III.: Geschwülste und Zysten. xvi. + 804 Seiten. Mit 1034 Abbildungen und 64 Tafeln. Price M.30.

Yale University Press, Humphrey Milford, London, and Oxford University Press.

The Fundamental Basis of Nutrition. By Graham Lusk, Professor of Physiology, Cornell University Medical College. Price 2*s*. 6*d*. net.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Bearn, F. A., M.B., Ch.B. Vict., has been appointed Junior House Surgeon at the Manchester Royal Infirmary.

Bentz, F. C., M.B., Ch.B. Vict., has been appointed House Surgeon at the Manchester Royal Infirmary.

Blackmore, F. J. C., M.R.C.S., L.R.C.P. Lond., has been appointed Chief Medical Officer to the Tuberculosis Dispensary, Woolwich.

Blore, W. R., M.B., Ch.B. Vict., has been appointed House Physician at the Manchester Royal Infirmary.

Clarke, J. F. Howard, L.D.S. R C.S. Eng., has been appointed Consulting Dental Surgeon to the West Ham and Eastern General Hospital.

Crawshaw, C. H., M.B., Ch.B. Vict., M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Surgeon at the Manchester Royal Infirmary.

Dougal, Daniel, M.D. Vict., has been appointed Pathologist to the St. Mary's Hospitals, Manchester.

Evatt, J. M., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at University College Hospital.

Gilhespy, F. B., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician at University College Hospital.

Hendry, J., M.B., Ch.B. Aberd., has been appointed Medical Officer for the Hartington District of the Bakewell Board's area.

Herbert, John F., M.B., B.Ch. I., has been appointed Assistant House Surgeon at the North Ormesby Hospital, Middlesbrough.

Hogg, A. H., M.B., B.S. Durh., has been appointed Medical Officer for the Monk Bretton District of the Barnsley Union.

Hutchinson, H. F., M.B., Ch.B. Vict., M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Surgeon at the Manchester Royal Infirmary.

Jamison, G. B., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician at the Manchester Royal Infirmary.

Leigh, J. Dickinson, M.D., F.R.C.S.E., D.P.H., has been appointed an Assistant Tuberculosis Officer for the County of Durham.

Leipoldt, C. Louis, F.R.C.S. Eng., has been appointed Medical Inspector under the Transvaal Education Department.

Macdonald, J. F., M.D. Glasg., has been appointed Medical Officer to the Joint Rural Districts of Chelmsford, Maldon, and Rochford.

McKeague, John, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Assistant School Medical Officer for Bolton.

Oliver, T. H., M.B., Ch.B. Vict., has been appointed Medical Registrar at the Manchester Royal Infirmary.

Peck, J. H., M.B., Ch.B. Edin., has been appointed Assistant Medical Officer to the Flintshire Education Committee.

Richmond, Arthur, M.B., Ch.B. Vict., M.R.C.S., L.R.C.P. Lond., has been appointed Tuberculosis Officer for Berkshire.

Syrett, E. F., M.D., B.S. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health of Harwich.

Wood, G. W., M.B., Ch.B. Vict., has been appointed House Physician at the Manchester Royal Infirmary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Aberdeen University.—Lectureship in Public Health. Salary £400 per annum.

Ashton-under-Lyne Union Workhouse.—Resident Medical Officer and Resident Assistant Medical Officer. Salaries £350 and £150 per annum respectively, with rations, laundry, and residence.

Barrow-in-Furness, North Lonsdale Hospital.—House Surgeon. Salary £150 per annum, with residence, board, and laundry.

Bedford County Hospital.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

Birkenhead Borough Hospital.—Senior House Surgeon. Salary £120 per annum, with board and laundry.

Birmingham and Midland Eye Hospital.—Locum Tenens Junior House Surgeon. Salary 5 guineas weekly, with board and lodging.

Birmingham, Central Tuberculosis Dispensary.—Assistant Medical Officer. Salary £350 per annum.

Birmingham General Dispensary.—Resident Medical Officer, unmarried. Salary £240 per annum, with apartments, fire, lights, and attendance.

Birmingham, Salterley Grange Sanatorium for Consumptives, near Cheltenham.—Resident Medical Officer. Salary £300 per annum, with board, &c.

Birmingham Union, Dudley-road Infirmary.—Resident Assistant Medical Officer. Salary £150 per annum, with apartments, rations, laundry, and attendance.

Birmingham, Yardley-road Sanatorium.—Assistant Medical Officer. Salary £250 per annum, with board and residence.

Bootle Borough Hospital.—Senior and Junior House Surgeons. Salaries £100 and £80 respectively, with residence, board, and laundry.

Bournemouth County Borough Education Committee.—Assistant School Medical Officer. Salary £300 per annum.

Bournemouth, Royal Victoria and West Hants Hospital.—House Surgeon, unmarried, for six months. Salary £100 per annum, with board, lodging, and washing.

Bradford Royal Infirmary.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing.

Brighton, Royal Sussex County Hospital.—Assistant House Surgeon, unmarried, for three months. Salary £80, with apartments, board, and laundry.

Bristol City Asylum.—Second Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, washing, and attendance.

Bristol Royal Infirmary.—House Surgeon for Throat, Nose, and Ear Department. Salary at rate of £100 per annum, with board, lodging, and laundry.

Burley-in-Wharfedale, West Riding Asylum, Scalebor Park.—Assistant Medical Officer. Salary £250 per annum, with board, residence, and laundry. Or Locum Tenens to end of September. Salary £5 5s. per week.

Burnley, Victoria Hospital.—Two House Surgeons. Salary £135 per annum, with residence, board, and washing.

Bury Infirmary.—Junior House Surgeon. Salary £150 per annum, with board, residence, and washing.

Cairo.—Resident Physician for Mena House Hotel, Pyramids, near Cairo.

Camberwell, Constance-road Institution, East Dulwich, S.E.—Locum Tenens for Medical Officer for four weeks. Salary at rate of 7 guineas per week, with board, lodging, and washing.

Canterbury, Kent and Canterbury Hospital.—House Surgeon and Junior House Surgeon, unmarried. Salaries £100 and £90 per annum respectively, with board, lodging, and washing.

Cardiff, Glan Ely Tuberculosis Hospital.—Resident Medical Officer. Salary £200 per annum, with quarters and maintenance.

Cardiff, King Edward VII.'s Hospital.—House Surgeon for the Ophthalmic and Ear, Nose and Throat Departments. Salary £100 per annum, with board, residence, and laundry. Also Two House Surgeons for six months. Salary at rate of £60 per annum, with board, residence, and laundry.

Central London Ophthalmic Hospital, Judd-street, W.C.—Assistant Surgeon.

Central London Throat and Ear Hospital, Gray's Inn-road, W.C.—Registrar.

Chesterfield and North Derbyshire Hospital.—House Physician Salary £90 per annum, with board, apartments, and laundry.

City of London Hospital for Diseases of the Chest, Victoria Park, E.—House Physician for six months. Salary at rate of £75 per annum, with board, residence, and washing.

Colchester, Essex County Hospital.—House Surgeon. Salary £100 per annum, with board, washing, and residence.

County of London.—Assistant Organisers of Children's Care Work under the London County Council. Salary £100 per annum.

Cumberland County Council.—Three Assistant County Medical Officers. Salary £350.

Derby, Derbyshire Royal Infirmary.—House Physician and Assistant House Surgeon. Salaries £120 and £80 per annum respectively, with residence, board, and laundry.

DEVONPORT, ROYAL ALBERT HOSPITAL.—House Surgeon, unmarried. Salary £150 per annum, with board and laundry.

ECCLES AND PATRICROFT HOSPITAL.—House Surgeon. Salary £70 per annum, with board, washing, and lodging.

ESSEX EDUCATION COMMITTEE.—Medical Inspector. Salary £300 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—House Surgeon for five months. Salary at rate of £75 per annum, with board, residence, and washing. Also Surgeon to Out-patients.

FAREHAM, HANTS COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £250 per annum, with apartments, board, washing, and attendance.

GLASGOW SCHOOL BOARD.—Female Assistant Medical Officer. Salary £250 per annum.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway, N.—Anæsthetist. Salary 10 guineas per annum.

HACKNEY UNION INFIRMARY, High-street, Homerton, N.E.—Junior Assistant Medical Officer. Salary £140 per annum, with rations, apartments, and attendance.

HARROGATE INFIRMARY.—Resident House Surgeon. Salary £75 per annum.

HARTLEPOOL UNION INFIRMARY.—Assistant Medical Officer. Salary at rate of £250 per annum.

HERTFORDSHIRE COUNTY COUNCIL.—Tuberculosis Officer (Locum Tenens).

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, Maida Vale, W.—Resident Medical Officer for six months. Salary at rate of £75 per annum, with board, lodging, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £30, with board, residence &c.

HOSPITAL FOR WOMEN, Soho-square, W.—Resident Medical Officer for six months. Salary at rate of £80 per annum.

HUDDERSFIELD ROYAL INFIRMARY.—Assistant House Surgeon. Salary £80 per annum, with board, rooms, and washing.

JURA PARISH COUNCIL.—Locum Tenens. Salary at rate of £5 per week.

KING'S LYNN, WEST NORFOLK AND KING'S LYNN HOSPITAL.—House Surgeon. Salary £150 per annum.

LAHORE MUNICIPAL COMMITTEE, Punjab, India.—Health Officer. Salary £600 per annum.

LIVERPOOL STANLEY HOSPITAL.—Two House Physicians and a House Surgeon. Salary £75 per annum each, with board, residence, and laundry.

LONDON FEVER HOSPITAL, Liverpool-road, N.—Assistant Resident Medical Officer. Salary £150 per annum, with residence and board.

LONDON LOCK HOSPITAL.—House Surgeon to Female Hospital, Harrow-road, W. Salary £100 per annum, with board, residence, and washing.

MACCLESFIELD GENERAL INFIRMARY.—House Surgeon. Salary £125 per annum, with residence, board, and laundry.

MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £250 per annum, with quarters, board, attendance, washing, &c.

MANCHESTER, ANCOATS HOSPITAL, Mill-street.—Assistant House Surgeon. Salary £70 per annum, with board and residence

MANCHESTER, HULME DISPENSARY, Dale-street, Stretford-road.—House Surgeon. Salary £180 per annum, with apartments, attendance, &c.

MANCHESTER, MONSALL FEVER HOSPITAL.—Fourth Medical Assistant. Salary £130 per annum, with board, lodging, and washing.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Park-place, Cheetham Hill-road.—House Surgeon. Salary £120 per annum, with apartments and board.

MANCHESTER ROYAL INFIRMARY.—Medical Officer for Out-patients and Accidents for six months. Salary at rate of £100 per annum, with board and residence. Also Junior Administrator of Anæsthetics for six months. Salary at rate *of £60 per annum. Also Surgical* Registrar. Salary £75 per annum. Also Assistant Director in Clinical Laboratory. Salary £75 per annum.

NEWARK-UPON-TRENT HOSPITAL.—Resident Medical Officer, unmarried. Salary £120 per annum, with board, lodging, and laundry.

NEWCASTLE-UPON-TYNE, UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Demonstrator of Anatomy. Salary £200 per annum.

NEW HOSPITAL FOR WOMEN, Euston-road.—Female Clinical Assistants in Out-patient Department. Also Anæsthetist.

NORWICH, JENNY LIND HOSPITAL FOR SICK CHILDREN.—Female Resident Medical Officer for six months. Salary £50 per annum, with board, apartments, and laundry.

PEMBROKESHIRE EDUCATION AUTHORITY.—Assistant School Medical Officer. Salary £300 per annum.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Physician for six months. Salary £90 per annum, with board, residence, and washing.

PRESTON, COUNTY ASYLUM, Whittingham, Lancs.—Junior Assistant Medical Officer and Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, &c.

PRESTON, COUNTY BOROUGH OF.—School Medical Officer. Salary £300 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—House Physician for six months. Salary at rate of £80 per annum, with board, residence, and washing. Also House Surgeon for six months. Salary £80 per annum, with board, residence, and washing.

ROCHDALE INFIRMARY AND DISPENSARY.—Junior House Surgeon, unmarried. Salary £110 per annum, with board, residence, and laundry.

ROTHERHAM HOSPITAL.—Senior and Junior House-Surgeons. Salaries £200 and £100 respectively, with board, lodging, and washing.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Additional Medical Officer to X Ray Department. Salary 25 guineas per annum. Also Resident Medical Officer for six months. Salary at rate of £120 per annum, with board, lodging, and washing.

ST. ALBANS, HERTS COUNTY ASYLUM, Hill End.—Second Assistant Medical Officer, unmarried. Salary £225 per annum, with board, lodging, and washing.

SALFORD ROYAL HOSPITAL.—Junior House Surgeon and Casualty House Surgeon. Salary at rate of £80 per annum each, with board and residence.

SHEFFIELD, EAST END BRANCH OF THE CHILDREN'S HOSPITAL (OUT-PATIENT DEPARTMENT).—House Surgeon. Salary £100 per annum, with board and residence.

SHEFFIELD ROYAL INFIRMARY.—House Surgeon and Ophthalmic House Surgeon for six months. Salary £100 per annum each, with board and residence.

SHEFFIELD UNION HOSPITAL, Firvale.—Resident Assistant Medical Officer, unmarried. Salary £180 per annum, with apartments, rations, &c.

SHOREDITCH INFIRMARY, Hoxton-street, N.—Junior Assistant Medical Officer for six months. Salary £150 per annum, with board, apartments, and washing.

SHREWSBURY, SALOP INFIRMARY.—House Physician. Salary at rate of £90 per annum, with board and apartments.

SOUTHWARK UNION INFIRMARY, East Dulwich-grove, S.E.—Second Assistant Medical Officer and Third Assistant Medical Officer. Salary £170 and £160 per annum respectively, with board, lodging, and washing.

STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY, Hartshill.—House Physician. Also Casualty and Out-patient Officer, both unmarried, for six months. Salary at rate of £120 per annum each, with board, residence, and washing.

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £1[illegible] per annum, with board, lodging, and washing.

SWANSEA GENERAL AND EYE HOSPITAL.—Two House Surgeons. Salary £125 per annum, with board, washing, and attendance.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, PARALYSIS, AND EPILEPSY, 73, Welbeck-street, W.—Clinical Assistants.

WEST HAM AND EASTERN GENERAL HOSPITAL.—Junior House Physician and Junior House Surgeon. Salary at rate of £75 per annum, with board, residence, and washing.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Two Assistant Anæsthetists.

WESTERN OPHTHALMIC HOSPITAL, Marylebone-road, W.—House Surgeon. Salary £100 per annum.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Senior House Surgeon. Salary £170 per annum, with board, apartments, and washing. Also Junior House Surgeon. Salary £150 per annum, with board, apartments, and washing.

WOKINGHAM, PINEWOOD SANATORIUM.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and laundry.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House Surgeon. Salary £120 per annum, with apartments, board, and laundry.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer for six months. Salary at rate of £1[illegible] per annum, with board, rooms, and laundry.

WOOLWICH TUBERCULOSIS DISPENSARY.—Assistant Medical Officer. Salary £250 per annum.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £[illegible] per annum, with board, lodging, and attendance.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Blackburn, in the county of Lancaster; at Pontymister, in the county of Monmouth; and at Westerham, in the county of Kent.

Births, Marriages, and Deaths.

BIRTHS.

GIBSON.—On May 24th, at the Manor House, Wareham, the wife of Charles W. Gibson, M.R.C.S., of a daughter.

METCALFE.—On May 26th, at Dean-terrace, Liskeard, Cornwall, the wife of B. Bentley Metcalfe, M.R.C.S., L.R.C.P., of a daughter.

MARRIAGES.

DE BURGH BIRCH—ALLAN.—On May 28th, at St. Mark's Church, Woodcote, Purley, Professor De Burgh Birch, C.B., M.D., V.D., to Dora A. D. Allan (widow of the late Lieutenant-Colonel C. L. Allan, D.L.I.).

EGGAR—PARKINSON.—On May 26th, at the Church of St. Mary the Virgin, Primrose-hill, William Halley Eggar, M.B., B.S., to Ethel Phyllis, elder daughter of Mr. and Mrs. H. H. Parkinson, late of Charnwood, Epsom.

DEATHS.

DAVIES.—On May 20th, at Singapore, Frederick Henry Davies, M.B. Edin., C.M. Paris, second son of the late John Davies, M.D., J.P., of Ebbw Vale, Monmouthshire, in his 59th year.

HARVEY.—On May 28th, at The Oaks, Hollington, St. Leonards-on-Sea, Alfred Harvey, M.D., aged 87 years.

JESSOP.—On June 2nd, at Fitzjohn's-avenue, Hampstead, of phthisis, Edward Jessop, M.R.C.S., L.R.C.P.

LEWER.—On May 29th, at Queen's-place, Southsea (suddenly), Surgeon Major-General Robert Lewer, late A.M.S. and 9th Queen's Royal Lancers, in his 79th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

"TORMENTORS" FOR FLEAS.

IN the late Andrew Tuer's "Old London Street Cries" (1885) there is some discussion as to what could have been the exact meaning of the ancient street-hawker's adjuration—"Buy a tormentor for your fleas," or again, "Buy a fine mousetrap, or a tormentor for your fleas." The latter cry is embalmed in literature in Taylor, the Water Poet's quaint couplet:—

> I could name more, if so my muse did please,
> Of Mouse Traps, and tormentors to kill Fleas.

The bodies of our Elizabethan ancestors, and indeed of Englishmen in general up to the time of the introduction of the morning bath, were more or less tortured by *pulices* and kindred insects. Ingoldsby sings of a big-wig at an early Victorian levee who is troubled by a ravenous flea in the small of his back; the idea was so little shocking to the past generation that the verse was often quoted by admirers of the "Legends."

Irritated thus, the fops of the eighteenth century made use of elegant "scratch-backs," slender rods of ebony or ivory, topped by miniature hands with sharpened fingers. These may have been the descendants of the "*tormentors*" or their sublimation, for the tormentor, hymned by Taylor, was probably a humble affair like a lath, made of some rough substance resembling pumice-stone. Such an instrument was lately preserved in the collection of an Isle of Wight virtuoso, and a specimen may perhaps exist in the London Museum. The scratch-backs with hands are often to be seen in curiosity shops to-day. They were used to get at almost inaccessible parts of the human *economy*, such as the region between the shoulder-blades. Their disappearance is eloquent of the advance of personal hygiene. There are undoubtedly less fleas about than when the Great Plague was supposed to have been spread by the escape of these creatures from sacks of rags in Long Acre.

On the other hand, it might plausibly be argued that our ancestors were conscious that disease is disseminated by fleas or flies, and that the "tormentor" was used in the crusade against them. Hence it may have been in the nature of fly-paper, or even of those little bamboo cages with greased perches which the Japanese are said to take to bed with them in order to catch fleas.

A CASE OF BEE-STING.

To the Editor of THE LANCET.

SIR,—I was attracted by Mr. Lawrence Pick's letter in THE LANCET of May 30th. It is now nearly 13 years ago since I published a similar case in your paper (THE LANCET, Oct. 26th, 1901). Mr. Pick's case and my own are almost identical. The points of interest in the two cases are: (1) The extreme rapidity of onset of symptoms after the individual had been stung; (2) the general skin eruption, with its intense irritability; (3) vomiting; and (4) the rapid disappearance of the rash. The points of difference in the two cases were: (*a*) Whereas in Mr. Pick's case it was a bee-sting, in mine it was the sting of a wasp; and (*b*) the rash is described in his case as being "scarlatiniform," while in mine it was urticarial. Mr. Pick asks for a cause. He may be interested to hear the suggestion I offered in THE LANCET at that time—"the suddenness of the onset of the rash after the sting seems to be indicative of a hypodermic injection of some toxic substance which might have been imparted with the sting." I am, Sir, yours faithfully,

T. WILSON PARRY.

Crouch End Hill, N., May 29th, 1914.

REINDEER MEAT.

A CORRESPONDENT writes: Dr. W. T. Grenfell, the well-known medical missionary and explorer of Labrador, is about to start reindeer farms in Labrador to meet the demand for reindeer meat in Canada, and it is also proposed to bring some of the frozen reindeer meat to England. The caribou, or renne du Canada, otherwise cariboo, is the name of the North American reindeer. It is the fleetest, wildest, and most shy of all the deer tribe. The woodland cariboo is abundant in Labrador, and may be found in considerable numbers in New Brunswick and in parts of Nova Scotia. The reindeer moss, otherwise called cariboo moss (Cladonia or Cenomyce rangiferina), is the principal food of the reindeer in the sterile regions, and covers the rocks. Professor Henry Youle Hind, who wrote "Explorations in the Interior of the Labrador Peninsula," published in London in 1863, said that "Once the country was rich in fur-bearing animals and cariboo or reindeer, but these are now greatly reduced in numbers." Nansen, speaking of the Eskimos, said: "One of their greatest delicacies is the contents of a reindeer's stomach. If a Greenlander kills a reindeer and is unable to convey much of it home, he will, I believe, secure the stomach first of all. It is, no doubt, because they stand in need of vegetable food that they prize this so highly, and also because it is in reality a very choice collection of the very finest moss and grasses which that 'gourmet,' the reindeer, picks out for himself. It has undergone a sort of stewing in the process of semi-digestion, while the gastric juice provides a somewhat sharp and aromatic sauce."

A NEW BINOCULAR MICROSCOPE.

IN reviewing the exhibits of medical interest at the Royal Society conversazione in an article in our issue of May 23rd we inadvertently omitted to mention that the new binocular microscope of Mr. E. Leitz (18, Bloomsbury-square, London, W.C.) was seen to great advantage in the demonstration of microscopic objects. This instrument is capable of being used for all purposes to which the monocular microscope is put, and without at all impairing the performance of any optical system. In a paper read before the Royal Microscopical Society this microscope is described as the first successful binocular instrument made for use with all ordinary objectives and eyepieces, including the highest powers. This, of course, is a most important achievement which adds considerably to the value of the microscope in the work of biological diagnosis. The body of the binocular microscope consists of a flat casing containing the system of prisms. At the upper end are situated two eyepieces whose distance apart can be regulated to suit the eyes of the observer by means of a milled head which actuates two levers inside the casing. The interpupillary distance can be varied between 54 and 70 mm. The eyepiece tubes slide in guides so that dust cannot enter the prism casing. The left eyepiece tube is provided with an independent adjustment to accommodate eyes of unequal vision. All kinds of eyepieces and objectives may be used, and the instrument can be employed for the same purposes as the ordinary monocular microscope. A most important feature in this microscope is the parallel eyepieces which obviate the actions of accommodation and adjustment for convergence as is necessary in binocular microscopes constructed hitherto. By the use of this instrument it is now possible for the research worker to employ both eyes in microscopical observations for a considerably longer period with much less fatigue than is commonly felt by using one eye in high magnifications. Greater facilities are thus offered in future researches and the prolonged routine of daily microscope work may be carried on with much less eye-strain.

THE STERILISATION OF MILK AND ALLIED QUESTIONS.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Feb. 14th last you published a letter from Mr. Richard W. Woosnam on the subject of condensed milk, in which he offered to arrange for an inspection of a condensed milk factory by any medical men interested in the matter. I wrote to Mr. Woosnam, and he very kindly arranged with the Anglo-Swiss Condensed Milk Co. for a small party of medical men to inspect their factory at Aylesbury. I went with them, and full opportunities were given us to inspect the factory and the whole of the process of condensation. The arrangements to ensure absolute cleanliness and the details of the process employed in condensing and sweetening the milk are most interesting. Mr. Simond, the manager, tells me that the company make arrangements for conducting parties of medical men over the works at frequent intervals, and that any doctor who applies to the company for permission to visit the works will receive an invitation to join the next party. The visit takes the greater part of the day, but the provision made by the company is such as to make it a very enjoyable as well as instructive outing.—I am, Sir, yours faithfully,

C. THACKRAY PARSONS, M.D. Lond.

Fulham Infirmary, Hammersmith, W., May 29th, 1914.

THE UROBILIN REACTION IN BLACKWATER FEVER.

DR. Sörensen, of the Dutch Army in Flores, a small island in the most beautiful part of the Sunda Seas, reports in the *Archiv für Schiffs- und Tropen-Hygiene* for March an interesting observation on the urobilin reaction in malaria and blackwater fever. He made his tests either by Schlesinger's zinc acetate method or by the spectroscope, and even devised a quantitative method by dilution of the urine till the absorption bands were no longer visible. There is much malaria in Flores. In all cases of the three forms of malaria there was a reaction during pyrexia, and urobilin disappeared from the urine two to three days after defervescence. It reappeared again in some cases before relapses, and daily increased till the fever developed. Other relapses might show no warning urobilin. The more urobilin appeared, the worse the patient felt, the more anæmic he became, and the longer his convalescence lasted. One day a patient gave a value of 125; this was astonishing, and only to be explained by great destruction of red blood corpuscles and the oncoming of hæmoglobinuria. He had had 15 gr. quinine on each of the preceding days, was very slightly jaundiced, but had albuminuria. His quinine was stopped and he was put in hospital; that night he had hæmoglobinuria which increased till next midday, and lasted in all 40 hours. Urobilin disappeared from the urine in about a week, and in 10 days the patient applied to leave the hospital to get married. Very similar experiences are related concerning 15 other cases of blackwater fever. They were all recognised 12 to 24 hours before hæmoglobinuria set in.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—4.30 P.M., Croonian Lecture:—Prof. E. B. Wilson (Columbia University): The Bearing of Cytological Research on Heredity.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY.

SECTION OF SURGERY (Hon. Secretaries—J. Murray, Raymond Johnson).

MEETING AT LIVERPOOL, the arrangements for which have already been announced. Members intending to attend the meeting are requested to send their names to one of the Hon. Secretaries without delay.

WEDNESDAY.

SECTION OF OPHTHALMOLOGY (Hon. Secretaries—J. Herbert Parsons, Leslie Paton).

Annual General Meeting.—Election of Officers and Council for Session 1914–1915.

Cases (at 8 P.M.):

Mr. Harold Whale (introduced by Mr. Brewerton): Case of West's Intranasal Operation for Dacryocystitis (photograph and instruments).

Mr. R. Affleck Greeves: Supernumerary Punctum Lacrimale and Canaliculus.

Mr. Rayner and Dr. Batten: Double Detachment of the Retina in a Boy with Functional Albuminuria.

Mr. E. Erskine Henderson: Hole in Optic Disc (drawing).

Mr. Charles Wray: (1) Multiple Ruptures of Choroid between Macula and Disc, with V. = $\frac{6}{6}$ (drawing); (2) Keratoconus treated by Snell's Cautery.

Papers (at 8.30 P.M.):

Mr. Charles Wray: Operative Treatment of Keratoconus.

Mr. E. Erskine Henderson: Rupture of Optic Nerve at Lamina *Cribrosa*.

THURSDAY.

SECTION OF OBSTETRICS AND GYNÆCOLOGY (Hon. Secretaries—T. Watts Eden, C. Hubert *Roberts): at 8 P.M.*

Specimens:

Dr. Macnaughton-Jones: Twin Female Monster.

Mr. Gordon Luker: A Lithopædion Removed *from* a Patient Six Months Pregnant.

Epidiascope Demonstration:

Professor David Waterston: A Decidual Cast containing a Very Young Embryo.

Papers:

Dr. Archibald Donald (Manchester): Case of So-called Chronic *Metritis in a Nullipara.*

Dr. W. Fletcher Shaw (Manchester): The Subdivisions of Chronic Metritis.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

TUESDAY AND THURSDAY.—9 P.M., Lettsomian Lectures:—Dr. F. M. Sandwith: Dysentery. (Lecture II. will be illustrated by pictures and pathological specimens.)

SOUTH-WEST LONDON MEDICAL SOCIETY, Bolingbroke Hospital, Wandsworth Common, S.W.

WEDNESDAY—9 P.M, Bolingbroke Lecture:—Dr. W. Hale White.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. A. M. H. Gray: Clinique (Skin). 5.15 P.M Lecture:—Dr. F. L. Golla: Acute Anterior Poliomyelitis.

TUESDAY.—4 *P.M., Dr. P. Parkinson:* Clinique (Medical). 5.15 P.M., Lecture:—Mr. A. E. J. Barker: Leucoplakia on the Tongue and Other Parts.

WEDNESDAY.—4 P.M., Mr. J. Berry: Clinique (Surgical) 5.15 P.M., Lecture:—Dr. J. C. McClure: Neurasthenia Gastrica.

THURSDAY.—4 P.M., Dr. F. G. Crookshank: Clinique (Medical). 5.15 P.M., Lecture:—Dr. J. F. H. Dally: Practical Electrocardiography.

FRIDAY.—4 P.M., Mr. W. Stuart-Low Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., *Dr.* Simson: Diseases of Women. 10.30 A.M., Medical Registrar: *Demonstration* of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. Mr. B. Harman: *Diseases* of the Eye. 5 P.M., Lecture:—Dr. Saunders: Diseases *of the Liver.*

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. Dr. Owen: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. *Baldwin:* Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Saunders: Diseases of the Liver.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Dr. Simson: Diseases of Women. Mr. Gibb: Diseases of the Eye. 5 P.M., Lecture:—Dr. Saunders: *Diseases of the Liver.*

THURSDAY.—9 A.M., Dr. Bernstein: Bacterial Therapy Department. 10 A.M., Dr. Simson: Gynæcological Demonstration. 12 noon, Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Mr. B. Harman: Diseases of the Eye. 5 P.M., *Lecture:*—Dr. Saunders: Diseases of the Liver.

FRIDAY.—10 A.M., *Dr. Robinson: Gynæcological* Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12.15 P.M., Lecture:—Dr. Bernstein: Applied Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Saunders: Diseases of the Liver.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: *Operations of the Throat, Nose, and* Ear. Mr. Gibb: Diseases of the Eye. 12 noon, Lecture:—Mr. *Souttar:* Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, *Dreadnought* Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. H. *B.* Carlill: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.—2.15 P.M., Mr. *W. Turner: Surgery.* 3 *P.M., Mr. W. Turner: Operations.* 3.15 *P.M.,* Sir Dyce Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Throat, Nose, and Ear. 3.15 P.M., Special Lecture:—Sir Dyce Duckworth: Prognosis in Cases of Albuminuria.

TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. *C. E. Zundel:* Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.—2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. *R. Carling: Surgery.* 3.15 P.M., Dr. G. Rankin: Medicine. 4.15 P.M., Sir Malcolm Morris: Skin. 3.15 *P.M., Special* Lecture:—Dr. G. Rankin: Lymphadenoma.

WEDNESDAY.—Out-patient Demonstrations: *10 A.M., Dr.* H. B. Carlill: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.—2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: *Medicine.* 3.15 P.M., *Mr. Cargill: Eye Clinique.* 4.30 P.M., Mr. C. C. Choyce: Surgery. 3.15 P.M., Special *Lecture:*—Mr. L. V. Cargill: Syphilitic Affections of the Eye and its Adnexa.

THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. H. R. Prentice: Medical. Mr. H. Curtis: Surgical. *12 noon,* Mr. G. N. Biggs: Throat, Nose, and Ear.—2 P.M., Mr. R. *Carling or* Mr. W. Turner: Operations. Dr. A. Davies: *Pathological* Demonstration. 3.15 P.M., Dr. R. Wells: Medicine. 4.30 P.M., Special Lecture:—Mr. C. Rowntree: Cancer of the *Tongue.*

FRIDAY.—Out-patient Demonstrations:—10 A.M., *Dr. C. E. Zundel:* Medical. Mr. Cole: Surgical. 12 noon, *Dr. H.* MacCormac: Skin.—2 P.M., Mr. L. McGavin: *Operations.* 2.15 P.M., Sir John Rose Bradford: Medicine. 3.15 P.M., Mr. L. McGavin: Surgery.

SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. H. R. Prentice: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. E. Bickerton: *Eye.*—10 A.M., *Col. Barry:* Radiography.

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TUESDAY.—2.30 P.M., Operations. *Clinics:*—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. *Howell* Evans); Nose, Throat, and Ear (Mr. H. *D. Gillies*). X Ray and Electrical Methods (Dr. Metcalfe). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting).

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (*Dr.* T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. *Dorell*).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. B. Gillespie). *Clinics:*—Medical Out-patient (*Dr. A.* J. Whiting); Surgical (Mr. Carson); X Rays and Electrical *Methods (Dr. Metcalfe).*

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ROYAL HOSPITAL FOR *DISEASES* OF THE CHEST, Medical School, City-road, E.C.

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TUESDAY.—9 A.M., Laryngological Department, Mr. Mant. 1.30 P.M., Department for the *Prevention* of Consumption. 2 P.M., Out-patient Department, Dr. M. Leslie, Dr. B. King; Operations, Mr. A. Evans. 3 P.M., Wards, Dr. White. 4 P.M., Wards, Dr. M. Leslie.

WEDNESDAY.—2 P.M., Wards, Dr. A. Davies; Out-patient Department, Dr. Drysdale, Dr. Kellie. 4 P.M., Wards, Dr. Drysdale. 4.30 P.M., Roentgen Ray Department, Dr. Jordan.
THURSDAY.—9.30 A.M., Dental Department, Mr. G. Thomson. 10 A.M., Cardiac Department, Dr. Stott. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department, Dr. Phear, Dr. S. Thompson. 4.30 P.M. Laryngological Department, Mr. Mant.
FRIDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Wards, Dr. Calvert; Out-patient Department, Dr. M. Leslie, Dr. B. King. 5 P.M., Lecture-Demonstration:—Dr. B. King: Bronchitis, Emphysema, Pneumonia and Pleurisy in Relation to Pulmonary Tuberculosis.
SATURDAY.—10 A.M., Out-patient Department, Dr. Drysdale, Dr. Kellie. 11.30 A.M., Roentgen Ray Department, Dr. Jordan.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), Clinical Theatre, London Hospital, Mile End-road, E.

Course of Lectures on Tuberculosis for Post-Graduates and Senior Students:—
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TUESDAY.—4 P.M., Dr. H. R. Andrews: Tuberculosis of Genital Organs in the Female.
WEDNESDAY.—4 P.M., Dr. W. J. Hadley: General Treatment (II.).
THURSDAY.—4 P.M., Dr. C. Wall: Specific Treatment.

GUY'S HOSPITAL MEDICAL SCHOOL, London Bridge, S.E.

Course of Lectures on Industrial Medicine:—
FRIDAY.—4 P.M., Lecture VI.:—Dr. F. Shufflebotham: The Medical Aspect of the Workmen's Compensation Act.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4.30 P.M., Lecture:—Dr. Meek: Some Aspects of Sanatorium Treatment.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.

Course of Demonstrations for Post-Graduates:—
FRIDAY.—4 P.M., Dr. C. Riviere: Collapse Therapy (Artificial Pneumothorax).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. J. Collier: Craft Palsy.
FRIDAY.—3.30 P.M., Lecture:—Dr. H. Tooth: Clinical Cases.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.
THURSDAY.—5.15 P.M., Clinical Lecture.

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WEDNESDAY.—Clinic:—6 P.M., Mr. Shillitoe.
THURSDAY.—2 P.M., Lecture:—Mr. Lane: Gonorrhœal Arthritis and its Treatment.
SATURDAY.—Clinic:—2 P.M., Mr. McDonagh.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS.

THURSDAY.—ANCOATS HOSPITAL—4.30 P.M., Mr. H. Platt: The Surgical Treatment of Infantile Paralysis.

For further particulars of the above Lectures, &c., see Advertisement Pages.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced:—

May 1st-Nov. 1st (Lyons).—International Town Hygiene Exhibition.
„ 15th-Oct. 15th (Berne).—Swiss National Exhibition.
May-October (London, Shepherd's Bush).—Anglo-American Exposition.
June 8th-10th (Berne).—Seventh International Dairy Congress.
„ 9th-12th (Birmingham).—National Council of Nurses' Annual Conference and Nursing Exhibition.
„ 15th-18th (Portsmouth).—International Abolitionist Conference (Prostitution).
„ 18th-20th (Newcastle-upon-Tyne).—Fifth Annual Conference of the British Hospitals Association.
„ 19th-24th (London, Church House, Westminster).—International Conference on the Blind.
June-July (Groningen).—University of Groningen 300th Anniversary Celebration.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 3rd, 1914.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
May 28	30·18	N.	...	105	63	47	46	49	Cloudy
„ 29	30·10	S.	...	93	64	49	51	54	Hazy
„ 30	30·04	S.	...	99	66	54	55	59	Hazy
„ 31	30·07	N.	0·10	120	70	53	55	60	Fine
June 1	30·15	N.E.	...	110	60	53	54	56	Cloudy
„ 2	30·04	W.	...	119	67	47	53	53	Fine
„ 3	30·24	N.E.	...	111	67	49	49	56	Fine

The following magazines, journals, &c., have been received:—Reports of the North Manchurian Plague Prevention Service, British Dental Journal, Ophthalmoscope, Homœopathic Recorder, Interstate Medical Journal, Medical Review, Medical Review of Reviews, Practitioner, Journal de Chirurgie de Bucarest, Therapeutic Gazette, Post Graduate, Medical Chronicle, Clinique Infantile, Journal of the Royal Sanitary Institute, Tropical Diseases Bulletin, St. Thomas's Hospital Gazette, &c.

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THE LANCET, JUNE 13, 1914.

The Oliver-Sharpey Lectures
ON
SOME EFFECTS WHICH FOLLOW UPON CHANGES IN THE REACTION OF THE BLOOD.

Delivered before the Royal College of Physicians of London on March 31st and April 2nd, 1914,

By F. GOWLAND HOPKINS, M.A. CANTAB., M.B., D.Sc. LOND., F.R.C.P. LOND., F.R.S.,
READER IN CHEMICAL PHYSIOLOGY IN THE UNIVERSITY OF CAMBRIDGE.

LECTURE II.[1]

Delivered on April 2nd.

MR. PRESIDENT AND GENTLEMEN,—At the close of my first lecture I pointed out that a change of reaction in the blood may be responsible for the increase of metabolism in fever. This leads me to say a few words concerning the effects upon metabolism which are observed after experimental interference with the reaction.

METABOLISM AND BLOOD REACTION.

Bearing on the effects of administering acids and alkalies to man, there is, of course, a large literature, dating from many years back. It is a somewhat tangled literature, but one may safely say, I think, that, taking the evidence as a whole, we have a genuine basis for the belief that the administration of alkali increases, while giving acids diminishes, the oxidative processes of metabolism. I will turn for a moment to experiments done upon animals in this connexion. An old observation made by Lehmann seemed to show that in rabbits there was a definite decrease of oxygen consumption when acids were injected into the circulation, and an increase as the result of injecting alkalies. Recent experiments carried out by Szili[2] have proved that injections of acids in the quantities so employed definitely increase the hydrogen ion concentration in the blood, though it may still react alkaline to lacmoid. Experiments similar to those of Lehmann, published during the present year by Leimdörfer,[3] show plainly enough a fall in oxygen consumption after the injection of acids, but this observer claims to have obtained in some experiments a fall in the case of alkalies also, though his protocols show a number of cases in which there was a marked rise. So far, however, as such experiments are of any value, more weight should be attached to the results of acid administration than to the effects of alkali. In the case of the former, the depression of metabolism is seen in spite of increased activity in the respiratory muscles. Moreover, as we have learned, a rise in hydrogen ion concentration, because of its effect upon oxyhæmoglobin, tends to increase the rapidity of the oxygen supply to the tissues. Any secondary effects due to the acid would therefore tend to limit rather than increase its direct effect upon metabolism. With alkalies, on the other hand, we have to reckon with the pleionexy which must result from their injection. This might interfere with the supply of oxygen to the tissues and obscure the direct influence of the alkali. The effect upon the dissociation curve of hæmoglobin has indeed to be remembered in the interpretation of the results of all such experiments.

More satisfactory are observations upon the results of administering acids and alkalies by the mouth. Almost the only research of importance on these lines is that of Chvostek[4] (1893), in which rabbits received 0·9 gramme of hydrochloric acid per kg. of body weight, administered by the mouth in two or three portions during 24 hours. As measured either by the oxygen consumption or by heat production there was an extremely well-marked depression in metabolism, amounting in the case of two of the animals to 31 and 49 per cent. respectively.

Carbohydrate Metabolism.

Evidence for the lessening of metabolic processes as the result of increase of acidity comes to light very clearly in the interesting observations of Rona and Willenko[5] upon the isolated perfused heart. The experiments show that the utilisation of sugar by the heart is depressed by rise of acidity in the circulating medium. An alteration in the hydrogen ion concentration leading to a comparatively small departure from the normal reaction of the blood on the side of acidity prevents altogether the utilisation of the sugar supplied to the organ. These experiments are especially interesting in that the actual ionic acidity was measured and controlled, while the effect of varying it could be observed apart from all complicating factors. The experiments do not, of course, show at what stage in the course of sugar utilisation the inhibition occurs. It may be that a process which necessarily precedes oxidation is interfered with, rather than the oxidation process itself; the formation of glycogen, for instance, or some other synthetic process. The raising of this point suggests reference to another line of inquiry which has occupied a number of observers—I mean the question as to how far a change of reaction in the body fluids affects the stability of its carbohydrate stores. It is a question which from the first greatly interested Pavy, and his interest in it remained to the end of his life. In his book upon diabetes, published so far back as 1869, he describes experiments of his own bearing upon the matter, and he was engaged upon similar ones during the year in which he died. He, in conjunction with Bywaters, had shown that alkalies inhibit while acids accelerate the post-mortem destruction of glycogen in the liver, and in 1911, quite shortly before his death, he demonstrated to the Physiological Society the fact that the glycosuria induced in cats by chloroforming was arrested by carefully conducted intravenous injection of sodium carbonate. Dr. Pavy more than once talked with me concerning this phenomenon, and I know that he believed to the last that it was of real importance in connexion with diabetes.

Külz, so far back as 1881, observed glycosuria after injecting phosphoric acid intravenously into rabbits, and many experiments of like kind with similar results are described in the literature. It is clear that such experiments alone do not enable us to judge how the acid and alkali act; whether by respectively mobilising or stabilising the glycogen stores or by affecting the oxidative powers of the tissues. In all such observations we have, moreover, to think of a possible intrusion of the suprarenal function. But Macleod,[6] like Pavy, finds that a very small increase of acidity accelerates glycogenolysis. There is no doubt that the optimum action of the liver diastase occurs slightly on the acid side of neutrality, and little doubt that a small change in H ion concentration greatly affects the stability of the glycogen in the liver cell. Elias[7] has quite recently published an account of a fresh study of the relation between acid intoxication and glycosuria. He found, in what seem to have been carefully controlled experiments, that giving comparatively small amounts of hydrochloric acid by the mouth greatly reduced the percentage of glycogen in the liver of normal rabbits. Hyperglycæmia and glycosuria were also observed. Even dogs, which are so much less sensitive to the effects of acid, became under similar treatment hyperglycæmic and glycosuric. Elias brings forward evidence to show that the suprarenal gland was in no way responsible for these results. When the isolated livers of turtles were perfused with sugar solution containing N/200 hydrochloric acid there was rapid loss of glycogen from the liver, while, conversely, there was definite glycogen formation in the organ as a result of perfusing it with a sugar solution made slightly alkaline.

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[1] Lecture I. was published in THE LANCET of June 6th, 1914, p. 1589.
[2] Pflüger's Archiv, 115, 82 (1906).
[3] Biochemische Zeitschrift, 59, 421.
[4] Centralblatt für Innere Medicine, Band xiv., p. 329.
[5] Biochemische Zeitschrift, 59, 173 (1914).
[6] Diabetes, p. 183.

Elias and Kolb[8] have further demonstrated an effect of a change of blood reaction upon carbohydrate metabolism in a condition which, though special and not displayed by man, is instructive. In the year 1890 Hofmeister pointed out that young dogs after temporary starvation exhibit a greatly diminished tolerance for sugar. It is shown by the above authors that the condition is due to the diminished alkalinity of the blood. Unfortunately they relied upon titration figures for their estimations, but, as they point out, Rolly has shown by direct measurement that starvation in dogs appreciably raises the H ion concentration. The glycosuria which results upon giving sugar may be wholly prevented by the simultaneous administration of alkali. This effect of starvation is certainly not due to any stimulation of the suprarenals. It occurs after the sympathetic nerves have been cut.

The recent experiments of Merlin and Kramer[9] have apparently a similar bearing. If acids be administered to a depancreatised dog the sugar excretion displays a sharp rise, while a dose of alkali promptly diminishes the output.

Taking all these facts into consideration, it seemed not impossible that comparatively small doses of acid taken by the mouth might to some degree affect the amount of sugar in the blood of a normal individual. Cole has tested this point on several occasions by taking himself doses equal to 1 gramme of pure hydrochloric acid, but he found no measurable effect. Evidence depending upon the use of such small doses is, of course, of no value as against the view that change of reaction in the liver or of the hepatic blood can mobilise glycogen; but it is interesting to note that they seem sufficient to produce a measurable lowering of the alveolar CO_2 tension and to affect the dissociation curve of oxyhæmoglobin. Barcroft found this, at any rate, on the one occasion on which Cole's blood was tested. This was two hours after a gramme dose of HCl. There was, of course, no meionexy, but the curve was found to be shifted when points were determined in the presence of a normal instead of the lowered tension of CO_2, so that the addition of acid to the blood could be demonstrated.

That mobilisation of glycogen by increase of acidity may play a part in a kind of automatic regulation of the blood sugar—a low concentration of sugar leading to acid production in the liver, and this in turn yielding more sugar to the blood—is a doubtful if tempting hypothesis. But we must certainly not forget that local changes of reaction may be of importance in connexion with sugar mobilisation; nor, indeed, that such local changes may be significant in much wider connexions.

METABOLIC FACTORS IN CONTROL OF BLOOD REACTION.

I propose to deal with such local changes after saying first a few words on a more general point. I may speak of the tissues without departing from my theme. The reaction of the blood cannot, of course, be really considered apart from the reaction of the tissues. Adjustment of reaction in the blood is only an aspect of adjustment throughout the body. We have to recognise that in the tissues local changes of reaction may occur, of a temporary or, under abnormal conditions, of a more permanent character.

When in my previous lecture I dealt with the control of blood reaction I was concerned with only one side of the subject. The physico-chemical and secretory factors which so rapidly adjust the blood reaction to a mean value are continuously called into action by the vagaries of metabolism; but metabolic factors also play their part in the adjustment itself. We think at once of the familiar reaction of the body whereby ammonia is produced to meet a relative deficiency of bases. Now this supply of ammonia would seem to call for changes in metabolism much more deep-seated than those hitherto pictured as requisite. We have been inclined to attribute the existence of ammonia in the urine during various conditions of acidosis as due merely to a partial arrest in the process of the conversion of ammonium salts into urea. But McCollum and Hoagland[10] have carried out experiments in which pigs were kept on a dietary consisting only of starch mixed with either acid, neutral, or basic salts, or, in other cases, mixed with free mineral acids. The nitrogenous metabolism was, therefore, wholly endogenous. Quantitative comparison showed that the extra ammonia excreted on the acid dietaries was not part of that which, in the absence of acids, becomes urea, but represented added nitrogen drawn from the tissues. As the authors point out, their results recall the equilibrium theory which Schryver[11] put forward eight years ago. Schryver had himself previously shown that acids accelerate the action of autolytic ferments. Now the amino-acids liberated by these enzymes are the source of the ammonia which serves for the neutralisation of acids. With a normal food-supply neutralisation is secured by the presence of fixed bases in the diet, aided, if necessary, by ammonia derived from the amino-acids of the food. But consider what occurs in starvation. Here we get acidosis owing to the absence of carbohydrates, and no extraneous supply of bases or of amino-acids to yield ammonia. Tissue acidity (or decrease of tissue alkalinity) results; the action of the autolytic ferments is therefore accelerated, and the production of ammonia from the liberated amino-acids is accurately adjusted to meet the requirements of neutralisation. The process of autolysis is thereby checked, and adjustment becomes automatic. This, very partially and dogmatically stated, is Schryver's theory. It is certainly supported by McCollum and Hoagland's experiments, in which the place of the endogenous acidosis due to starvation is taken by the acid added to the diet. In essence, and within the limits quoted, Schryver's view can, I think, hardly fail to be true. I think, too, that the phenomena upon which it is based explain, partially at any rate, the necessity of carbohydrate for protein equilibrium, and very likely bear upon experiments which seem to show that ammonium salts can act as protein sparers.

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[7] Biochemische Zeitschrift, 48, 120.

[8] Ibid., 52, 331.

[9] Journal of Biological Chemistry, vol. xv., p. 365.

[10] Journal of Biological Chemistry, vol. xvi., 1913, p. 299.

[11] Biochemical Journal, vol. i., 1906, p. 123.

In parenthesis I would point out that McCollum and Hoagland's experiments, and incidentally the theoretical views of Schryver, bear also upon the question I have just discussed, the effects, namely, of acids and alkalies upon the total grade of metabolism. The former we have seen depress, while the latter increase, oxidative processes. The reverse is the case with respect to the excretion of nitrogen. McCollum and Hoagland got the lowest possible endogenous nitrogen excretion when alkalies were added to the starch ration, and the highest when acids were added. This is merely further proof of facts with which we are familiar. The excretion of nitrogen is dissociated from the main oxidation of metabolism. The elimination of the nitrogen from the free amino-acids of protein proceeds promptly and independently, even when the main supply of energy contained in these amino bodies is not being liberated but stored up. We have just seen that mineral acids, because they liberate the amino-acids, increase the nitrogen output, even though they depress metabolism as a whole. With alkalies the phenomena are reversed.

RELATION BETWEEN THE BLOOD AND TISSUES.

Returning now to the relation between the blood and tissues it is interesting to note that Barcroft found that the acidosis due to *starvation*—at any rate, that due to a brief period of starvation—left the blood mesectic; in one case as studied it became indeed pleionectic; that is to say, the hydrogen ion concentration was normal or even lowered. Now to some extent the respiratory centre was responsible for this adjustment, as the CO_2 tension in the blood was *lowered*; but the centre could not adjust to the larger acidosis of continued starvation. We have seen that the supply of ammonia becomes all-important here. But we know that the circulation of β-oxybutyric acid and aceto-acetic acid also involves loss of fixed bases. It is significant that in starvation the loss is chiefly of potassium from the cells; the blood retains its sodium with avidity. The protection which the tissues obtain from the ammonia production is therefore not complete. They make a sacrifice of bases in order to keep the blood so long as possible normal in reaction. Just as we find with regard to osmotic properties that it is only the blood, and not the tissue-cell, that retains under all circumstances a nice adjustment to a mean value, so it is only the blood which tends under stress to maintain the mean value of its chemical reaction. Since the properties of the blood can only be of importance in so far as they relate to the needs of the tissues these familiar relations are somewhat puzzling. Perhaps we may conclude that, just as the less active tissues are, in starvation, sacrificed to supply energy to the more active tissues, so tissues less sensitive to changes in hydrogen ion concentration are sacrificed to those which, like the cells of the medulla, are hypersensitive. But the hypersensitiveness of these is essential to the body as a whole and the adjustment is an expression of the solidarity of the animal. At any rate, it is almost certain that the average H ion concentration of the tissues as a whole must increase in such conditions as starvation, though we have no quantitative data, I think, with regard to it. There are abundant checks to extreme change, as we are to see; but temporary and local changes are continually occurring during normal life. They are, indeed, an essential factor in the activities of tissues. As examples of extreme cases we have only to think of what is involved in the secretion of strongly acid and alkaline fluids by the gland cells; but changes of some degree are much more universal.

LACTIC ACID PRODUCTION IN MUSCLE.

It is necessary that I should now deal a little further with chemical mechanisms which regulate reactions within the tissue cells themselves. In 1907 W. M. Fletcher and I investigated the conditions of lactic acid production in muscle. The work we did was called for at the time because, old as was the interest of lactic acid in physiology, its significance had been obscured by faulty observations. It had even been asserted that there was no increase in the lactic acid of muscle even as the result of stimulation or rigor. We were able to correct this statement by demonstrating that the extreme sensitiveness of the acid-producing processes to the stimulus of injury had led to gross over-estimation of the amount in resting muscle. The acid estimated in this had been largely produced by the manipulations of the analyst. We studied, so far as we could, the rate of production of acid under various conditions. We were able to show also that an efficient supply of oxygen to the muscle caused a disappearance of lactic acid *in situ*. This had not received experimental demonstration before. But we produced some evidence to suggest that this removal does not imply actual oxidation of the lactic acid, but rather the restoration of some complex from which it originally arises. A reversal of a reaction under the influence of oxygen seems involved. We know nothing yet of chemical details in connexion with this, but the later thermodynamic studies of A. V. Hill seem fully to confirm the fact in its essentials. "The lactic acid," says Hill, "is part of the machine, not part of the fuel." It may be the product of a change which yields energy for the contraction of the muscle—a change not involving oxidation. But I conceive of the chemical mechanism which produces it as having also a somewhat different function. A very low concentration of lactic acid (in other organs as well as in the muscle) may be normal, even when the cell or fibre is resting, but an increase is always imminent. The explosion which produces it is, as it were, under the influence of a hair trigger, always cocked. A small relative failure of oxygen supply such as momentary vaso-motor constriction might induce, a small change in the permeability of membranes within the cell—if these or certain other events happen an increase of lactic acid, to some degree or other, follows promptly. On the other hand, such concentrations as I am thinking of may disappear rapidly with restoration of oxygen-supply or as the result of other reversals in conditions. But the shift of H ion concentration which the appearance or disappearance of the acid involves brings other events in its train. Rightly or wrongly, I look upon the lactic acid mechanism as an important regulator in the *tissues, not only of* "reaction," but of *reactions.*

With regard to muscle in particular, Mines[12] has even ventured to formulate as a possibility the view (which had been vaguely perhaps in the minds of many of us) that a very localised production of lactic acid in the fibre, at high concentration, is the direct cause of muscular contraction. *He points* out that there is experimental evidence to show that "the application of an acid to a colloidal *system of particular disposition of parts may give* rise to a large production of mechanical energy." Mines induces striking arguments in support of this view.

ADJUSTMENT OF REACTION IN THE TISSUES.

It is important in any case to remember that adjustments of reaction, whether towards the acid or alkaline side, may occur in the tissues depending entirely upon organic reactions catalysed by ferments. There is little doubt, as we know from the work of Dakin, confirmed by that of Neuberg, that lactic acid arises in the tissues (though probably not in muscle) *from a substance, methyl-glyoxal,* $CH_3.CO.COH$, which may itself take origin from sugar or from the amino-acid alanine, CH_3CHNH_2COOH. *Dakin points out that* in these chemical relations we have a mechanism making for the maintenance of approximate neutrality in living cells. Alanine may be converted into "neutral" methyl-glyoxal with liberation of alkaline ammonia, while the methyl-glyoxal in turn may be converted into acid lactic acid by union with water; but *the former process is inhibited by an* alkaline reaction and the latter by an acid. "Thus it is clear," writes Dakin, "we are dealing with an *exquisitely delicately adjusted condition* of equilibrium provided with automatic checks guarding against undue development of either acid or alkali." Neuberg, again, has shown that tissue ferments can convert the neutral sodium salts of the keto acids, which we know occur in the course of metabolism, into aldehydes and alkaline sodium carbonate, *e.g.*:—

$$CH_3.CO.COONa + H_2O \rightarrow CH_3COH + NaHCO_3.$$

Ferment reactions can, therefore, produce a change in the direction either of acidity or alkalinity. We see that the powers of adjustment of reaction *within the cell are great,* even as a result of metabolic processes alone.

Do not think that all this time I have been too far off *my main theme. Local changes* in the cells of an organ are followed by local changes in the blood within the organ, and these, so far as they involve changes of reaction, have *important results* for the organ itself. An increased activity in the organ calls for an increased supply of oxygen. We know that this is met by a *local vaso-dilation* which results in the transport of more blood to the cells. So far as the dilation is something more than the relaxation of previous *constriction it has been customary* to ascribe it to the action of dilator nerve impulses. But is it? Barcroft in a very admirable chapter in the book[13] which I have already quoted so much has marshalled strong arguments, largely based on his own work or that of his colleagues, to show that it is rather due to the *addition of metabolites* to the blood. Many years ago Gaskell, confirming some earlier observations of Severini, showed that very dilute lactic acid dilates *the capillaries.* Bayliss in 1901 showed that carbonic acid has the same effect. The dilatation is a hydrogen ion effect, not due to a specific acid. Barcroft's full presentation of the evidence, which *I must not stop to give you, leaves* us with no doubt that the addition of acid metabolites to the blood plays a predominant part in the normal dilation which accompanies activity. However rapidly its reaction may subsequently be adjusted, the venous blood leaving an active organ is definitely more acid than the arterial supply. Since a full supply of oxygen diminishes acid production, there is clearly an automatic adjustment possible. The beginning of activity we may picture as *raising the acidity slightly, first in the cell* and then in the capillary. The consequent vascular dilation provides more oxygen, and so checks the *further development of acidity. Here, then,* we have a very definite instance of an important effect following on a local change in the reaction on the blood.

RHYTHM OF HEART.—PRODUCTION OF ŒDEMA.

My subject as one surveys it seems almost coextensive with the whole of physiology. But I must hasten to a *close,* and will *deal only* very briefly with two other local phenomena. Various workers, and especially G. R. Mines and his colleague, Miss Dale, have shown *how great is* the importance of the reaction of the fluid which perfuses the heart in connexion with the origination and maintenance of rhythm. The different chambers respond somewhat *differently* to changes of hydrogen ion concentration, and if this factor be varied sufficiently, considerable dislocations in the beat may occur. *The variations studied experimentally during artificial perfusion* are much too large for any such to occur in the normal circulation, but local variations *may be more* extensive, and we must remember, in any such connexion, that abnormalities of less degree may, if long continued, produce results of significance.

Lastly, I will *mention* a much discussed theory in which great importance is attached to a local rise in hydrogen ion *concentration whether in the tissues or the blood.* I mean the theory of œdema advanced by Martin Fischer. If a *frog's limb* be ligatured and the animal *allowed to remain* in water, œdema *develops* with some rapidity below the ligature. It does *not appear* if the frog remains out of the water, so that *it is clearly* not due to blood pressure *changes* in the *limb itself.* The tissues below the ligature, unlike the tissues when normal, attract water *from* the *outside.* Now a considerable number *of* colloidal substances, fibrin and gelatin for instance, which tend to attract water and swell up as a result of *absorbing* it, do so with increased *rapidity* and to an increased degree when certain concentrations of acid are present. Martin Fischer's view is that *these* two phenomena are essentially the same. The tissues of the ligatured limb develop lactic acid because they are deprived of oxygen; this *increase* of acidity greatly increases their affinity for water and œdema is the result. The swelling is essentially due to a physico-chemical property of a *colloidal* system, and there is *from* Fischer's standpoint no *occasion to go* beyond or behind this property in seeking for an explanation in any case of œdema whatever. Needless to say, *in* the presentation of the theory *other* evidence is advanced; but nevertheless the swelling of the ligatured frog's *limb remains* the *experimentum crucis* on which it is based. As you are doubtless aware the theory has been criticised by many authors whom I must not stop to quote. I think you will agree that its teaching is too purely mechanical or, rather, too superficial. It leaves out of account the many subtleties involved when a living tissue responds to any kind of change. In the endeavour to avoid all that is mystical and to give us something objective it probably excludes factors of real importance. But the phenomena upon which it is based are certainly not without significance, and the theory has some advantages over others that have held the field. No one I think who has worked, say, with the isolated and artificially perfused mammalian heart, and has watched it grow œdematous while still beating, the degree of œdema —seemingly at least—depending upon the degree of acidity which has developed, can wholly ignore Fischer's views. Local acidity would seem undoubtedly to favour the occurrence of œdema, at least in some tissues; but we do not know what is the relative importance of the part it plays.

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[12] *Journal of Physiology*, 46, 12, 1913.

[13] The Respiratory Function of the Blood, Cambridge University Press, 1914.

SUMMARY.

Before concluding, I may attempt a brief summary of the facts and considerations which I have put before you. The hydrogen ion concentration of the blood is a variable, but the interests of the body demand that its variations should be confined within a very narrow zone of change. In the maintenance of its mean value, which is such as to make the blood a very nearly neutral fluid, a great number of factors play a part—some chemical, some physico-chemical, and others more purely physiological. When appreciable variations occur they produce striking effects, especially upon the mechanisms of respiration. Considerable departures from the normal indeed can only exist when the sensitivity of the respiratory centre is simultaneously modified. In the tissues—at any rate, in certain tissues—wider variations in the hydrogen ion concentration probably occur; but metabolic processes are nicely adjusted to the maintenance of approximate neutrality even in the tissues themselves. Any local change of reaction when it occurs may profoundly affect the general chemical equilibrium in a tissue or organ.

It is remarkable that the acidosis produced by such factors as are involved in taking exercise at high altitudes should induce more change in the actual reaction of the blood than the severer forms of acidosis occurring in a disease like diabetes. Doubtless the more gradual establishment of the acidosis favours a more complete adjustment. We have very definite evidence that variations of reaction may occur in disease and be responsible for certain symptoms, but the whole question of the range of variation in pathological states and the effects correlated with it remains for further study by modern accurate methods. I may conclude with another appropriate quotation from the address given by Dr. William Sharpey in 1862. He said: "But one of the most significant steps that have been made in modern physiology is in my judgment the general recognition of the importance of exact numerical determination, whether as to time, space, or quantity, and its general application to those phenomena of the body which are susceptible of it." Our progress depends upon the continued recognition of this importance, and fortunately we are always finding fresh phenomena which prove susceptible of quantitative study. With some of these I have been dealing.

A PLEA FOR THE DEGENERATE.[1]

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THE conferences of eugenists which are held from time to time have for one of their aims the procurement of a Utopia of physical excellence and ability, and Parliament has adopted a Bill for the segregation of those members of the community whose continuance in it as free agents is considered adverse to the well-being and prosperity of the race and antagonistic to the transmission of a healthy offspring.

The eugenists appear to have had it all their own way, but there is still something to be said for the very large class of slightly degenerate, and many will agree that in the desire to make a nation of sane and healthy people the eugenists overlook or under-estimate the curative power of nature, whilst they advocate measures some of which are unnecessary and others intolerable. Their enthusiasm blinds them to the defects of even the best educated and most intelligent people, whilst it incites them to crush out a most useful and harmless section of the population, even if it be in some respects "degenerate"—whatever may be the limits of that debatable term. For no one could rightly maintain that grades of intelligence are not a necessity or that a socialistic Hygeiopolis, where all are equal in mental and bodily development, is either desirable or possible.

In the ultra-impaired and degenerate, such as epileptics, idiots, and the lower imbeciles, it is no doubt absolutely necessary to condemn their contribution to the perpetuation of the race, and the best way of doing this is by legal restraint until extermination eventuates; but it is a doubtfully wise proceeding to limit marriage to those who are able to produce a medical certificate of validity, for one reason because we cannot always detect latent disease, and for another because our views on hereditary transmission are still in the crucible, and biometrical science is mostly in the apophthegmic stage—a matter of terse sayings of limited range. To argue that the safeguards of marriage should be tightened so as to produce only healthy stock is one thing, but to sacrifice everything to the development of educated intelligence is quite another thing, and there are plenty of proofs that the comfort and even the safety of social conditions may be violently upset by suppressed or loosened emotional storms which are just as much the accompaniment of "higher" intellectual states as they are of the "lower," if indeed they are not more intense and compelling in the former than they are in the latter. There are plenty of intelligent and educated women among the militant suffragettes, but that fact does not prevent them from breaking the law nor from establishing the dread of unexpected and impulsive violent actions engendered by bad logic and a state of monoideism.

The education of the lower orders has not tended to the peace of social systems; indeed, it is probable that in many directions it has substituted for a beneficent oppression the tyranny of agitators and the subtle influence of a systematised organisation for the accomplishment of ends sometimes unworthy.

It will be observed that those who advocate the advanced views of eugenists are mostly scientists, not physicians; they want all to be perfect and all approximately intelligent, a condition which would be as dazzling as living in perpetual sunshine with no respite of dawn, twilight, or darkness. Too much must not be expected quickly from education; and discomfort must accompany its spread. An educated monkey or a tamed lion never loses his innate destructiveness; he just learns how to become a more accomplished nuisance. When the *Education Bill* was passed in this country the Kaiser William said that it was "the beginning of the downfall of England," and however this statement may be traversed there still remains the truth that upheavals and discontent have been the accompaniments—perhaps the necessary accompaniments—of the process. The early promoters of the general and forced education of the masses probably knew this very well, and never for a moment thought that the feeding with the fruit of the tree of knowledge would have any other result than the upheaval of settled social systems—it has, indeed, been cataclysmic, bringing about a bloodless revolution and upheaval in many of the organised strata of our social system.

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[1] A paper read before the Harveian Society on April 2nd, 1914

When the eugenists have had their way, and when disease is no more and degeneration a thing of the past, what a world of strife it will be. There will be no peace and quietness; no one to do the drudgery. As it is, the majority of people are commonplace, perhaps rather stupid, or, at any rate, not brilliant, and this wholesome leavening with mediocrity makes for the easy routine work which is of such advantage for the smooth working of the cosmic economy. To carry on the work of the world we do not want everyone to be a model of ability and excellence of structure; we require a certain number who will do as they are told, and who, as long as the conditions under which they live are humane and well-ordered, delight in the beneficent compulsion of authority, direction and guidance, and seek for nothing better. When a long-established order or arrangement is upset, and what was below is placed on the top, a new crushing force of unknown extent and intensity is developed, a power which has no experience of its new and unaccustomed existence, which in its spasmodic writhings to accommodate the environment to itself is pretty sure to make mistakes, because it tries to adjust in a day what has taken years of gradual subsidence to consolidate. And this subversion must occur when the forces of nature are interfered with by such drastic remedies as the eugenists propound—viz., the unsexing or the destruction of all degenerates and the artificial cultivation of general excellence. In the organic kingdom there is no such thing as equality, but a graduated system of complexity and excellence can be detected all through its hidden recesses and in its open manifestations, whilst in the lower developments are found a peculiar adaptability and usefulness which could not be got from the more elaborated members of the family, do not, indeed, lie within their functioning capacity.

Heredity is in many respects a blessing. If owing to it we have the transmission of tendencies of an advantageous kind it saves time and work, because it gives the individual a flying start and lessens the trouble of acquisition and of preliminary training, and, notwithstanding all the difficulties nowadays set up to the doctrines of the hereditary transmission of disease and of undesirable qualities, there must be many believers in it, else why do the eugenists go to such extreme measures for exterminating the poor specimens which, if it were not for their power of hereditary transmission, should be treated as accidental occurrences with a very limited range of ability for doing evil?

The greatest hereditary transmission is death—there is no doubt about that—and probably disease is the next. The eugenists take refuge for their measures under the plea of civilisation, but their practice is, after all, but a return to savage methods which are drastic and, as they think, beneficial to the social system, relieving it from what is irksome to it. For what is the tendency of our modern civilisation? It is really little more than the *toleration of abuses.* We let off murderers in deference to public sentiment, and we never carry out the extreme sentence on women because we are more "civilised." We treat crime as a disease and deal with it mildly. We suffer fools gladly and take the most beneficent care of them. We endure all sorts of inconvenience at the hands of strikers and allow violent coercion to proceed very largely unchecked because the "high civilisation" suggests toleration and not repression.

There are two chief classes in civilised communities: those who find the form and means for work and those who use these, and in the latter we want bodily fitness and a certain amount—not too much—of intelligence. It is quite right to do what we can to ensure the former, and if the eugenists confine their efforts to hygiene they will be working all for good; but to go to the extremes advocated by some of their members in their desire to adopt a high standard of intelligence is unnecessary, because nature steps in and provides for the early and efficient elimination of the extreme forms of degeneration by disease and death. We may assist nature by placing under lock and key every "degenerate" in the country; but it would only be a respite, the condition would soon reassert itself, because however we try to eliminate it the measures cannot touch the elements which are present in many of the lives which would be passed by the eugenists as sound, though they may only declare their existence too late and when the damage by transmission has been effected.

As for the intermediate forms and degrees, we turn them into staple commodity; they provide us with occupation for builders, architects, and governing bodies, besides an array of doctors, nurses, and attendants. If all the by-products of civilisation were cleared away there would be no scavenging to be done, and the large proportion of medium-brained toilers would be without occupation. Instead of exterminating a class which does not rise in some few particulars to the intellectual level desired by those who think they can secure breeding on fixed principles, it might be deemed more conducive to the peace and contentment of the world if some of the very "clever" people were deleted, for their criticisms of the social scheme are so much more "clever" than their suggestions for remedy. The drawback of making people in humble circumstances develop aspirations for which they are quite unfitted is that whilst the inferior occupations remain as necessary as ever the people who should carry them on become fewer—they relegate them to the recidivists instead of leaving them in the hands of those who, by their very mediocrity, provide a most important link in the social system. From their mediocrity the best of them would regularly and steadily emerge according to biological rule. If there are some members of the population who can do the work which others will not do, it may be, and I think is, the duty of the governing body to protect them; it is certainly wrong to exterminate them because they form part of a natural system which is composed of graduated elements of perfection, and which is as useless without these lower but subsidiary members as is a house without a kitchen or a reptile with its tail chopped off.

No doubt it is better to stop bad and dangerous breeding than to sequestrate and try to extirpate the results of it, but is it possible to adopt the former course? Not in the transition stage in which we now are, and inasmuch as we can never hope to attain to a fixed and final perfection it is impossible to see how care in breeding can be more than palliative. If every palpable degenerate of the moment were obliterated the supply would still go on. There are now going about with full approval as to their gametic validity all sorts of swindlers, drinkers, dishonourables, pleasure-seekers, lazybones, gossips and slanderers, men and women physically fit to perpetuate their species and who cannot in this particular be denied, but who are morally and intellectually distinctly unfit because there is ground for belief that these defects may be ontogenetic and capable of influencing progeny; indeed, this ground for belief becomes a certainty if we remember that many mental characteristics are the necessary results of certain bodily processes, and are in their sphere only another form of them. There are numbers of people in prominent places for which they are absolutely unfitted, they have been foisted upon leadership by patronage, or by family descent, or by fortuitous circumstances, and when they are in leading positions the evil they do is enormous. There is no guarantee that one who has played a leading rôle in any of the subdivisions of the life-drama is fit to have descendants; because some of even the most distinguished self-made or hereditarily marked people are so pervaded by hidden defects that they are unfit to generate, lest the weeds appear and thrive upon the good soil with which they are simultaneously projected: on the other hand, it would not be difficult to prove that a not wholly corrupt tree may bring forth good fruit.

There is often raised the cry "Where is the man?" And when he is found it is not by looking among pedigree stock—people who have had notable ancestors, but by waiting until the right person "arrives," often an unknown growth from some dark, neglected, and unsuspected corner, the spawn of which has the latent endowments which the new environment seizes upon and nourishes to its own advancement. There never occurs a crisis without its hero of the moment—it may be a woman, as the Pucelle d'Orléans, or it may be a diminutive degenerate, as was the ferocious Swiss hairdresser, the thief, the creature of hæmothymia, the infamous Marat. Now Marat was probably a degenerate, at any rate a bodily degenerate, and the eugenists might say, "Such a person would be impossible if our suggestions were acted upon, and therefore you would never have had such a bodily or mental degenerate"; but cruel and bloodthirsty as Marat was, he was yet the man of the moment, and he may have been useful by bringing about the satiety of revenge which was the turning-point in the tone of the environment, and led to a change of atmosphere demanding a different set of agents. For, after all, it is not invariable that men set up an environment; as often as not circumstances arise which require men suited to the work to be done, and so the "man of the moment" may be wicked, unscrupulous, immoral, and degenerate from the standard of mental desirableness, but his very vices qualify him for the prominence which, evil though it may seem at the time, may be the necessary prelude to a blessing. The history of human nature is that of a condition of unstable equilibrium—at one time the good factor, at another the bad element in the ascendant; but inasmuch as "good" and "bad" are relative terms it is of no use to legislate for a special class to the exclusion of others, because that favoured class may turn out to be the one undesirable and invalid at the moment. The distorted body may have a most excellent and beneficent mind, whilst an Apollo or a Hebe may be of a devilish intellect, and the system which would exterminate the one and perpetuate the other cannot be founded on right principles. The Marchioness of Brinvilliers and Beatrice Cenci would have been champion stock for the eugenists.

In one of his aphorisms Wundt says that "men think very little and very seldom." The truth of this dictum is indisputable, and it has much to do with the point we are discussing. Herbert Spencer walked about London notebook in hand, listening to and writing down the matter of the conversation of passers-by. He found it to be of the most ordinary character, chiefly personal, such as "And how was Jemmy when you left him?" or, "She never gives more than tenpence a yard for it," &c. And action, like thought, is often of the simplest kind; however difficult at first to acquire it has become an easy and self-sustaining reflex. When active thought or energy of a new kind is carried on for a long time or under stress people break down under it: the work can be done for only short periods. It is the custom to point to the great age to which scientific and other very busy men live; but when they do it is because they have as a rule an occupation which they are fitted to carry on without strain. That people cannot bear strain for long is shown by the desire for filling up positions of responsibility and activity by young men, the idea being that new work requires young material.

Though people are enabled, through the progress of hygiene, medicine, and surgery, to live longer, their active and altruistic sphere is cut short, and just when their energies and experience are at the best they have to give place to younger men. What is left for them to do? In many instances nothing. Do you suppose that the men who lounge about clubs and spend the day on golf links or croquet grounds are doing what they prefer? Not a bit of it. They are just getting through time in the easiest way, whilst many are inwardly fretting at their enforced idleness. Though placed *hors de combat* they are still of some use to the community—they pay taxes, and in amusing themselves may contribute to the gaiety of nations, but except as mere units they are of little account, and the world tolerates them as long as they are harmless; but in rendering this scant recognition the world is unjust, for by their very inactivity they leaven the surging restlessness of the crowd, and act as buffers which deaden the shocks of the to-and-fro hustling of conflicting interests—they are then most useful in their enforced leisure; they cannot be called "degenerate," and they have a serviceable rôle as honorary members of the social system. When a man reaches 60 years of age—still more

100—he may carry his own proof that he has led a fairly moderate life, but at the same time he indicates that it has not been too strenuous.

Some forms of disease are so manifestly incapacitating that no doubt can be held as to the necessity of isolating them; such are violent epileptics and advanced imbeciles and idiots. But the rule must not be made too hard and fast, and I could give instances of families where epilepsy in the parent has had no effect at all upon the children, and of high-grade imbeciles whose children are sound and bright. On the other hand, who is not at a loss at times to account for the deviation from moral rectitude, the actual mental breakdowns, the ineptitude of many whose pedigree chart seems unexceptionable? If we look at the manual and mental work done in large institutions, such as asylums and workhouses, we see that much is accomplished by degenerates, and that the best done part, too. Occasionally the quarrelsome and troublesome person is given employment to keep him quiet and to interest him, but the cleaning, the carrying, the heavy drudgery, is by preference given to the degenerates—the epileptic, the imbecile, and the idiotic—and very well it is, as a rule, done. The working expenses of institutions would be vastly increased were it not for these degenerate toilers. And so it is in the outside world. I doubt if ordinary society could be carried on without the aid of the mediocrity, the patient force which has only to keep in motion the body which has been swung into the sphere of activity by the superior mind. Just as small coinage has its advantages, so we should find the conduction of social necessities too expensive if confined to the regenerate. The eugenists want to do away with the pence and farthings, and to substitute a more showy and expensive medium which cannot do the work of its lower congener except at the price of waste and inconvenience.

To some extent the cult of eugenics has actually been a going concern for some time in an incomplete and imperfect degree, but still in action. For years thousands of insane and degenerate people have been kept in asylums, workhouses, and prisons. It will be said that many of these have been from time to time allowed to return home and to go on increasing their families, and that it would not be prudent to draw too definite conclusions from the partial enforcement of these repressive measures; but it is interesting to look round and see whether there is any tendency to improvement in social conditions since repressive measures (however imperfectly administered) have been in force. Is the law any better obeyed than it formerly was? There seems to be a rising feeling that if the law as it stands does not accord with what the "educated" mass of the people think best for its individual advantage, therefore it (the law) must be resisted until it is changed to suit their own wishes, regardless of the effect of the change on other classes of the community, the result being numerous class wars, because altruism becomes sacrificed to selfishness. It seems to be more and more unlikely that those who find the present condition fairly satisfactory will quietly submit to have it subverted; they will not consent to anarchy as the succedaneum for even an imperfect law without a struggle. "No," they say, "your proposition is a revolution, and that we will not accept unless you are able to bring superior force and establish it yourselves." When once it is seen that the revolution is successful there is sure to be a repetition of it until the social system settles down again under the rule of those who have the power and the numbers to enforce their position.

If all vice is confined in prisons and all deformity and defect is sequestered in hospitals, asylums, and sanitary homes, if pauperism is done away with by syndicalism and trades unions, if moral and physical pain are to be banished by the panaceas of faddists—if, in fact, a new world is to be regenerated by esoteric philosophy—then we must be prepared to see a change in those mental elements which at present are viewed as the traits in us of descent from a Divine origin. Altruism and pity will die a natural death, because there will be no one requiring self-abnegation and commiseration—where all are strong there will arise an inability to understand weakness. The idea (as a working hypothesis) that mental deformity is dependent on bodily impairment, and the converse, that physical integrity connotes mental adequacy, or even perfection, is not based on unprejudiced experience. The giant in strength and in grace of form is liable to abuse both; he thinks that nothing can resist him, and so he proceeds to over-functioning and to super-induced decay, whilst the weakling learns to husband what strength he has and is careful not to incur the risks of contradiction from others.

The experience from America, where in some places eugenist marriage theories have been in force, is not very favourable; the medical certificates have proved very expensive and inadequate, and people have evaded the law by quitting the State and disregarding medical impediments. It is not logic to say that because a theory is useful in its application for some cases it is therefore necessary to make it universal; because, to have this effect, the theory must be perfect. Is the theory perfect? This can surely not be upheld even by its most strenuous supporters. It is true that when disease or imperfection is markedly in evidence so that all are agreed on its existence in the individual case under observation, the enforcement of the theory may reasonably be upheld, and so there can be no doubt that the marriage of freaks, epileptics, of imbeciles and idiots, of syphilitics, and, perhaps, of the tuberculous, ought to be forbidden; but inasmuch as it is probable that an absolutely healthy person is not to be found, and that it may hence be concluded that the majority have in their organism the latent germ of disease, it is evident that the universal application of eugenics cannot be tolerated—that therefore it would be unjust to tabulate any compulsory laws to be of universal application. Indeed, in many countries everything which tends to support the ideas of eugenism is deliberately traversed. Take Germany, for instance, where among the nobility it is absolutely taboo to marry anyone who is not *hof-fähig*, which, of course, means ostracism from society functions. Royal families, where one would think that the highest physical and mental qualities were desired, are very limited in the choice of marriage possibilities, so that it often happens that consanguinity of a fairly close degree is necessitated, and this is directly opposed to eugenic theories, though it does not always in practice eventuate badly. In this country *Hof-fähigkeit* is not an inexorable law, and the aristocracy of wealth fuses readily with the aristocracy of birth—nay, more, the platforms of the marriage market have become so extended that mere good looks combined with respectability and intellectual competence are almost as good a passport to the aristocracy of birth as is that of wealth alone, all of which may be of eugenic trend and therefore desirable. That morganatic marriages were not always successful in producing the best stock, whilst very often marriages between people of the same social standing turn out extremely well, shows that it is not necessary to break down class laws by eugenic theories. It is quite fortuitous whether the result is good or bad —fortuitous, that is, as far as the matter of personal selection is concerned, though not fortuitous, but necessary, if we only knew the laws of ontology.

The brainy person is driven forward to continual striving and knows no rest, and if, as is not infrequent, his braininess is joined on to a weak bodily accompaniment, his life is a continual effort, a war against discomfort; if, notwithstanding this personal bodily degeneracy, he is yet able to add to the progress of the race, well and good—let him live and raise offspring if he desires, for though eugenically unfit he may produce a fairly healthy stock which, brought up in a healthy intellectual atmosphere, may, though not perhaps most desirable from the physical point of view, be of use to his social environment.

The man of first-rate physique is not always proportionately endowed intellectually, and he, too, is wanted and called upon to energise to an excess which is not good for him. His very strength tempts him to despise moderation, and before long he is landed in difficulties which the more moderately endowed person never feels, and so the strong man ceases at an early stage to be a practical asset. Which is the better for a nation? To have good physique and moderate, unsensational brain development, or to have extraordinary intellect and poor or indifferent bodily quality? The eugenists will say that they want both body *and* brains, and though it is true that now and then we do find these eclectic phenomena they are yet too rare to rest hopes upon; as a rule one of the two is commonplace, and the most useful social stock combination would seem to be the sound body with the medium mind, for such a man makes the best citizen: he can fight for his country; he can add his quota to the population; he is honest and not so brainy as to become a dissatisfied theorist; he may, indeed, be of such moderate mental capacity that, compared with his bodily standard, he is inferior and may be classed as degenerate, but he is able to get his living and remains a valuable potentiality even though he does not attain a theoretical adequacy. We judge, after all, by results, and however much a person fails to realise an ideal we put up with the theoretical inferiority and prefer inertia to inconvenient dynamics.

The above was written before I read a speech recently made by Sir J. Crichton-Browne at a dinner of the Sanitary Inspectors' Association, and I am very glad to find my views in harmony with so distinguished a rhetorician. I beg to quote that part of Sir James's speech which suits my purpose. He says, talking about not prolonging the lives of the unfit, that "it would emphatically *not* be better to let some of them die out. Sanitary improvement did not run counter to natural selection; it did keep weaklings alive, and weaklings often turned out to be the benefactors of the species. Slum-life was a widely destructive process; it favoured the survival of those who could subsist on a relatively small amount of nourishment and light and air."

The object of this paper is to remind us that there is now in actual force the Mental Deficiency Act of 1913 which gives ample opportunity for placing under restraint defectives of very different degrees of intensity, from the very strongly pronounced idiot and imbecile to the "moral imbecile" or the person "who from an early age displays some permanent mental defect coupled with strong vicious propensities on which punishment has had little or no deterrent effect." This clause is very vague and I doubt if it will really help much, for the phrase "some permanent mental defect" may be exceedingly difficult to put down on paper, and the whole clause implies that punishment has been tried and has failed. The really troublesome people are often those whom the law seems unable to touch, especially when alcoholism enters into the question. I saw recently a gentleman, married and with a healthy family, who is really morally imbecile and whom his friends would wish to have certified, but no medical man will take the risk of doing it. He is a graduate of a university, a distinguished athlete, and free from delusions or any mental flaw which would pass current as insanity; and yet he is a habitual drunkard, easily imposed upon by designing persons, and would be with advantage restrained—but there would be great difficulty in doing this—nothing but a *conseil de famille* could effect it. On the other hand, we all know of people who are of low intellectual standard but morally are correct; these are the people whom the law *would* enable us to sequestrate, and it is just these whom, for many reasons, it is not (as I have tried to show) desirable to remove out of the community.

It almost looks as if intelligence and morality were two distinct things, and that it is safer to have intelligence than morality; a person who has the former may get off scot-free, but to him of weak intelligence his morality is of little avail when it suits the purpose of those who have the power of sequestrating him to use it. It is against the abuse of this facility that I have ventured to address you.

Weymouth-street, W.

THE AERIAL CONVEYANCE OF INFECTION.

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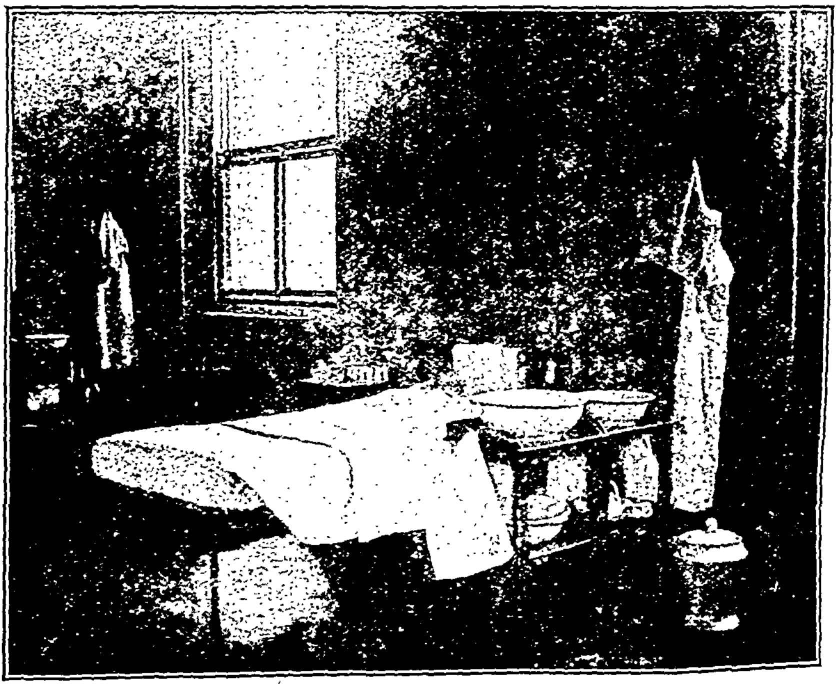
There has been, and still is, very considerable difference of opinion as to the conveyance of infection by air, and while on the whole it is conceded generally that the air is not the chief vehicle for the conveyance of infectious diseases, there exists amongst the most competent observers considerable doubt as to what part the air plays in this conveyance, and certainly there has been great exaggeration in the past. Yet it appears desirable to accept views not based on sound observation with caution.

For the past five or six years we have held the view that conveyance of scarlet fever by air is improbable, but we were not courageous enough to put our view to the test, except in a limited way, until the work conducted by Dr. Claude Rundle and

Dr. A. H. G. Burton at the Fazakerley Hospital[1] became known to us.

Early in 1912 we decided to make an attempt to increase our knowledge on this subject and to treat certain infectious diseases in an ordinary ward with the precautions of cloak-wearing, cleanliness, and sterilisation. This work has nothing to do with cubicle and box ward work which has been conducted at this hospital for a number of years, the first box ward having been opened on June 15th, 1904, and the first cubicle ward on Sept. 6th, 1905, these being, as far as we are aware, the first box and cubicle wards to be put into use in this country. At the commencement we decided that, with the exception of measles, we would place in the ward sufferers from the infectious diseases ordinarily admitted to or arising in the hospital, and we did not contemplate treating measles in the ward, at all events until we had satisfied ourselves that chicken-pox was not aerially conveyed. We failed to satisfy ourselves on that point, and we therefore continued to exclude measles and modified our action as to chicken-pox.



Reproduction of photograph of ward, showing a bed with its equipment.

The ward in which we conducted the work is a modern one for 12 patients, well lighted, well ventilated, and having 195 feet floor space and 15 feet wall space for each patient. We endeavoured to avoid infection being carried from one individual to another by every means in our power and within our knowledge. Feeding and other utensils, textile goods, instruments for treatment, and so on, were either reserved for the individual or sterilised before use. For example, a penholder was kept on each patient's locker in order that it might not be a means of infecting the medical or other officers' fingers. Pedal spray basins for washing were desirable, but we did not feel justified in asking the managers to provide these, since the work was after all an experiment; accordingly we used ordinary washhand basins placed upon lockers at each bedside. We are well aware that it would have been more satisfactory to wash the hands in running water, and had it been available it is possible our results might have been better.

In contemplating the work we considered that since the diseases with which we proposed to deal were to all intents and purposes those of early childhood we would make a serious error if we departed materially from the age-periods at which these diseases particularly arise. Also we decided not to place adults or adolescents in beds intervening between different infectious diseases, as this in our opinion, would have rendered the experiment of much less value. On the other hand, however, the fact of a child being protected by a previous attack of a disease was made use of in the allocation of patients to beds. For example, a chicken-pox patient would be placed in a corner bed and next him would usually be a child suffering from scarlet fever but showing old scars of chicken-pox. At some future period, no doubt, we may find ourselves able to dispense with this use of a protected individual as a barrier, but naturally we must progress step by step. Further, the diseases were so located as to minimise the risk of the conveyance of infection as far as possible.

Such means of endeavouring to avoid the conveyance of infection as oiling the skin or specially treating the throat were entirely avoided, since we held no belief in their value, apart from the fact that the introduction of any such factors would lessen the value of the results. However, an exception to this occurred when the sister of the ward, without instructions from us, oiled the skin of one chicken-pox patient who was placed in the ward in the scabbing stage. She did this owing to her having read a discussion on the subject which had taken place at the Royal Society of Medicine.

No toys, books, papers, or other such materials were allowed in the ward, and no patient was removed from his bed for any purpose during his stay in the ward. Upon entering the ward every officer who was to touch a patient, his bed, or anything connected with him, was required carefully and thoroughly to wash the hands and scrub the nails with soap and water, and then to rinse the hands and scrub the nails in 1 in 200 lysol contained in basins at each bedside, and afterwards to put on a cloak reserved at the patient's bedside. After attending to the patient the cloak was taken off and the same washing process was gone through.

We wish to emphasise the difficulty in thinking of and legislating for possible sources of indirect infection, and we would mention, as an example, an occasion on which chocolates had been given to some of the more convalescent children, whereupon a lively child commenced throwing his chocolates to others, his example being followed by other children before the sister could put a stop to the game. This and other matters unthought of gave us ample food for reflection; and, indeed, the combination of such unforeseen occurrences with occasional cross infections, which we could not account for, so dispirited us on several occasions that we talked of giving up the work.

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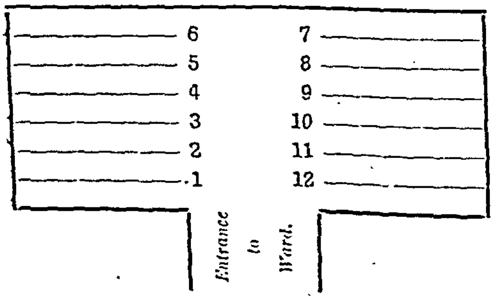
[1] THE LANCET, March 16th, 1912, p. 720.

Taking into consideration the detailed work necessary in the ward we decided that the nursing should be ample, and the number of nurses was as follows: for day duty, 1 sister, 2 staff nurses, and 2 probationers; for night duty, 1 staff nurse and 1 probationer or second assistant nurse. The day staff relieved themselves for time off duty, but the night staff were relieved by a nurse accustomed to the work. No alteration has been made in this staffing except that the sister for some time past has also supervised another ward of the same size for diphtheria patients.

The nurses deputed to the ward have always been specially chosen out of the best in the hospital, and we wish to express our great appreciation of the work of all of them, and particularly of sisters Miriam Williams and Helen Turner, who at different times have had charge of the ward. Without the care and enthusiasm displayed by these sisters the work would have been impossible.

For a clear understanding of our remarks the following plan showing the disposition of the beds is necessary.



We have kept a daily plan of the position of the patients with their diseases during the whole period in order that easy access to the facts concerning any given case can readily be made by anyone. Commencing Feb. 12th, 1912, 274 patients were treated during a period of two years. As some of these patients suffered from more than one disease the number of individual diseases is necessarily more, and amounted to 332.

TABLE I.—*Showing the Number of Patients Treated and the Disease from which they Suffered.*

Scarlet fever (with 3 septic cases)	75	Diphtheria and vaginal discharge	1
Scarlet fever and diphtheria (1 septic scarlet fever case)	5	Whooping-cough	31
Scarlet fever and diphtheria and varicella	1	" and varicella	2
Scarlet fever and diphtheria and vaginal discharge	1	" " rötheln	1
Scarlet fever and diphtheria and whooping-cough	1	" " mumps	4
Scarlet fever and whooping-cough	3	Varicella	6
Scarlet fever and varicella	10	" and mumps	1
" " " mumps	4	Rötheln	4
" " " incipient measles	1	Incipient measles	1
Scarlet fever and varicella and tinea tonsurans	2	Pneumonia	2
Scarlet fever and vaginal discharge	6	Erysipelas	1
Scarlet fever and whooping-cough and varicella	2	Tonsillitis	6
Scarlet fever and rötheln	1	Mastoiditis	1
Diphtheria	49	Faucitis	4
" and whooping cough	3	Pyrexia	2
" " mumps	2	Erythema simplex	7
		Conjunctivitis	1
		Laryngitis (non-diphtheritic)	1
		Urticaria	1
		Burns	2
		No obvious disease	29
		Total	274

TABLE II.—*Showing (separating out the combined diseases) the Number of Cases of Each Individual Disease.*

Scarlet fever	112	Vaginal discharge	8
Diphtheria	63	Tonsillitis	6
Varicella (including 6 secondary cases *left in ward*)	24	Mastoiditis	1
Whooping-cough (including 2 secondary cases left in ward)	47	Faucitis	4
Mumps	11	Pyrexia	2
Incipient measles	2	Erythema simplex	7
Rötheln	6	Conjunctivitis	1
Pneumonia	2	Laryngitis (non-diphtheritic)	1
Erysipelas	1	Urticaria	1
Tinea tonsurans	2	Burns	2
		No obvious disease	29
		Total	332

TABLE III.—*Days' Stay in Ward.*

Number of patients	274
Aggregate number of days spent in the ward	7568
Average number of days spent in the ward by each patient	27·62

TABLE IV.—*Age-periods.*

	Males.	Females.
Under 1 year	5	0
1–2 years	13	17
2–3 "	23	24
3–4 "	15	22
4–5 "	15	22
5–10 "	42	64
10–15 "	2	9
15–20 "	1	0
Total	116	158
	274	

TABLE V.—*Showing the Day of the Disease on which Cases were admitted to the Ward.*

Disease.	1st day.	2nd day.	3rd day.	4th day.	5th day.	6th day.	7th day.	2nd week.	3rd week.	4th week.	Over 4 weeks.	Total.
Scarlet fever	6*	9	23†	24‡	6	7	3	10	8	4	12	112
Diphtheria	0	3	4	12	4	3	7	13	5	3	9	63
Whooping-cough	3‖	1	1	6	5	0	6	11	3	1	10	47
Varicella	9§	2	4	4	2	2	1	0	0	0	0	24
Rötheln	4	2	0	0	0	0	0	0	0	0	0	6
Mumps	8	1	1	0	1	0	0	0	0	0	0	11
Measles	2	0	0	0	0	0	0	0	0	0	0	2
Total	32	18	33	46	18	12	17	34	16	8	31	255

* 1 septic. † 1 septic. ‡ 2 septic. ‖ 2 infected in ward.
§ 6 infected in ward.

Secondary Infections.

All secondary affections that arose are called attention to below.

1. *Scarlet fever.*—112 cases of scarlet fever, including 4 septic cases, were treated in the ward and 2 cases which were infected in the ward. In 75 cases scarlet fever existed alone, 3 being septic; while in 37 cases it existed in combination with other infectious diseases, as shown in Table I., one case being of the septic type. Of the 112 cases 78 were admitted during the first week and 34 at a later period. Two cases of secondary infection occurred, the first on Dec. 24th, 1913, and the second on Dec. 25th, 1913, practically 22½ months after the opening of the ward; one case was of the aseptic type and the other the mild form. Both cases were left in the ward. During this period of 22½ months 103 cases of scarlet fever had been treated with no case of secondary infection. At the time of infection there were 12 cases in the ward, 4 being scarlet fever and occupying Beds 2, 3, 4, and 5. The patients infected were on the opposite side of the ward in Beds 8 and 11.

With regard to the day of disease of the cases (which may have been the source of infection) at the time of infection, in Bed 2 scarlet fever was in the fifth week of the disease; in Bed 3 at the commencement of the third week; in Bed 4 in the fifth week; and in Bed 5 at the beginning of the third week.

Regarding the mode of infection the only circumstances differing from the usual were: (*a*) that a nurse who was not quite up to the work was shifted out of the ward on Dec. 19th—i.e., six days before the first case, after being in the ward for a week; and (*b*) that on Dec. 19th she was replaced by another nurse who remained until Dec. 26th. This nurse had unknown to us a septic finger which probably prevented her from washing her hands properly. This, in all probability, was the origin of the infection.

2. *Diphtheria.*—63 cases were treated, and in 49 diphtheria was the sole disease, while in 14 cases it existed in combination, as shown in Table I. 33 cases were admitted in the first week of the disease and 30 at a later period. No secondary cases occurred.

3. *Rötheln.*—Six cases of rotheln were admitted—4 on the first day of the disease and 2 on the second day. In 4 cases rotheln was the sole disease; in 1 case it existed in combination with whooping-cough and in another with scarlet fever in the convalescent stage. No secondary cases occurred.

4. *Mumps.*—10 cases were admitted from the receiving room or isolation wards and 1 from a scarlet fever ward; 8 cases were admitted on the first day of disease, 1 case was admitted on the second day, 1 on the third, and 1 on the fifth. No secondary cases occurred. The case admitted from the scarlet fever ward on the first day of mumps gave rise to four secondary cases in that particular ward.

5. *Whooping-cough.*—47 cases (including 2 infected in the ward) were treated. In 31 cases it was the sole disease; in 16 in combination. 22 cases were admitted during the first week of disease, including the 2 infected in the ward; 11 cases in the second week; and the remainder at a later period of the disease. Five cases of infection occurred: 2 cases developed whooping-cough in the ward and were kept there; the other 3 cases developed whooping-cough in cubicles to which they had been removed.

First infection.—Bed 1: The patient developed whooping-cough on May 1st, 1912. Infected April 18th or before. Two cases of whooping-cough were present in the ward at this period. Bed 11: Whooping-cough of 7 weeks' duration. Bed 12: Whooping-cough of 3 weeks' duration. There were also present 3 patients with a history of whooping-cough and 7 (including the infected case) with no history.

Second infection.—Bed 4: The patient developed whooping-cough on May 7th, 1913. Infected April 24th or before. Three cases of whooping-cough were present in the ward at the time of infection. Beds 5 and 6: Whooping-cough of 2 weeks' duration, April 24th. Bed 7: Whooping-cough of 4 weeks' duration, April 24th. There were also present 2 patients with a history of whooping-cough and 7 (including the infected case) with no history.

Third infection.—Bed 8: The patient developed whooping-cough on June 12th, 1913. Infected May 30th or before. Three cases of whooping-cough in the ward at the time of infection. Bed 5: Whooping-cough of 4 weeks' duration on May 30th. Bed 6: Whooping-cough of 6 weeks' duration on May 30th. Bed 7: Whooping-cough of 2 weeks' duration on May 30th. There were also present 2 patients with a history of whooping-cough and 5 (including the infected case) with no history.

Fourth infection.—Bed 1: The patient developed whooping-cough on June 22nd, 1913. Infected June 9th or before. Three sources of infection possible. Bed 5: Whooping-cough 6 weeks' duration on June 9th. Bed 6: Whooping-cough of 7 weeks' duration on same date. Bed 7: Whooping-cough of 4 weeks' duration, same date. There were also present 2 patients with a history of whooping-cough and 6 (including the infected case) with no history.

Fifth infection.—Bed 9: The patient developed whooping-cough on July 15th, 1913. Infected July 2nd or before. Three cases of whooping-cough in the ward at the time of infection. Bed 6: Whooping-cough of 5 weeks' duration, July 2nd. Bed 7: Whooping-cough of 4 weeks' duration, same date. Bed 8: Whooping-cough of 2 weeks' duration, same date. There were also present 1 patient with a history of whooping-cough and 7 (including the infected case) with no history.

6. *Measles.*—No case of measles was knowingly admitted into the ward, but 2 cases admitted for other diseases were incubating measles. They were removed from the ward as soon as recognised. From the first case 5 secondary cases resulted, and from the second case 2 secondary cases.

First case.—The patient, occupying Bed 3, admitted on July 11th, 1912, developed a prodromal measles rash and Koplik spots on July 21st and was at once removed from the ward, which contained at that time 11 other patients, 4 being protected in so far as they had a history of previous measles, and 7 being unprotected. (*a*) Five secondary cases resulted in Beds 1, 5, 8, 10, and 12; 4 developing in the ward and 1 (Bed 10) developing at home, having been discharged. These 4 cases were immediately removed from the ward on the first signs of measles, thus 2 unprotected cases escaped infection. (*b*) One of these cases (Bed 2) developed measles as a tertiary case; the other, who had been discharged, was a sister of the child who developed measles at home, and she became infected at home. When the 4 secondary cases and 1 tertiary case were removed the ward was filled up with new patients who all had a history of previous measles.

Second case.—Bed 2: The patient, admitted on Feb. 18th, 1913, on the fourth day of scarlet fever, developed measles on the third day after admission to the ward. She was removed from the ward at once. There were 11 other patients in the ward at the time, 6 being protected and 5 unprotected. Two secondary cases arose in Beds 3 and 9.

7. *Chicken-pox.*—Twenty-four cases were treated in the ward. Eighteen cases were introduced into the ward in various stages of the disease, while 6 cases which were infected were left in the ward. Eight secondary cases arose, 6 developing in the ward and being left there, and 2 cases developing in cubicles to which the patients had been removed. Of the 18 cases introduced into the ward the following shows the stage in which introduced:—Three cases on the first day; fresh lesions after admission to ward. Two cases on the second day; fresh lesions after admission to ward. Four cases on the third day; 3 cases had vesicles on day of admission, but none after admission to the ward. One case had a fresh crop on day after admission to the ward. Four cases on the fourth day; 3 in pustular and scabbing stage, and 1 with fresh crop of vesicles on the fourth day. Two cases on the fifth day; in pustular and scabbing stage. Two cases on the sixth day; in scabbing stage. One case on the seventh day; in scabbing stage. In addition the 6 cases infected were left in the ward.

First case.—Bed 7: Second day of chicken-pox eruption; fresh crops in ward. Nine other cases in ward, 2 protected, 7 unprotected. No special nursing. No secondary cases.

Second case.—Bed 6: First day; fresh crops in ward. 8 other cases in ward. Three protected, 5 unprotected in ward. No special nursing. No secondary cases.

Third case.—Bed 6: First day; fresh crops till fourth day. Eleven other cases in the ward; 4 protected, 7 unprotected. No special nursing. Infected two patients—viz., the occupants of Beds 8 and 9. These were left in the ward, and another patient unprotected was admitted to Bed 12, making 6 protected cases and 6 unprotected cases. Special nursing was adopted with these secondary cases. These secondary cases infected 3 cases—the occupants of Beds 4 and 12 (left in ward) and the occupant of Bed 1, not in ward when chicken-pox developed. These 2 cases, special nursing, left 3 unprotected cases, who escaped.

Fourth case.—Not introduced until 6 months after 3 last infections, then on Oct. 9th, 1912. Bed 1: First day; fresh crops in ward. Ten other cases in the ward; 5 protected, 5 unprotected. Special nursing. No secondary cases.

Fifth case.—Bed 1: Seventh day; scabbing. Ten other cases in the ward; 3 protected, 7 unprotected. Special nursing. No secondary cases.

Sixth case.—Bed 1: Nov. 26th, second day; fresh crop next day. Special nursing. Eleven other cases in the ward; 6 protected, 5 unprotected. Infected occupant of Bed 12 (chicken-pox, Dec. 14th); left in ward. Special nursing. Among 6 protected, 4 unprotected. Infected occupant of Bed 7 (chicken-pox, Dec. 30th); left in ward. Special nursing. Leaving 7 protected, 3 unprotected. Infected occupant of Bed 5, who developed chicken-pox in Ward 7 (a cubicle ward), to which he had been removed.

Seventh case: Bed 1: Fifth day; pustules and scabs.

Special nursing. Inadvertently the skin was oiled by sister. Eleven other cases in the ward; 2 protected, 9 unprotected. No secondary cases.

Eighth case.—Bed 1: Fifth day; pustules and scabs. Eleven other cases in the ward; 7 protected, 4 unprotected. Special nursing. No secondary cases.

Ninth case.—Bed 1: Sixth day; pustules and scabs. Ten other cases in the ward; 1 protected, 9 unprotected. Special nursing. No secondary cases.

Tenth case.—Bed 1: Sixth day; pustules and scabs. Ten other cases in the ward; 2 protected, 8 unprotected. Special nursing. No secondary cases.

Eleventh case.—Bed 1: Fourth day; pustules and scabs. Ten other cases in the ward; 7 protected, 3 unprotected. Special nursing. No secondary cases.

Twelfth case.—Bed 1: Fourth day; pustules and scabs. Six other cases in the ward; 3 protected, 3 unprotected. Special nursing. No secondary cases.

Thirteenth case.—Bed 1: Fourth day; fresh vesicles, but not in ward. Eleven other cases in the ward; 5 protected, 3 doubtful, 3 unprotected. No special nursing. No infection.

Fourteenth case.—Bed 1: Fourth day; pustules and scabs Three other cases in the ward; 1 protected, 2 unprotected. No special nursing. No infection.

Fifteenth case.—Bed 1: Fourth day; vesicles and pustules profuse. No fresh lesions in ward. Ten other cases in the ward; 4 protected, 6 unprotected. No special nursing. No infection.

Sixteenth case.—Bed 1: Third day; vesicles and pustules. No fresh lesions in ward. Seven other cases in the ward; 4 protected, 3 unprotected. No special nursing. No infection.

Seventeenth case.—Bed 1: Third day; vesicles; fresh vesicles next day. Eleven other cases in the ward; 3 protected; 8 unprotected. No special nursing. No infection.

Eighteenth case.—Bed 1: Third day; vesicles and pustules profuse. No fresh lesions in ward. Eleven other cases in the ward; 4 protected, 7 unprotected. No special nursing. No infection.

"Special nursing" means that the senior nurse on day or night duty was detailed off to look after the chicken-pox case, and was not allowed to touch any other patient except protected ones, and no other nurse was allowed to touch the chicken-pox patient or anything connected with him. At first we admitted chicken-pox patients to the ward in the earliest obtainable stage of the disease, and although the resultant cross infections were less than one would have anticipated in an ordinary ward we felt afterwards that it was unsatisfactory to admit chicken-pox in its earliest stages. However, from observations made by us before the opening of the ward we had thought that chicken-pox did not remain infectious so long as was generally supposed. Therefore, as will be noted in the list of cases, we commenced later on admitting chicken-pox at a more advanced stage of the eruption, with the intention of working backwards in order to find the earliest period of the disease at which we could place it safely in the ward. No cross infection occurred, although the last three cases of the series were admitted to the ward as early as the third day of the eruption, and in these no special nursing was employed.

We strongly protest against any deductions being drawn from lists of different infectious diseases treated in the same ward unless the days of disease upon admission to the ward and the ages of the patients are clearly stated, and, when it can be verified, the number of protected and unprotected individuals.

As the result of our experience we feel we can assert that we could treat these infectious diseases in one ward, almost certainly, with perfect safety were we to select the day of the disease on which to admit them. We are in some doubt as to the conclusions to be deduced from our experience, but we feel satisfied that the treatment of the above diseases is more satisfactorily carried out in this class of ward than in a cubicle ward—that is, rooms with incomplete partitions between the patients. It is open to perfect supervision by the sister and senior night nurse, everything that is done can be seen by the staff, and patients frequently comment on the routine. For the treatment of diseases when they are not conveyed by air such a ward as ours is also possibly better than box wards (rooms with complete partitions). It must not be lost sight of that the ward is a thoroughly well-ventilated one, and ample space is allowed for the patient. We have no experience of ill-ventilated or overcrowded wards, and consequently our chief deductions do not refer to any other conditions than those obtaining in our own particular ward.

We think our evidence in the case of scarlet fever goes somewhat strongly to show that the infection is probably not air-borne. The evidence as to whooping-cough is less definite and we are in some doubt as to whether it may be occasionally air-borne or not. It is to be noted that the whooping-cough infections occurred in summer, when the ventilation was even more free than in winter. We think it fair to assume that the infection was not carried by the staff, at least not in each instance, for had negligence been occurring cross infection of scarlet fever most probably would have arisen also.

From our experience in this and other wards we believe that the infection of measles is probably air-borne early in the disease, but that the power of infection soon passes. We are inclined to think that the infection of chicken-pox is air-borne early in the disease, but our experience goes to suggest that on and after the third day it is probably not air-borne; in our view this probability is the most interesting outcome of the work. For many years we have held that diphtheria infection is *not air-borne*. No cross infections arose from German measles or from mumps, but the small number of cases treated scarcely warrant any definite conclusion. On the whole, however, from this and previous experience in other wards, we tend to the view that they are probably not air-borne.

In conclusion, we wish to say deliberately that we would rather place a child of our own into this ward, as it is conducted, than into any other ward in the hospital.

THE EXPERIMENTAL PRODUCTION OF PURPURA IN ANIMALS

BY THE INTRODUCTION OF ANTI-BLOOD-PLATE SERA.

A PRELIMINARY COMMUNICATION.

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DURING the past few years a considerable amount of attention has been directed to the part played by the blood platelets in the process of blood coagulation and to the significance of abnormal blood-plate counts in those clinical conditions which have been grouped under the general heading of the Hæmorrhagic Diathesis. Opinion has been growing steadily that the function of the blood plates in maintaining the normal coagulability of the blood by supplying an indispensable thrombogenetic element may be an all-important one, and that any derangement of that function, as manifested, for instance, by a much reduced plate content, is liable to be associated with purpuric lesions, delayed blood clotting, and the like. The experiments recorded in this note carry the matter to a further stage, inasmuch as they demonstrate the possibility of reproducing at will the purpuric condition in animals, and consequently afford a ready means for the obtaining of suitable material for further studies connected with the etiology and therapeutics of the condition.

Experimental Data.

In the course of some work, the primary object of which was to determine whether phagocyted blood plates might simulate certain forms of cell inclusions, an anti-blood-plate serum was prepared. Blood plates were obtained by the usual method of fractional centrifugalisation of citrated human blood, and almost completely freed from admixture with red cells. The deposit of plates was finally washed in physiological saline and inoculated intravenously into rabbits in a series of successive doses. The serum of the immunised rabbits was found to contain agglutinins for human blood plates and also for human red cells, as Cole (1908) had previously shown. In the presence of this antiplate serum phagocytosis of blood plates took place, but the serum did not appear to be very powerful in this direction, and it was felt that another system might be employed with advantage.

The difficulty of obtaining a sufficient amount of fresh human blood from which to isolate blood plates in any quantity rendered it impossible to effect an intensive immunisation of the animals. Resort was therefore had to guinea-pig blood plates. By a fortunate circumstance guinea-pig blood could be obtained in large quantities, as over 100 animals are killed in the Institute every week for another purpose (viz., the routine testing of milk for tubercle bacilli). The blood obtained from 20–30 guinea-pigs (160–250 c.c.) was received into 2-3 times its volume of 1 per cent. sodium citrate in physiological saline. The whole mass was centrifuged for a period just sufficient to throw down the red cells and leave a cloudy supernatant fluid. This upper fluid, which contained the blood plates with a slight admixture of red cells, was then removed and centrifuged completely, yielding a white deposit. The latter was then freed from red cells as completely as possible by fractional centrifugalisation and used for the immunisation of rabbits.

It may be noted that from 20-30 guinea-pigs a yield of about 0·5-1 c.c. volume of white blood-plate deposit was usually obtained. At each inoculation the rabbit received either the half or the whole of this amount in saline suspension. Seven to eight injections were given intravenously at intervals of 6-8 days. The animals bore the injections well.

Action in vitro of the Antiplate Serum.

Guinea-pig blood plates were almost instantaneously agglutinated by the antiplate serum in high concentration, and definite agglutination was observed in a 1 in 128 dilution of the serum. Guinea-pig red cells in saline emulsion were also intensely agglutinated by the antiplate serum, and definite agglutination occurred in a 1 in 2048 dilution of the serum.

It has to be observed that, in testing agglutination of red cells, blood plates are always present in the emulsion, and it has still to be determined how far the intense agglutination of red cells is due primarily to agglutination of the blood plates with subsequent mechanical entanglement of the red cells. Whether the action on the red cells is primary or secondary may be a point of great importance when we come to consider the action of the antiplate serum *in vivo*. In a hæmolytic system, each tube of which contained 0·5 c.c. amboceptor dilution (inactivated antiplate serum), 0·5 c.c. complement (guinea-pig serum 1 in 10), and 0·5 c.c. guinea-pig red cells (2 per cent. suspension), immediate agglutination of the red cells occurred in the higher dilutions of the amboceptor, and thereafter lysis of the agglutinated cake of red cells proceeded slowly. Complete lysis of the cake did not occur in any tube, but grades of partial lysis occurred after standing 24 hours in tubes containing amboceptor in dilution of 1 in 128. The effect was in marked contrast to that obtained by an ordinary anti-guinea-pig red cell serum, which gave complete lysis in the higher dilutions of amboceptor without obvious antecedent agglutination.

Toxic Action of the Antiplate Serum.

The action of this serum *in vitro* was so striking that it was determined to test whether any toxic effects occurred *in vivo*.

Intravenous inoculation of the serum.—A guinea-pig of 300 grm. weight was given 1·5 c.c. serum in the jugular vein. It recovered easily from the slight operation and appeared quite active for a time. At the end of an hour and a half, however, the animal was found collapsed and death took place. Post mortem some free blood was found in the peritoneal cavity and on the surface of the liver. The blood had a reddish-brown tinge and was somewhat grumous. Blood from the heart emerged as a purplish granular fluid, and it was readily demonstrated that the red cells were completely agglutinated. This blood clotted quite normally, but the clot showed little tendency to retract.

Intraperitoneal inoculation of the serum.—A guinea-pig of 500 grm. weight received 1 c.c. of antiplate serum intraperitoneally on May 8th. About an hour after the injection the animal became sluggish and did not move readily on excitation. On the following morning (May 9th) it had quite recovered and it remained well on the 10th, but on the 11th it was found dead. Numerous subcutaneous hæmorrhages were found in the abdominal wall. The peritoneum contained free blood, and there were extensive hæmorrhages in both tunicæ vaginales. The blood from the heart had a purplish granular appearance as in the previous animal.

Subcutaneous inoculation of the antiplate serum—This method, which yields the most striking results, has been employed repeatedly, and the picture obtained is almost invariably the same. A subcutaneous inoculation in the groin of 1 c.c. o the serum gives rise on the following day to a hard subcutaneous swelling extending to the centre o the abdomen. On the next day the swelling has extended to the lower part of the sternum, and o the third day to the neck. As a rule the subcutaneous swelling becomes softer as the disease progresses. Purpuric spots have been noted on th external skin after parting the hair in whit animals. The animals usually die on the third o fourth day. Post mortem one finds an extensiv hæmorrhagic infiltrate over the front of the abdominal wall. Numerous petechiæ are present i other remote parts—viz., on the under surface o the skin, the lungs, diaphragm, epicardium, an intestinal serosa. In one animal, which receive the dose of serum subcutaneously in the dorsa region, the skin on reflexion was found to presen an enormous number of hæmorrhages of all sizes simulating exactly the purpuric condition, and internally an enormous hæmorrhage was found in the mesentery of each Fallopian tube. The lymph glands in these animals have a bright red appearance and are consequently striking objects, while the spleen shows some enlargement and turgidity. The adrenals are quite pale, and the liver has a yellowish colour. The blood in the heart, if examined immediately after death, always presents a pale granular appearance, which is due to complete agglutination of the red cells.

Another interesting feature which these subcutaneously inoculated animals show is a form of cataract (double). This condition has been noted a few hours before death, and in animals which have died during the night the condition has been almost invariably observed post mortem. The isolated lens in these cases shows what might be described as a cup-shaped peripheral opacity, but at present a full description of this interesting condition must be withheld, as it is still the subject of study.

Systematic blood counts have not yet been made in the course of the disease, but isolated observations reveal a progressive fall of the red cells, counts as low as a million and a half being recorded. Numerous nucleated red cells also appear, and large swollen megalocytes. It is proposed to study fully the changes in all the cellular elements. The pathological histology of the organs, and particularly of the hæmopoietic system, promises to be of great interest, but so far it has only been touched. Examination of the red lymph glands on stained films shows numerous free red corpuscles generally collected in clumps and numerous micro- and macrophages stuffed with ingested red cells. Similar cells are seen in the spleen and also in the material from the local hæmorrhagic infiltrates. It is therefore clear that the red corpuscles which are agglutinated by the antiplate serum, either *primarily*, or secondarily through the mediation of the agglutinated plates, are removed by the lymph channels from the extravasation areas to the lymph glands, where they are further broken down.

The actual mechanism of the hæmorrhage may, it is hoped, find solution with further study of the lesion in all its stages. The agglutination of the red cells has constantly been observed in specimens of blood obtained by pricking the ear of animals during the second, third, and fourth days of the disease. The blood on emerging from the ear has a granular appearance, and when placed on a slide and gently agitated settles out into large red flakes. Clotting is delayed, and there is *little* tendency for the clot to retract. In several cases during the later stages of the disease it has been found extremely difficult to stop the oozing from the small puncture in the ear vein. A study of the coagulation time of the blood at all stages is being undertaken.

General Discussion.

The fact that a condition resembling purpura hæmorrhagica and presenting other features associated with the hæmorrhagic diathesis can be produced in animals by inoculation with an antiplate serum adds a further link in the chain of evidence connecting the blood plates with the phenomenon of blood coagulation, and with some of the derangements of that mechanism as manifested in the various types of the hæmorrhagic diathesis. A full discussion of the important rôle played by the blood platelets in the process of blood coagulation will be found in the careful experimental study of this subject by Bordet and Delange (1912). The properties of antiplate sera have been studied mainly from the serological point of view by various authors—Marino (1905), Cole (1908), Chevrel and Roger (1907), Le Sourd and Pagniez (1908), Sacerdotti (1908), Stschastnyi (1909), and others. Much of their work has been undertaken with the view of establishing the specificity of these sera for blood plates, and the matter cannot yet be considered as settled. In this connexion it may be observed that an absolutely pure antigen cannot perhaps be obtained, and consequently the demonstration of specific properties in the antiserum can rest only on a quantitative basis. Further research is needed on this aspect of the question.

With regard to the action of these sera in the body Le Sourd and Pagniez, who worked with antisera to rabbit platelets (immunisation of guinea-pigs with rabbit plates), found that intravenous injection of the sera into rabbits led to a disappearance of the blood plates from the circulation. This disappearance lasted for 24–36 hours, but ultimately the plates returned to normal proportions. During the phase of absent plates the blood clot showed no tendency to retract, but the retractility returned with the return of the plates.

It must be noted that a very transitory fall in the number of plates in the circulating blood can be produced by the injection of other antisera—e.g., ordinary hæmolytic sera—and even normal sera. According to Le Sourd and Pagniez, after injection of hæmolytic serum the plates returned in half an hour. It is further claimed by Achard and Aynaud (1908) that the injection into the blood of various colloidal substances, such as electrargol, egg albumin, egg lecithin, &c., may cause a temporary disappearance of the blood plates.

Le Sourd and Pagniez were unable to show that their antiplate sera had any appreciable toxic action; and Sacerdotti, who worked with antisera obtained by immunising rabbits with dog blood plates, found that the serum was not toxic for dogs except in large doses and in young animals. It is highly probable that the sera with which these authors worked were not strong enough to show toxic effects or to produce lesions at all similar to those described in this communication. The total amount of rabbit plates used by Le Sourd and Pagniez throughout the whole course of immunisation of the guinea-pig was only that derived from 250–400 c.c. of rabbit blood. However, one cannot generalise from an ascertained effect on guinea-pigs to a probable similar effect of a *powerful* antiplate serum on rabbits or dogs. This question must be left for further research.

Finally, mention should be made of the work which has been done on the variations in the plate content in various forms of purpura in man, and in this connexion I may refer to the work of Duke (1912), who made a study of the blood plates in 31 cases of hæmorrhagic disease. Of these cases, 17 had normal or slightly increased counts, while 14 had very low counts (below 65,000 per c.mm.). His general conclusion was that when the plate count descends below a level of 60,000 there may be an *abnormal* tendency to bleed (as measured by the time taken for the blood to stop flowing from a cut in the ear lobe); when the count descends below 10,000 this tendency is always present, and when below 1000 it is present in its most severe form. The observation of

Le Sourd and Pagniez, *that during the stage of absent plates the blood clot does not retract*, was confirmed by Duke in the human cases, and supports the original statement by Hayem that *blood freed from blood plates does not retract*.

Conclusion.—A condition resembling purpura and presenting other features of the hæmorrhagic diathesis can be produced in guinea-pigs by inoculation of an antiserum prepared by immunising rabbits with guinea-pig blood plates.

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TUBERCLE OF THE CRUS CEREBRI SIMULATING ENTERIC FEVER.

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THE diagnosis of enteric fever in its early stages is so difficult and such a constant source of anxiety both to the general practitioner and to those in charge of isolation hospitals, and the number of conditions which may be mistaken for it by competent observers is so numerous, that it should be worth while to record some particulars of a comparatively rare condition in which the earlier manifestations presented a clinical picture very difficult to distinguish from enteric fever.

This case, moreover, is one of a considerable number coming within the scope of my own recent experience which illustrate the danger of placing too implicit reliance on the Widal reaction in diagnosis. Without minimising its value when properly applied one is justified in pointing out that it is a method in which the personal equation is very considerable, and I have known more than one doubtful case in which discrepant results were recorded by different observers. I have also had charge of a number of cases in which a "positive" reaction was unassociated with any clinical evidence of the disease in its later stages. Not all of these were ambulatory cases, for several of them developed in other and quite definite directions. The simple process of taking a blood tube and examining it or sending it away to be examined must not be allowed to become an easy substitute for careful and accurate observations of the purely clinical aspect of the case, and I am inclined to the belief that a "positive" result should only be regarded as conclusive if it occurs in considerably higher dilutions than those with which many observers are satisfied.

CASE 1.—The patient a girl aged 20, was notified to me as suffering from enteric fever and admitted into the Wigan isolation hospital on May 8th, 1912. She was a well-nourished girl and worked in a cotton mill, but was somewhat anæmic when admitted. Her home conditions were bad, and she came from an insanitary house in an area from which several cases of enteric fever had recently been notified. There was a history of a week's illness with continued fever, constipation, distended abdomen, and foul tongue. An examination of the blood had given a "positive reaction," dilution not stated. Throughout her illness headache had been a marked feature. Her temperature on admission was 100° F., her pulse 80, regular and normal in volume and frequency. Her respirations, however, were 28 per minute, and continued throughout her illness to show a frequency out of proportion to that of the pulse, only occasionally dropping to 20, and never below that.

The abdomen was slightly distended, but not more so than might be expected in view of the constipation which was present. There were no spots. The splenic dulness was increased, but the spleen was not palpable. The tongue was uniformly covered with a light brownish fur, the teeth were defective, and the breath most offensive. A further blood examination showed that there was no clumping in dilutions above 1 in 40, and as it was found that the patient had been in the hospital a year previously with an undoubted attack of enteric fever the doubtful results of the blood test could be ignored. The bowels were evacuated by an enema, and the result was a well-formed normal-looking motion. She complained of intense persistent bilateral frontal headache, but had no other symptoms, and took a fairly liberal diet quite well. She had no cough, but there was a small area of slight dulness and increased vocal resonance immediately below the right clavicle. The urine was normal in quantity and quality.

On the day following admission the headache was much better, and this improvement was maintained, but the temperature fluctuated within a few decimal points of 100°, without definite morning remissions. On the afternoon of her fourth day in hospital the nurse noticed that the girl's left pupil was dilated, and two hours later, at 5 P.M., she had an epileptiform convulsion. This passed off after a few minutes, but left her with the pupil still dilated and homonymous diplopia which lasted for five hours and then disappeared. By the next morning her temperature had fallen to normal, she had no headache or diplopia, and felt very well, but the dilatation of the pupil persisted, and there was no reaction either to light or convergence. An examination of the fundus showed nothing abnormal. She remained in this condition for three days, with the temperature oscillating quite irregularly between normal and 100°, the pulse averaging 96, and respirations 24. But on the eighth day after admission the diplopia reappeared and persisted throughout the case. I found that on the left side the image was displaced downwards and to the right, there was complete loss of convergence, the other ocular movements were limited, and there was already slight proptosis. The temperature took on a definitely hectic type, with regular morning remissions, but not rising above 101°. Antisyphilitic remedies were freely tried, but without any effect.

On the sixteenth day after admission there was marked weakness of the right hand, with some tremor, and the headache returned. From this period the symptoms developed very rapidly. The right hand became completely paralysed, and the paresis gradually extended upwards to the forearm and arm, with characteristic tremors. Before paralysis was complete the arm if extended was dropped in a series of jerks. Oculo-motor paralysis on the opposite side became complete, with marked proptosis. The headache returned and persisted;

there was typical cerebral vomiting. Articulation and deglutition were affected by commencing hypoglossal paralysis, and the mental condition became dull, threatening complete dementia. The temperature continued to be hectic in type, its range increasing up to 102°. By this time the picture of Benedikt's syndome was complete, and the diagnosis of a tumour of the left crus cerebri was established. On July 16th the patient was removed to the Royal Albert Edward Infirmary, Wigan, and on the 18th chloroform was administered, and Mr. E. H. Monks trephined over the left temporal bone. In view of the hectic temperature the brain was deeply explored for pus, but none was found. For several days after the operation the headache was relieved and the mental condition improved. Vision was found to be 8/12 in the affected eye, and the disc remained normal. By the beginning of August, however, her mental condition again became duller, and a hernia cerebri began to develop. Trophic changes became marked, and there was loss of vitality of the soft tissues. She finally became comatose, and died in this condition on Sept. 9th.

On post-mortem examination I found a small yellowish nodule on the surface of the cerebellum. The whole of the left crus was replaced by a hard mass with ill-defined limits, and five small masses similar to that in the cerebellum were found in the cortex cerebri. These tumours, which were about the size of lentils, were distributed on both hemispheres, they were clearly defined, and could be easily enucleated from the surrounding tissues. On microscopic examination the whole of these masses were found to be tuberculous, and numerous tubercle bacilli were demonstrated in the sections. There was a small tuberculous lesion in the apex of the right lung. This was caseous in the centre and surrounded by dense cicatricial tissue. The other organs were healthy.

CASE 2.—An interesting sequel to the above case is provided by the fact that a sister of the patient was recently notified to me as a case of enteric fever, and admitted into the isolation hospital with a positive Widal reaction in dilutions up to 1 in 60. This second girl presented nearly all the symptoms that one habitually associates with enteric fever, although no spots were apparent on the skin; and a characteristic of the genuine cases of this disease occurring locally at this period was an unusually exuberant eruption of spots. On the other hand, her abdomen was distended and tympanitic to an extent that made any attempt at deep palpation inadvisable, and she had diarrhœa with stools of a character consistent with the diagnosis. My own attempts to isolate any bacillus of the typhoid group proved negative. The temperature chart for six days after admission to hospital was quite typical of enteric fever, and the case was entered on my books as one in which the diagnosis was confirmed. Then came a sudden, a dramatic, drop in the temperature, which remained normal for several days, while the girl improved in health, appetite returned, and all "typhoid" symptoms vanished. As the meteorism disappeared it became possible to examine the abdomen more accurately, when it was at once found that the whole of the lower part of the cavity was filled with a doughy tumour, dull on percussion, and displacing the intestines upwards. Von Pirquet's test gave a negative result, but an injection of tuberculin was followed by a marked general reaction, and the temperature assumed the character known as "typus inversus," marked by a morning rise to between 99° and 100° F., with evening remissions to normal or subnormal. This girl has no symptoms or signs at present of any pulmonary mischief, but I think there can be no reasonable doubt that she is the subject of abdominal tuberculosis in an advanced degree.

The history of these two cases appears to me to be worth recording inasmuch as they illustrate the difficulties with which competent observers are still beset in attempting the early diagnosis of enteric fever, the admirable imitation of enteric symptoms which the tubercle bacillus, operating in very different parts of the organism, can accomplish, and the danger involved in too implicit a reliance on the Widal test in moderate dilutions. I have to express my thanks for much help in connexion with the first case to Dr. F. Rees, honorary physician, Mr. Monks, honorary surgeon, and Dr. J. Oag, late house surgeon to the Wigan Royal Infirmary.

Note.—Since writing the above the diagnosis of abdominal tuberculosis in the second case has been confirmed by laparotomy.

Wigan.

THE WASSERMANN REACTION IN MALARIA.

BY WILLIAM FLETCHER, M.D. CANTAB.,
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IT has been stated by many observers that the presence of malaria parasites in the blood gives rise to a positive Wassermann reaction. Meier and Bonfiglio[1] in Italy found that malarial patients gave the reaction as long as they had malarial parasites in the blood. Boehm[2] examined 46 cases and obtained a positive result in 16. De Haan[3] in Java examined 163 cases, of which 63 were positive. At the annual meeting of the British Medical Association held in 1910, Professor Wassermann gave as his opinion that "one should employ the reaction with people who have been in the tropics and contracted malaria, only when one is convinced, by their history, that they have had no malarial attack during the last quarter of a year."

In the majority of the cases which are examined here, in the Federated Malay States, it is impossible to make sure that the patients have been free from malaria for a period of three months. This investigation has been undertaken, therefore, in order to determine to what extent malarial infections influence the results of the Wassermann reaction as practised in this institute. With this object 50 cases of malaria have been examined; 20 of these were subtertian, 17 simple tertian, and 13 quartan. In every case malarial parasites were present in the blood at the time it was collected. All the 20 subtertian cases gave negative results except three. One of these three had a scar on his penis due to a chancre from which he had suffered six years before. The other two subjects who gave a positive reaction were not examined for syphilis when their blood was taken and they left the hospital on the following day before their cases were investigated. All the 17 simple tertian cases were negative except one, who had suffered from syphilis three years before. All the

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[1] Brit. Med. Jour., 1910, vol. ii., p. 1429.
[2] Centralblatt, Band xliii., p. 651.
[3] Archiv für Schiffs- und Tropen-Hygiene, Band xvii., p. 693.

13 quartan cases were negative except one patient, who was covered with scars due to an attack of syphilis seven years before. In short, all the 50 patients with malarial parasites present in the blood gave a negative Wassermann reaction except five, and in all of these five cases which could be investigated there was clear proof of a former attack of syphilis. In the examination of these malarial sera seven cases of active syphilis were employed as controls, four of them were in the secondary and three in the tertiary stage of the disease. Each of them gave a well-marked positive reaction. All the patients were Asiatics; 29 of them were Chinese, 18 were Tamils, 2 were Sikhs, and 1 was a Malayalum.

As it was considered possible that the intensity of the infection might influence the reaction, in each case a rough estimate was made of the number of parasites by counting the fields examined and the number of parasites seen. In ten of the cases there was an average of two or more parasites in each field. In four instances the average was more than nine. On the other hand, cases were also examined in which there was only a small infection: in one as many as 159 fields were searched before a parasite was encountered. It was found, however, that the presence of malarial parasites, whether in small or large numbers, did not cause a positive reaction.

In all the foregoing cases the serum was inactivated by being heated for 30 minutes at a temperature of 55° C. before the Wassermann test was carried out. But in 20 of them, before the serum was inactivated, it was divided into two portions, one of which was tested while fresh and active, while the other portion was heated before being used. With the heated serum the reaction was negative in all the 20 cases except one who was syphilitic. With the fresh serum, on the other hand, there was a weak positive reaction in 4 cases (two to four doses of complement deviated) and a doubtful reaction in 3 (incomplete lysis); the syphilitic case was, of course, positive. It is evident, therefore, that the results, when the serum is fresh, are different from those obtained when it has been inactivated by heat. No doubt the use of fresh serum has been responsible for some of the positive results which various observers have obtained in cases of malaria; but probably the chief cause of confusion lies in the loose way in which the term "Wassermann reaction" is now employed. It is used not only to denote the test as originally carried out by its author, but is also applied to the very numerous modifications which have arisen. This confusion would be obviated to a great extent if serologists would give details of the technique which they have employed.

The method employed here was that of Browning, Cruickshank, and McKenzie, the distinguishing feature of which is the use of two antigenic extracts: one of ox-liver lecithin, and another consisting of a mixture of lecithin and cholesterin. The authors of this modification found that, in the ordinary methods of carrying out the test, a normal serum in the presence of an emulsion of organ extract may absorb more complement than the sum of the amounts absorbed by the serum and the emulsion separately, so that in such cases the reaction is apparently positive. They overcame this difficulty by the employment of the two antigens mentioned above, and they found that "if a serum absorbs more complement in the presence of lecithin plus cholesterin than it absorbs in the presence of lecithin alone, then this is evidence of its syphilitic nature."[4]

Browning, Cruickshank, and McKenzie employed an anti-ox-hæmolytic system. The use of this system entails the previous saturation of the guinea-pig serum with ox corpuscles and centrifugalisation at 0° C. in order to remove the natural amboceptor which may be present. In order to obviate this difficulty the hæmolytic system employed here was that in which human corpuscles are sensitised with the homologous immune serum from the rabbit.

Conclusion.—The presence of malarial parasites in the blood does not cause the serum to give a positive Wassermann reaction when the method of Browning, Cruickshank, and McKenzie is employed.

Kuala Lumpur.

ON THE EFFECT OF GASTRIC AND PANCREATIC FERMENTS ON THE POTENCY OF TINCTURE OF DIGITALIS.

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AND
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(*From the Physiological Laboratory, Surgeons' Hall, Edinburgh.*)

FEW drugs are subjected to so much criticism as the tincture of digitalis. This is doubtless due to two reasons. In the first place samples vary in their potency, and unless they have been subjected to physiological tests the variation is first manifested when the drug is administered to a patient. In the second place samples of digitalis cannot be relied upon to retain their full potency longer than one year.

It has occurred to us that another possible factor in bringing about uncertainty of action might be the effect of the digestive juices. We therefore undertook the following investigations. The minimum lethal dose of samples of tincture of digitalis to frogs was ascertained. Each sample was then kept in contact with a digestive ferment at body temperature for six hours and the minimum lethal dose was again determined.

Experiments with Pepsin.

Six samples were tested. 10 c.c. of a tincture whose minimum lethal dose had been determined were incubated at 37° C. for six hours along with about 5 gr. of pepsin (Duncan Flockhart and Co.) and 1 c.c. of hydrochloric acid 0·2 per cent. At the same time a piece of fibrin which had been coloured with carmine and well washed was placed in connexion with pepsin and acid in similar dilution in order to have check observations on the activity of the ferment. After six hours it was found that the tinctures had lost bulk owing to the evaporation of spirit. The bulk was made up to 20 c.c. with water and the minimum lethal dose was again tested. This dilution was of course allowed for in making the experiments. Of 6 samples tested it was found that 4 retained their full potency. In

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[4] Recent Methods in the Diagnosis and Treatment of Syphilis, Browning and McKenzie, p. 37.

2 cases there was a loss of potency which did not exceed 30 per cent. The loss may have been less, but finer graduations were not investigated.

Experiments with "Pancreatin."

Six samples were tested in the same way. 10 c.c. of the tincture was put up with 5 gr. of "pancreatin" (D.F. and Co.) and 1 c.c. of sodium carbonate 1 per cent. This was a much more powerful ferment than the pepsin, as the fibrin was always completely digested at the end of six hours. Of the 6 samples tested it was found that 2 retained their full potency, 2 had lost potency to an extent not exceeding 30 per cent., and 2 had lost potency to an extent not exceeding 50 per cent.

It is thus apparent that the effect of pepsin in large quantity on the tincture of digitalis is comparatively slight. The effect of the pancreatic trypsin may be considerable, but it is doubtful whether tincture of digitalis given by the mouth ever comes much in contact with it. It may be concluded that as tincture of digitalis is never likely to be subjected to such a severe digestive ordeal under the conditions in which it is administered therapeutically there is little likelihood of any loss of potency before it is absorbed.

Protocols of Experiments.

Pepsin.

Samples.	Weight of frog in grammes.	Minimum lethal dose in minims.	Dose given.	Result in 3½ hrs.
1	30	4·5	4½	Alive.
	32	4·8	5	,,
	13	1·9	2½	Dead.
	12	1·8	2½	,,
		(Weakened not more than 30 per cent.)		
2	25	3·7	3½	Alive.
	26	3·8	3½	Dead.
	40	6·0	6	,,
		(Not weakened.)		
3	20	3·0	3	Dead.
	25	3·7	3½	,,
		(Not weakened.)		
4	28	4·2	4½	Alive.
	17	2·5	2½	Dead.
		(Not weakened.)		
5	24	3·6	3½	Alive.
	26	3·9	5	Dead.
		(Weakened not more than 30 per cent.)		
6	23	3·4	3½	Dead.
	17	2·5	2½	,,
		(Not weakened.)		
		Pancreatin.		
1	20	3·0	3	Alive.
	30	4·5	6	,,
	32	4·5	7	Dead.
		(Weakened not more than 50 per cent.)		
2	27	4·0	4	Alive.
	28	4·2	5½	,,
	33	5·0	7½	Dead.
		(Weakened not more than 50 per cent.)		
3	13	[illegible]	2	Dead.
	18	2·7	2¾	,,
	20	3·0	3	,,
		(Not weakened.)		
4	[illegible]	4·2	[illegible]	Alive.
	19	[illegible]	[illegible]	Dead.
	17	2·5	[illegible]	,,
		(Weakened not more than 30 per cent.)		
5	[illegible]	[illegible]	[illegible]	Alive.
	[illegible]	[illegible]	[illegible]	,,
	[illegible]	[illegible]	[illegible]	Dead.
		(Weakened not more than 30 per cent.)		
6	[illegible]	[illegible]	[illegible]	Dead.
	[illegible]	[illegible]	[illegible]	,,
		(Not weakened.)		

TRAUMATIC EXFOLIATIVE KERATITIS.

By PHILIP A. HARRY, M.D. Edin., D.P.H. Edin.,

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Traumatic exfoliative keratitis is a comparatively rare condition, met with chiefly in adult males and characterised by severe neuralgic pains, lacrymation, photophobia, and a tendency to periodical relapses. A history of traumatism is invariably present, and the patient is always able to give the exact date; as a rule the injury is trifling and apparently insignificant, and but for his certainty that the whole trouble commenced at the time stated one would be inclined to belittle or ignore altogether the history of injury. During the past 12 months six cases have come under my observation; in this series the traumatisms have been produced by such trivial things as a child's finger-nail, the sharp end of a piece of straw, the edge of a lady's hat, a projecting hatpin, the point of a dried leaf, and a crust of bread. The patients were all seen in private, and were found to be thin, poorly nourished, and neurotic or arthritic in type.

The symptoms are definite and clearly stated: one morning when the patient awakes, simultaneously with the opening of his eyes, he experiences a sharp stab, as if a needle had been pushed through the eye. Touching or rubbing the eye or any subsequent attempt to separate the lids causes a repetition of the same pain. Relief is only obtained when he buries his head face downwards in the pillow or makes firm pressure on the globe with his fingers. The eyeball is red and vision slightly defective; with or without treatment the attack lessens in severity, and the eye returns apparently to normal in a few days. In four to six weeks, just as the patient is about to forget the previous attack, a recurrence takes place; it is usually a complete surprise to him, there is no warning, nor can he remember any indiscretion on the previous night to account for it. The second and third attacks are never as severe as the first; subsequent ones may, however, be quite as bad as the second or third. Relapses take place with more or less regularity every four to six weeks. The following case sent up by Dr. L. Kilroe, of Sudden, is typical of the series.

A man, aged 30, came complaining of periodical neuralgic pains in the right eye. Three years ago he was struck in that eye by a crust of bread; the blow was aimed from the right side. He suffered little or no pain at the time, but since then at intervals of about six weeks he has had relapses of the character above mentioned. He has been treated by his medical man with fomentations, protargol drops, lotions, &c. The severity of the attacks has diminished.

Examination during an attack shows a very sensitive eye, the patient is nervous, irritable, resents any interference, and a thorough inspection is exceedingly difficult. He gets some relief if the upper lid is kept off the globe, but as soon as the tears evaporate the epithelium dries and the pain returns. There is rarely any general headache; there may be pain on pressure over the supraorbital as its emerges from its foramen; as a rule the painful symptoms are entirely confined to the eye. Photophobia and lacrymation are marked, ciliary congestion is present, tension is normal or slightly *minus*. If the patient can make any attempt to read the test types it is found that his vision is considerably reduced. Examination of the cornea with the binocular loupe or the corneal microscope shows an intact surface with a milky appearance at one spot. Staining with fluorescin produces a negative result. With the ophthalmoscope the milky area is recognised as an irregular shadow with diminished transparency.

Examination during an interval of attacks shows a clear cornea, and occasionally a small yet definite depression at the seat of injury; this is difficult to demonstrate and is only noticeable in certain positions of the light. There is always some ciliary congestion in that part of the limbus nearest the depression. In no case was vesical formation noticed, either during or after an attack; the only corneal defects are the milky opacity during, and the minute depression or crack in the epithelium after, an attack. The sensitiveness of the cornea is not diminished.

In the condition under discussion the attachment of the epithelium to Bowman's membrane is exceedingly loose; if the upper layer of the cornea is touched with a cotton-tipped probe it slides from Bowman's membrane like a cloth off a well-polished table. The same thing is said to occur after death, but the examination of several corneæ in the post-mortem room has failed to confirm this statement. The epithelial layer crinkles or ruffles and comes away in patches, but there is no exfoliation. In the normal healthy individual it is not possible to separate the two superficial layers of the cornea. If an attempt is made to remove the epithelium it comes away only from the area that is being scraped.

In traumatic exfoliative keratitis the superficial layer separates with the greatest ease in the immediate vicinity of the original abrasion, and the separation can be continued up to about 3 mm. from the corneo-scleral junction. Beyond this point it is practically impossible to go, and if the attempt is made bleeding soon takes place. A similar condition occurs in old people after operations on the cornea; the exfoliation, however, extends only a short distance from the wound, and a definite keratitis develops sooner or later. The diagnosis must be made from several corneal diseases and dystrophies.

Herpes febrilis corneæ occurs in febrile diseases, especially influenza, pneumonia, measles, and is associated with an eruption of vesicles on the cornea. Herpes zoster corneæ is also associated with an eruption of vesicles, but is distinguished from the above by running a considerably severer course. Keratitis vesiculosa or bullosa occurs in blind diseased eyes.

In an article on this subject[1] Dr. J. A. Menzies (until recently honorary ophthalmic surgeon at the Rochdale General Infirmary) discusses the etiology and treatment and gives a list of references. The theory that gains the most supporters holds that the new epithelium formed after the abrasion is not firmly enough attached to the subjacent tissue, and so becomes detached easily; the inequalities of the corneal epithelium become interlocked with corresponding inequalities on the tarsal surface; when the eye is suddenly opened, especially after a prolonged sleep, the lid pulls on the corneal epithelium, raising it in the form of a blister and drags upon the nerve filaments so as to cause pain. This theory does not explain the spread of the exfoliation from the injured area almost to the limbus, nor the fact that such separation does not occur in xerotic conditions of the cornea. Several other theories are mentioned, such as the retention of a minute foreign body, transudation of lymph under the epithelium forming a traumatic keratitis bullosa.

A far more likely theory is the manufacture, at the site of the erosion, of a toxin, which although unable to penetrate Bowman's membrane can spread along its surface, producing exfoliation up to a certain point. The exfoliated layer, floated out on a slide and examined under the microscope, shows among other changes a granular degeneration of the intracellular spaces, most marked near the seat of injury. At the centre of this area the disintegration progresses to actual loss of substance; this corresponds to the depression that is produced in the middle of the milky looking area.

In all these cases the abrasion of the cornea was produced tangentially to the surface, and it is more than probable that under the flap thus formed organisms were introduced, and the quickly healing epithelium left them embedded. The toxins they produce give rise to the exfoliation, and the changes in the epithelial cells at this spot cause loss of lustre and transparency. When these changes have progressed for some time, as during sleep, the friction produced by opening the lids will ruffle the epithelium and cause the symptoms complained of. The successful treatment of the cases under observation has been based on this theory.

The treatment usually recommended consists of bandaging the affected or both eyes, the introduction of neutral fatty substances, and the instillation of cocaine or other drops. The relief obtained from this is only temporary. More permanent relief is obtained by touching the eroded spot with some form of caustic—for example, silver nitrate, carbolic acid, iodine, or formalin; but the results are not always certain. The same remark applies to the use of the curette before cauterising, while in more than one case opacities have been noticed after this method of treatment.

In my series of cases the following was the line of treatment carried out. The conjunctival sac is rendered anæsthetic and carefully douched with normal saline solution. By means of a Bowman's discission needle several oblique punctures are made into the anterior chamber at and around the seat of the trauma; on each occasion before withdrawing the needle it is turned at right angles on itself to allow the antibody-containing aqueous to escape slowly. As a rule the epithelium is raised from Bowman's membrane by the fluid. This, together with the use of weak peroxide of hydrogen lotion and 2 per cent. chloretone in parolene drops, is sufficient to produce a cure and prevent relapses.

Rochdale.

SIXTH INTERNATIONAL DENTAL CONGRESS.—As already announced in our issue of Feb. 14th, p. 505, in fuller detail, the Sixth International Dental Congress, the first ever held in this country, will take place at the University of London and the Imperial College of Science and Technology, South Kensington, from August 3rd to 8th, under the presidency of Mr. J. Howard Mummery. His Majesty the King is patron of the Congress, which will be attended by distinguished representatives of the dental profession from the leading countries of the world, and which is under the official recognition of the Governments of this and other countries. Application for membership should be made to the general secretaries, 19, Hanover-square, London, W., enclosing the amount of subscription, namely, 30s. for personal membership, and 15s. for any member of the family who may wish to attend as a visitor.

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[1] Ophthalmic Review, vol. xxi., December, 1902.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF LARYNGOLOGY.

Exhibition of Cases and Specimens.

A MEETING of this section was held on May 27th, Dr. D. R. PATERSON, the President, being in the chair.

Professor GUSTAV KILLIAN (Berlin) gave a demonstration of Suspension Laryngoscopy on Living Subjects.

The following were the exhibits :—

Mr. E. B. WAGGETT: Epithelioma of the maxillary antrum and hard palate three years after operation (microscopic specimen exhibited). Sarcoma originating in the floor of the right maxillary antrum two years after operation (specimens exhibited). Endothelioma of the nose three weeks after operation.—Dr. HILL described a case of carcinoma of the upper jaw which was undergoing treatment by radium at the present time; four emanation tubes were inserted into different parts of the growth and left *in situ* for 48 hours.—The PRESIDENT expressed the opinion that radium should not take the place of operative treatment in those cases suitable for operation.—Mr. WAGGETT said that radium was not tried in the case of endothelioma because it was found possible to remove the growth freely by means of the knife. He suggested that the pulsation in certain tumours was due to the manner in which the blood-supply entered the tumour through a constriction near its base.

Mr. HERBERT TILLEY: 1. Case of Laryngo-fissure for Epithelioma of the Vocal Cord nine years after operation.—Sir FELIX SEMON expressed his pleasure at seeing a case do so well without the severe operation of total removal of the larynx.——2. Specimen of Vascular Fibromata removed from larynx by the indirect method since the last meeting of the section. Mr. Tilley stated that the indirect method was not yet superseded by the direct.—Professor KILLIAN said that he still removed a large proportion of his laryngeal growths by the indirect method.—Sir FELIX SEMON thought the younger generation of laryngologists might practise the indirect method with profit; those cases which were most difficult to manage by the direct—e.g., those growths in the anterior commissure—were most easy by the indirect.—Sir STCLAIR THOMSON thought that both methods had their special indications.—Dr. DUNDAS GRANT said that with small children the suspension method with a general anæsthesia was ideal.——3. Case which illustrates the successful endonasal treatment of Unilateral Pansinusitis.—In connexion with this case Dr. GOLDSMITH (Canada) showed a specimen of Canadian Indian skull which showed absence or obliteration of both frontal sinuses.—With reference to Dr. Goldsmith's specimen, Dr. JAMES DONELAN suggested that he would like to know something of the history of the case which might suggest a reason for the absence of the sinuses.—Dr. GOLDSMITH said in reply that the case had died 500 years ago.——4. Two curettes for the removal of the anterior ethmoidal and "agger" cells. 5. A collection of Foreign Bodies removed from the Lower Air Passages and Œsophagus. 6. Skiagrams illustrating Foreign Bodies in the Bronchi and Malignant Strictures of Œsophagus.

Mr. E. D. DAVIS: 1. Specimens obtained from a case of Laryngo-fissure for Epithelioma of the Right Vocal Cord. 2. A case of Gummatous Ulceration of the Larynx. 3. A case of Gummatous Perichondritis. 4. A case of Advanced Laryngeal Tuberculosis treated by tracheotomy and curetting. Mr Davis stated that curettage was performed with the hope of leaving out the tracheotomy tube, but that this was not found possible.

Dr DAN MCKENZIE: 1. ? Malignant Disease of Larynx. Dr. McKenzie stated that since sending in notes of this case it had been proved to be tuberculous. 2. ? Tertiary Infiltration of the Larynx simulating Malignant Disease.—Dr. DUNDAS GRANT was of the opinion that the case was syphilitic.—Dr. MCKENZIE said that the pathological report was doubtful.——3 Piece of bone removed from a larynx by suspension laryngoscopy.

Mr. W. STUART-LOW: 1. Osteomyelitis of the Superior Maxillary Bone and Maxillary Antral Suppuration in a child aged 11 months at the time of operation.—Dr. A. BROWN KELLY thought that the infection probably originated in a dental sac and then infected the bone.——2. A girl, aged 5, from whose naso-pharynx a large Spindle-celled Sarcoma was removed six weeks ago.—Dr. DUNDAS GRANT recalled a number of such cases which were wrongly diagnosed as "adenoids."

Mr. W. M. MOLLISON: 1. Case of Carcinoma of Maxillary Antrum; operation and removal of glands.—The PRESIDENT congratulated Mr. Mollison upon the result, and the latter, in reply, mentioned that the operation was made easy by the administration of ether by the intratracheal method.——2. Hyperostosis of Superior Maxilla.

Dr. DONELAN: 1. Case of Paralysis of both Superior Laryngeal Nerves occurring in the course of disseminated sclerosis from lead poisoning. 2. Instruments for the submucous resection of the nasal septum.

Mr. WALTER G. HOWARTH: Carcinoma of Aryteno-epiglottic Fold and Pyriform Fossa removed by transthyroid pharyngotomy.

Mr. W. DOUGLAS HARMER: Chondro-sarcoma of Pharynx 12 days after diathermy.

Dr. DUNDAS GRANT: A case of ? Rhinoscleroma.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Jackson's Membrane and the Genito-mesenteric Fold of Peritoneum.—Intratracheal Insufflation of Ether.

A MEETING of this society was held on June 3rd, Dr. JOHN PLAYFAIR, the President, being in the chair.

Mr. DOUGLAS G. REID (Cambridge) read a paper on Jackson's Membrane and the Genito-mesenteric Fold of Peritoneum. In relation to C. H. Mayo's suggestion regarding the congenital origin of Jackson's membrane, he showed how the cæcum might actually come to lie in a pocket formed by the genito-mesenteric fold displaced to the right, off the line of the spermatic or ovarian vessels. This displacement was a result of pressure exerted upon the fold by the pelvic colon. He exhibited photographs of fœtuses and adults which showed clearly that strong and extensive pre-colic membranes, in relation to the cæcum, ascending, descending, and iliac colons, might be formed by appendices epiploicæ. These might constrict the bowel to a remarkable degree. The expansion of the narrow descending colon would be prevented or hampered. He considered the other ways in which pre-colic membranes might arise apart from pathological causes. The genito-mesenteric fold of peritoneum which he had described occurred in 55 per cent. of 20 fœtuses, 70 per cent. of 10 children at birth, and 33 per cent. of 18 adults. The fold was a track along which infection or inflammation might spread from the bowel (appendix, ileum, cæcum) to the ovary (or ovaries) and Fallopian tube or in the opposite direction. In this connexion it was noteworthy that appendicitis was quite common in children. He demonstrated close connexions between the bowel (ileum, appendix) and the right ovary and Fallopian tube by means of the fold. He showed how intestinal flexures might become acute during fœtal life by movements which approximate the limbs of the loops. It was important to distinguish between flexures of the bowel which were permanent and those which had no claim to be regarded as other than temporary. He showed how flexures of the ileum, appendix, and ascending colon might become permanent through adhesion of the bowel to the right surface of the genito-mesenteric fold. He demonstrated mechanical causes of peritoneal adhesions. Photographs were exhibited which showed clearly that the pelvic colon, through the pressure which it exerted on neighbouring parts, was an important cause of adhesions. It was capable of producing all the adhesions which the surgeon might encounter in the ileo-cæcal region. This action of the pelvic colon partly explained how the genito-mesenteric fold was not so common in the adult as in the fœtus and child at birth. The genito-mesenteric fold was another important cause of adhesions. Through anchoring, or indeed exerting traction upon the peritoneum it could even lower the root of the mesentery before the descent of the cæcum. The fold might cause abnormal downward displacements of the root of the mesentery, duodenum, cæcum, and ileum. "Cohesion" might be a better term than "adhesion." These "cohesions" formed ready-made barriers resisting the spread of inflammation. They were not due to pathological causes. The genito-mesenteric fold also explained retro-colic and other positions of the appendix, retro-colic abscess, &c. Photographs of various peritoneal folds and fossæ were shown. Development occurred during fœtal life of the hepato-colic (cysto-colic) ligament, and of adhesions involving the posterior surface of the stomach, great omentum, &c. The firm resistance of the relatively enormous liver of the fœtus must be taken into consideration in accounting for these adhesions. Other points were considered and were all illustrated with photographs of actual specimens, fœtal and adult. —In the discussion which followed Mr. C. W. CATHCART said that he was glad to know that many of the folds met with were anatomical and not pathological in nature. He was of opinion that adhesions could not be the only reason for the pathological changes which followed, and he thought that the action of peristalsis must be a great contributory cause. It was well-known that the intestines might be buried in adhesions and yet no obstruction was present. Unless there was a failure in peristalsis obstruction did not occur.—Mr. D. P. D. WILKIE said that the folds which Mr. Reid had demonstrated were often what they were in the habit of calling pathological. There were three kinds of folds: (1) parieto-colic folds of developmental origin; (2) folds which were obviously of inflammatory origin were undoubtedly found; and (3) folds which resulted from thickening of the peritoneum and mesentery with adhesions.—Dr. D. CHALMERS WATSON said that he felt somewhat sceptical as to whether many of these adhesions or folds were really anatomical or developmental in character.—Mr. A. SCOT SKIRVING asked if Mr. Reid considered the genito-mesenteric fold were entirely of developmental origin or not; and if so, why did it occur only in 33 per cent. of adults.—Mr. LEWIS BEESLY agreed with Mr. Reid as to the anatomical origin of these folds. They were found in living bodies but not in dead bodies. In a great many children and adults these folds were very commonly met with during operation, and yet it was rare to meet with them in the dissecting room. Did these structures change after death? In the living body one could easily lift up the ascending or descending colon with their peritoneal coats, but if one tried to do this in the dead body the peritoneum would tear. He asked whether the appendices epiploicæ were not merely the remains of the gastro-colic omentum.—Mr. REID, in reply, said that the genito-mesenteric fold was not always present. The reason why it was not so commonly met with in the adult as in the fœtus was because of the pressure exerted on the fold by the pelvic colon, so causing adhesion. Again, the mesentery might fuse down to the genito-mesenteric fold, and so might obliterate it. Adhesions were undoubtedly formed by pressure; whenever a sheet of peritoneum was rendered immovable adhesions tended to form.

Dr. H. TORRANCE THOMSON and Mr. J. W. STRUTHERS contributed a paper entitled "Note on the Intratracheal Insufflation of Ether." Intratracheal insufflation consisted in driving a current of air under pressure through a tube introduced by way of the mouth and larynx deeply into the trachea. The current of air returned between the tube and the wall of the trachea and escaped through the mouth and nose. The current was continuous. The work of Meltzer and Auer had demonstrated that this insufflation of air into the trachea under adequate pressure ventilated the pulmonary alveoli and enabled the normal diffusion of gases to be carried out for many hours, independently of all respiratory movements. If the air in its passage under pressure were made to pass through a chamber containing ether they were enabled to introduce into the pulmonary alveoli ether vapour of varying strength. The points to which attention might be directed were as follows. 1. In ordinary respiration air had to be brought from outside through the nose, pharynx, larynx, trachea, and bronchi; from this point respiration consisted in an interchange of gases between the tidal and alveolar air by a process of diffusion. In intratracheal insufflation air was brought down to the bifurcation of the trachea with a certain force which favoured diffusion of gases, the long intervening air-shaft which had been termed the "dead space" being thus cut out. The practical importance of this was that there could be no interference with the free passage of air between the entrance to the mouth or nose and the trachea, an interference which was so frequently responsible for respiratory difficulties during anæsthesia. In addition, an excellent means for performing artificial respiration was always available. In their own experience at Leith Hospital the apparatus was used successfully in a patient who had attempted suicide by drowning and in whom respiratory movements had ceased. Artificial respiration was kept up for several hours by this apparatus, after which ordinary respiratory movements were re-established. 2. In intratracheal insufflation there was during the entire period a continuous current of air blowing forcefully from the trachea through the larynx, pharynx, nose, and mouth. It had been demonstrated in the laboratory and in actual practice that during insufflation it was impossible for blood, mucus, or vomited matter to enter the larynx, obviously a point of great practical importance in many operations. 3. By the constant maintenance of sufficient positive pressure collapse of the lungs might be prevented or regulated at will when the thorax was opened. In virtue of this, and because the method did not depend on the efficiency of the patient's respiratory movements, intratracheal insufflation of ether appeared likely to displace the elaborate negative and positive pressure cabinets and masks which had been devised for intrathoracic operations. The claims made on behalf of the method were based on the records of a large number of laboratory experiments carried out by Meltzer, Auer, and others, and on the observations of anæsthetists and surgeons in actual practice. Their experience was derived from the use of the method in about 100 cases. The cases were not specially selected, their object being to gain experience as quickly as possible and to acquire dexterity in the technique, so that special cases might have a fair trial. The series, however, included many cases which afforded opportunity to put the method to the test with regard to the special advantages claimed for it. To commence with, they used an apparatus made after the model described by Meltzer. It was inexpensive and efficient. For the greater number of operations they used the apparatus devised by Mr. Kelly, of Liverpool. This consisted of two parts, the first part being for the production of the air current; the second for the etherisation of the air. The electromotor actuated a rotatory blower which produced a current of air. The blower ran at the rate of from 50 to 1000 revolutions per minute. The ether apparatus consisted of an ether chamber, 12 cm. in diameter, metal lid, with entry and exit for air current, and a third opening for introduction of ether. The entry tube dipped down into the air space above ether for about 4 cm. Entry and exit tubes were interrupted by taps geared by cog-wheels to a third tap connecting both entry and exit. This permitted of variation in ether strength of air current from zero to full saturation. The preliminary administration of morphia 1/6 gr. and atropine 1/100 gr. had been the rule. In alcoholic subjects it would probably be an advantage to add scopolamine 1/100 gr. For the introduction of the catheter they used Hill's endoscope. The passage of the catheter was at first a matter of difficulty, but with practice it became comparatively easy. The important points to attend to were: (1) thorough relaxation before attempting intubation—the lower jaw should be so slack that a gag was not required; (2) the head should be hanging over the end of the table or in the occipito-shoulder position; (3) the epiglottis must be identified and the speculum passed sufficiently far below its tip that it will not slip (too deep insertion must be avoided); and (4) keep the speculum in the left hand and with a tilting movement of the hand lift the hyoid bone. The glottis then came into view and there should be no difficulty in inserting the catheter which should be made rigid by means of a probe. They used the silk-web white-enamelled cylindrical catheters. They stood boiling fairly well if care were taken not to leave them too long in the boiling water and if each catheter were wrapped in a piece of gauze so that it was not in contact with another catheter. The instrument was pushed nearly to the bifurcation of the trachea—a point in the adult about 26 cm. from the incisor teeth—the probe was withdrawn and connexion made with the air current. The size of the catheter varied with the build of the patient. In all but exceptional cases experience led them to believe that the maximum size should be 24 F., ranging downwards from this. Too large a catheter interfered with the return current of air. Occasionally the tube had been passed into the œsophagus; this occurred several times in the earlier cases. With care and adequate relaxation such a mistake should not occur, but the possibility of it should be kept in mind. If the patient had been properly anæsthetised and the tube introduced without delay any glottic spasm which supervened should rapidly pass off. The degree of concentration of the vapour should not be too high too commence with, or irritation resulted, evidenced by spasm and coughing. The pressure should vary according to the case, from 10 up to 30 mm. Hg. The safety valve should be so arranged as to make any pressure above this impossible. In the majority of cases the course of anæsthesia had been perfectly smooth and uneventful—the colour remained a rosy pink, the pulse good, and the respirations quiet and regular. There was a noticeable absence of strain of all kind, the condition resembling natural sleep rather than narcosis. As a rule the anæsthesia was light and easily controlled by turning the regulator either towards full ether or air, and at any moment the ether could be turned off altogether, the apparatus being at once converted into one for performing artificial respiration. It was undesirable that the respiratory movements should be abolished altogether—their presence indicated that the respiratory centre in the medulla was not being overdosed with ether. At the conclusion of the operation, before withdrawing the catheter, it was well to flush out the lungs with air so as to remove any ether vapour that was present. This was accomplished by turning the regulator to air for a few minutes. In a few cases, notably in big alcoholic subjects, difficulty had been experienced in securing a sufficiently deep anæsthesia with good relaxation. In two of the authors' cases the attempt had to be abandoned and anæsthesia maintained by other methods. The attempt in such cases to give a more concentrated vapour had in their experience led to coughing and spasm. Probably, as previously suggested, the addition of scopolamine to the preliminary dose of morphia and atropine would be advisable, and it was particularly important to produce a deep anæsthesia in such subjects before commencing insufflation. There had not been any case of sickness during the insufflation. With such a limited experience to draw upon it was difficult to speak with any assurance regarding the question of shock. The absence of strain and the perfect aeration should certainly help to lessen shock, and the general opinion appeared strongly to favour the view that it did so. In their series there was one case of bronchitis occurring after an operation for goitre. In a few cases there was some hoarseness and complaint of sore throat, more marked in the early cases and possibly due more to clumsy introduction than to irritation from the intratracheal tube. There had been no case of pneumonia. After-sickness occurred in a certain proportion of the cases. It was generally held by those who had experience of the method that the amount of after-sickness was less than after ordinary inhalation anæsthesia. In estimating the value of this method it was in the first place to be remembered that it was essentially a method of maintaining anæsthesia; it did not touch the problem of satisfactory induction. The general conclusions to which one came might be briefly summarised. Provided a satisfactory apparatus was used and reasonable precautions were taken the method was a very safe one. The precautions referred to were concerned with such points as the skilful introduction of a properly-sized tube, the regulation of the pressure, and the maintenance of respiratory movement. In prolonged operations the method provided a quiet, even anæsthesia, with perfect aeration and marked absence of all strain. One was struck by the peaceful nature of the anæsthesia, the condition, as previously remarked, resembling a natural sleep rather than a narcosis. In abdominal operations the quiet respiration and the relaxation of the muscles of the abdominal walls made the method a very satisfactory one, especially in operations on the upper part of the abdomen. It promised to relieve the respiratory embarrassment which was sometimes seen during the course of anæsthesia in stout patients who were placed in the Trendelenburg position. In all operations about the mouth, such as those for excision of the upper jaw, antrum operations, or those undertaken for removal of naso-pharyngeal growths, any danger of aspiration of blood, mucus, &c., was removed, and the anæsthetist was well out of the surgeon's way. There was no interruption to the regular delivery of ether vapour, which was so liable to occur in such cases with ordinary methods. In operations for removal of glands in the neck or for mastoid disease the surgeon had the field to himself and was not hampered, nor was his asepsis endangered by the proximity of the anæsthetist's mask. In such operations as laminectomy and nephrectomy the postural difficulties with which the anæsthetist had to contend and which also tended to interfere with free respiration were eliminated. They had unfortunately not had the opportunity of testing the method in thoracic surgery. The opinion had been expressed that it would supersede the positive and negative pressure cabinets and greatly extend the possibilities of intrathoracic operations. In conclusion, while anxious to avoid making extravagant claims, they suggested that in intratracheal insufflation of ether they had a very safe method of maintaining anæsthesia which in properly selected cases offered great advantages, and that the method deserved to take its place alongside of other methods at the disposal of the anæsthetist.—The paper was discussed by Dr. J. S. ROSS, Dr. T. M. BURN-MURDOCH, Professor F. M. CAIRD, Dr. O. C. BRADLEY, and by Mr. A. A. SCOT SKIRVING.—The authors briefly replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Exhibition of Specimens.—Report of the Rotunda Hospital.

A MEETING of this section was held on May 22nd, Dr. M. J. GIBSON, the President, being in the chair.

Dr. H. JELLETT showed a Uterus removed for concealed accidental hæmorrhage from a patient aged 25 years. This was her sixth pregnancy. The previous history was one abortion, one premature, and three full term, all with normal labours. On the day of admission she had some hæmorrhage, and was plugged by a medical man before being sent into hospital. When admitted she looked fairly well, with a pulse of 104. The plugs were removed, and as there was no subsequent hæmorrhage the patient was left alone. After three hours a little blood came from the vagina, and the patient was emphatic that the uterus had got much larger. It was then nearly up to the ensiform cartilage. She was extremely anæmic and appeared not to be able to stand any loss of blood. Examination showed the membranes presenting through the cervix, and as the conclusion had been formed that the patient could not afford further loss of blood and was suffering from concealed accidental hæmorrhage the abdomen was opened and the uterus removed. Everything went on satisfactorily afterwards. Examination of the specimen showed that the diagnosis was right.—Sir WILLIAM SMYLY said that the specimen was, so far as he knew, unique, and suggested that it ought to be put up in a permanent form. He had no doubt that the treatment described was correct. He agreed that uterine hæmorrhage could always be stopped by removing that organ, and thought it was perfectly right to do so if the hæmorrhage could not be stopped in any other way.—Mr. SPENCER SHEILL said the operative treatment was undoubtedly correct. In spite of the blood pressure at the site of the blood clot the wall was thicker there than on the other side, and he therefore suggested that although the treatment carried out was the correct one plugging might also have been satisfactory.—The PRESIDENT referred to his experience in five cases of severe concealed accidental hæmorrhage. In every case a certain amount of blood had escaped externally, the uterus had increased in size, was hard and tender, and the patients' condition could not be accounted for by the amount of blood lost externally, nor by any other acute abdominal attack. He considered that the hæmorrhage in these cases could not be controlled either ante-partum or post-partum except by hysterectomy. When such a rapidly over-distended uterus was emptied, post-partum hæmorrhage led to the death of the patient.

Mr. SHEILL showed a specimen of Tuberculous Tubes removed from a patient who was married five years, had no pregnancy, and enjoyed fair health. She developed symptoms of endometritis, and curettage was carried out by a medical man with no good result. When Mr. Sheill was consulted he diagnosed tumour and recommended immediate operation. The two specimens shown were removed, one consisting of the right tube and ovary and the other of the right tube only. He spared the second ovary, with the intention of suturing it to the cornu of the uterus, but it was found adherent to the back of the uterus, and he was obliged to leave it. A point of interest was that the patient's sister consulted him seven years ago, and he diagnosed tuberculous tubes, and advised operation, which was refused, and she died from consumption two years ago.—Dr. GIBBON FITZGIBBON said that he did not altogether agree with Mr. Sheill's method of treatment of tuberculous tubes. In a somewhat similar case he cleared out the pelvis, taking tubes, ovaries, and uterus, as he did not see how one could expect the tuberculous disease to be restricted to the tubes alone. He considered it better for the patient to clear out the uterus in order to avoid the risk of leaving tuberculous infection in the uterus. He was reluctant to try conservative operations in tuberculous disease of the tubes where it was so extensive as in the specimen shown.—Sir WILLIAM SMYLY said he agreed with Mr. Sheill in leaving the ovary. Pelvic tuberculosis, he believed, had never been proved to be primary. It was looked upon by the best pathologists to be always secondary, and at the meeting of the German Gynæcological Association in Munich it was positively stated by the reporters that such a thing as a primary pelvic tuberculosis had never been met with—i.e., if a thorough examination of the patient's body was made one would certainly find tuberculosis in some other part. He did not, therefore, think that by taking out the tubes the patient would be prevented from getting pulmonary tuberculosis. The removal of the tubes when full of pus was absolutely necessary for the health of the patient, but he did not consider it necessary to remove the uterus, ovaries, or other organs. The direction in which the infection spread was always downwards, and it never extended along the mucous membrane upwards, but always in the direction of the stream. It was therefore an infection from the blood and not from the air. —Dr. JELLETT agreed with Mr. Sheill as regards saving the ovaries, but at the same time he considered pelvic tuberculosis was most dangerous. Within the last six months he had seen a great deal of pelvic tuberculosis. If operated upon it offered a good prospect of cure, but when not operated upon it led to serious results. In a case on which he had operated recently the patient had no symptoms, but had a very large necrotic mass lying in Douglas's pouch behind the uterus with complete destruction of the appendages.—Dr. R. J. ROWLETTE said that they were not in a position to judge what proportion of cases of tuberculosis of the genital organs became dangerous, and from the results of post-mortem examinations the question seemed to be similar to that of tuberculosis of the lungs. It might be concluded regarding pelvic tuberculosis as with pulmonary that a very considerable proportion of cases got better without treatment, but it was true that the disease in a certain number of cases became dangerous to life. Referring to treatment, it was not the custom to try to eradicate the disease by the knife in other parts of the body, and he did not see why this should be attempted in the pelvis. It was almost certain that when tuberculosis was found in one part of the body it was also present in another. He could not agree that in a case of pelvic tuberculosis one would be justified in clearing out all the pelvic organs, and even if it were necessary to remove the uterus it would scarcely be necessary to remove the ovaries, as it was rarely found that any traces of tuberculosis existed upon the surface of the ovary.—The PRESIDENT said that pelvic tuberculosis was a disease which generally tended to become cured. Examination of a considerable number of tubes which he had removed showed that the great majority were inactive. In cases of tuberculosis of the endometrium he had advised sanatorium treatment with good results. If he were called upon to treat a patient with tuberculous tubes and decided on operation he would not remove more than the tubes if possible.

Dr. JELLETT, in introducing the Clinical Report of the Rotunda Hospital for the year ending Oct. 31st, 1913, said that during the year 2124 patients were delivered under the care of the hospital in its extern department and 2311 patients were admitted to the maternity wards. Of the latter number 299, who were not in labour, were discharged undelivered and 2012 were delivered. Thus, a total of 4136 labours in all were attended by the hospital staff. The principal event of the year was the complete renovation and rebuilding of the students' residence. The result was a most comfortable and commodious residence. There were 12 cases of unavoidable hæmorrhage and 24 cases of contracted pelvis during the year. There were 13 cases of prolapse and presentation of the cord. There were only 5 cases of eclampsia during the year. The forceps were applied in 64 cases. Cæsarean section was performed seven times, in every case the indication being contracted pelvis; in 3 cases it was performed for the second time, and in 1 case for the third time. The morbidity rate of the hospital, as estimated by the standard of the British Medical Association, was 1 in 16·45. The assistants had tested systematically and carefully the action of pituitary extract on the uterine contractions. During the year 585 patients were admitted to the gynæcological department, 463 operations were performed, and the total mortality was 8—i.e., 1·73 per cent. In 40 cases hysterectomy was performed, with 38 recoveries. This number included 6 cases of Wertheim's radical hysterectomy. In 31 cases abdominal myomectomy was performed, with 1 death. Twenty-five operations were performed for genital prolapse.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—The annual provincial meeting of this society was held in Glasgow on May 30th, Dr. A. K. Chalmers, the President, being in the chair.—Professor Matthew Hay opened a discussion on Public Health Research. After referring to the great advances which had been made in medicine during the last half century, he dealt with those more particularly connected with hygiene. The world was now realising as never before how much humanity owed to those advances, and the British Government had begun in recent years to take some real interest in medical science. Following upon certain grants for important special researches, such as those conducted by the commissions or committees on tuberculosis and certain occupational diseases and tropical diseases, it had recently done a wise act in providing some £60,000 for the encouragement and assistance of medical research. Comparatively it was not a large amount, but it was a substantial contribution, and there was some reason to hope that it might increase in future if the work accomplished justified the expenditure. The grant would not be devoted exclusively to investigations in tuberculosis, for an endeavour would be made to assist all kinds of research, whether in curative or preventive medicine. He referred with satisfaction to the proposal of the Government to devote a considerable sum to the provision and maintenance of laboratories for the assistance of medical practitioners in methods of diagnosis and treatment, and presumably also for the assistance of the public health service. One of the first things to be considered would be whether an effort should be made to utilise existing laboratories connected with teaching institutions or hospitals or whether the work was to be mainly or exclusively carried out in laboratories specially provided for the purpose. He was disposed to favour the view that as a rule the latter course should be adopted. It was essential that the laboratories wherever situated should have thoroughly skilled heads with adequate assistance, and a sufficiency of accommodation and equipment. Not only should routine work be carried out, but time should be given to research work bearing on the practical problems of health administration. For many years past the public health service had been attracting to its ranks a very large proportion of the best medical graduates. These men received in the course of their training for their Public Health degree or diploma considerable insight into laboratory work, and they would be keen on assisting to the full the resources of any laboratories with which their public health department might be associated. It was very desirable that statistical investigations should be more fully and more exactly employed in connexion with Public Health administration. It was very difficult for anyone to deal statistically with medical data unless he had a reasonably full knowledge of the value and qualification of such data and of their possible correlatives. Simple arithmetical methods were often sufficient to evolve from the data their more important lessons in the selection of the correlatives. The men in the thick of the actual work should be the most competent judges. Nevertheless, health officers would welcome the advice and assistance of expert statisticians, and it would be a great advantage if the services could be made available of the statistical department which the Medical Research Committee had decided to establish. There was little within the province of medical science that did not appeal to public health officers and might not have a bearing on the efficiency of health administration. Among problems which had yet to be solved were the causal organisms of some of the more common diseases, such as measles, scarlet fever, and small-pox, though such discoveries were not likely to fall to officers whose duties were so largely administrative, but there remained much regarding the apparent habits and modes of conveyance of infective organisms in general that they could materially assist in ascertaining. The vehicles and channels of infection still called for extended investigation and careful observation in the future. The views as to aerial infection had been revolutionised within the last 30 years. Once almost every zymotic disease was thought to be possible of conveyance through the atmosphere, and sanitary methods were framed accordingly. Now those who were more daring ventured to treat almost all kinds of cases together in a common ward, separated from each other only by a bit of tape. The investigations of the rôle of the insect both biting and non-biting still remained charged with potentialities. Professor Hay suggested that the Society of Medical Officers of Health might appropriately appoint a committee to consider the subject of research with a view to a feasible selection and to standardisation of methods of inquiry, as well as to the suitable local distribution of the inquiries.—Sir Shirley F. Murphy considered that Professor Hay had done a service to the public as well as to the society by insisting upon the need for exact research. He referred to the excellent work which Dr. Chalmers and his staff were doing in the investigation of the behaviour of pulmonary tuberculosis.—Dr. Helen MacMurchy (Toronto) expressed the hope that there would in future be paid much more attention to the investigation of the causes of infantile mortality.—Dr. W. Gemmell, Dr. T. F. Dewar, Dr. J. R. Currie, and the President also took part in the discussion.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held at the Royal Infirmary on May 19th, Dr. J. F. Sykes, the President, being in the chair.—Dr. T. Jason Wood showed: (1) Solid Ovarian Tumour complicating Pregnancy; and (2) Foreign Body embedded at Root of Tongue.—Dr. A. Little exhibited Struychen's Direct Laryngoscope.—Dr. F. W. Eurich read a paper on Some Cases of Lead Poisoning. He said that he had recently come across an unusually large number of atypical cases of lead poisoning. None had been found in the city of Bradford, but many in the outlying districts, Clayton, Wibsey, Low Moor, Idle, Yeadon, Esholt, Shipley, and Queensbury, where the water-supply was not the same as in the centre of the city. In most of the cases there was no lead line, and abdominal pain was present. A boy aged 11 years showed paraplegia and anæmia; a laundry girl had unilateral wrist-drop; a man aged 40 had anæmia and a sudden attack of paraplegia followed by coma, optic neuritis, and, as frequently occurred, basophil granules in many of the red cells of his blood. Two cases had been mistaken for appendicitis. Dr. Eurich advised an inquiry into the water-supply, since in all cases he had found lead in the drinking water. Inquiry, he thought, should be made into the relation between this disease and rickets, and into all cases of optic neuritis, appendicitis, and abortion. He himself was conducting experiments along these lines, and would place them before the society at a later meeting.—Dr. J. J. Buchan suggested that the pressure in the high-level pipes might have some influence on the solution of lead.—The paper was discussed by the President, Dr. S. Lodge, Dr. A. Tomlinson, Dr. A. Bronner, and Dr. A. Manknell, and Dr. Eurich replied briefly.

A LONG MEDICAL APPOINTMENT.—At the last meeting of the Axbridge (Somerset) board of guardians Dr. Frederick St. John Kemm, medical officer for the Worle district, resigned after 30 years' service, and the guardians expressed high appreciation of his long and signally successful discharge of the duties and unfailing consideration of the poor.

Reviews and Notices of Books.

Diseases of the Heart.

By JOHN M. COWAN, D.Sc. Glasg., M.D. Cantab., F.R.F.P.S. Glasg., Professor of Medicine, Anderson's College Medical School; Physician, Royal Infirmary; Lecturer in Clinical Medicine in the University, Glasgow. With chapters on the Electro-Cardiograph, by W. T. RITCHIE, M.D. Edin., F.R.C.P. Edin.; and the Ocular Manifestations in Arterio-sclerosis, by ARTHUR J. BALLANTYNE, M.D. Glasg., F.R.F.P.S. Glasg. London: Edward Arnold. 1914. Pp. 438. Price 15*s.* net.

THE great advances which have been made in our knowledge of the diseases of the heart and arteries during the last ten years have necessitated a considerable review of the literature of the subject. Former treatises have had to be revised and many new works have been written. New methods of histological technique and the employment of the sphygmomanometer, the polygraph, and the electrocardiograph have elucidated many problems and yielded information of great value to the physician.

In the volume now before us Dr. Cowan has reviewed the subject of diseases of the heart in the light of recent investigations, and has presented to the practitioner the bearings of the results which have been obtained upon the practical work of diagnosis, prognosis, and treatment. Diseases of the myocardium are first considered, and a good account is given of the various forms of degeneration which may affect the cardiac muscle. Diseases of the arteries are next discussed, together with the symptoms which may manifest themselves. Caution of a practical nature is given as to the deductions to be derived from an estimation of blood pressure—namely, that this pressure rises to a considerable extent in the healthy individual from causes of a temporary and often trivial nature, the influence of which cannot always be accurately gauged; unless care be taken in studying all the aspects of each case fallacies may easily arise in distinguishing between a temporary physiological rise and a permanent morbid increase.

The chapter on nodal rhythm is rather involved and difficult to follow, but those on contractility and conductivity are well worthy of attention. It is pointed out that defective conduction is generally associated with gross lesions of the *a.-v.* bundle, but it is also admitted that there is some evidence which suggests that functional defect may exist without gross lesion of the bundle. In discussing the prognosis of heart-block Dr. Cowan expresses the opinion, which will meet with general support, that chronic full heart-block is not incompatible with many years of fair health, and that a partial block may become complete or may pass away.

The subjects of auricular flutter and auricular fibrillation receive due notice, and many electrocardiographic tracings are given in illustration of the letterpress; the symptomatology, diagnosis, and treatment of chronic valvular disease are considered at some length, and in the light of modern research. An account of the ocular manifestations in arteriosclerosis is contributed by Mr. A. J. Ballantyne, and Dr. W. T. Ritchie is responsible for a chapter on the electrocardiograph.

The work is admirably illustrated by diagrams and many well-executed drawings of morbid conditions of the heart. Physicians who are especially interested in the study of diseases of the heart will find much material of value in the book. The number of illustrative cases is one of the features of the work, and Dr. Cowan has evidently devoted much care and attention to the preparation of a learned treatise on cardiac disease.

Die Prognosenstellung bei der Lungentuberkulose.

Von D. O. KUTHY und A. WOLFF-EISNER. Berlin: Urban und Schwarzenberg. 1914. Pp. 672. With 21 illustrations. Price, paper, 18 marks.

THE difficulties attending the formation of a just prognosis in tuberculosis of the lungs are well illustrated by the great size of this German text-book devoted to that subject alone. In it are discussed over 400 various chief considerations that may influence the prognosis in a favourable or an adverse sense. They are distributed under three main headings—namely, the past history of the patient, his physical signs on examination, and the action of therapeutic agents upon him. Over 1000 references to the literature are given, and the volume has a good index. It is a collection of information, well written and arranged, and may be warmly commended to the attention of all medical men as well as those who are particularly interested in pulmonary tuberculosis.

The Diseases of Children.

By Sir JAMES FREDERIC GOODHART, Bart., M.D. Aberd. Tenth edition. Edited and revised by GEORGE FREDERIC STILL, M.D. Cantab. London: J. and A. Churchill. 1913. Pp. 959. Price 16*s.* net.

A BOOK which has gone through ten editions requires scant attention on the part of the reviewer. There can be but few well-equipped medical men in this country who do not possess a copy of this standard work, and so closely does each succeeding edition keep abreast of the times that it is exceedingly improbable that the next generation of practitioners will have to look elsewhere for their information on the subject of the diseases of children.

In his preface to this new edition Dr. Still explains that the work of revision has been shared by Sir James Goodhart, that some of the additions are his, and that all alterations have been submitted to his approval. Several new illustrations have been added, and the chapter on anterior poliomyelitis has been entirely rewritten. For the rest the volume remains very much as in former editions, and, thanks to the reviser's skill, it still retains the original author's freshness of style. The chapters which relate to rheumatism and rheumatic conditions will be read with interest by those who are familiar with Sir James Goodhart's views on these subjects, and in this new edition the skill with which the older theories of the rheumatic and convulsive diatheses are reconciled with the more modern findings of the bacteriologist reflects infinite credit on the acumen of the reviser. It is possible that the adoption of the German classification of such convulsive phenomena as spasmus nutans, eclampsia infantum, laryngismus, and tetany under the single generic title of spasmophilia would have made these different subjects more comprehensible to the average student. Chorea and rheumatism are discussed in consecutive chapters, while rheumatoid arthritis, chronic arthritis with enlargement of the glands and spleen (Still's disease), and gout are included in the chapter on rheumatism. The chapter on abnormalities of development includes excellent descriptions, with illustrations, of the somewhat rare conditions, achondroplasia, cleido-cranial dysostosis, and oxycephaly.

This new edition retains all the merits of its predecessors without any material sacrifice of conciseness. It may be safely commended to the notice of both students and qualified practitioners as a work which thoroughly represents the best teaching on the subject of the diseases of children.

Lehrbuch der Organotherapie mit Berücksichtigung ihrer Anatomischen und Physiologischen Grundlagen.

Edited by WAGNER v. JAUREGG *and* GUSTAV BAYER. *Leipzig: Georg Thieme. 1914. Pp. 516. Price 13 marks.*

As is pointed out in the preface to this book, the discovery of the physiological activity of the thyroid gland and of the possibility of using preparations of its substance for therapeutic purposes was followed by a period of uncritical enthusiasm in which similar effects were expected and even stated to follow the administration of extracts of many other organs, and these were recommended for the treatment of a heterogeneous collection of diseases. Such indiscriminate medication was naturally followed in turn by a revulsion of feeling in which the whole subject of organotherapy fell into disrepute, and we are only gradually learning to sift the true from the false and to ascertain the real limits of this form of treatment. The book before us gives a useful account of the work that has been done in this field. It is written from a practical point of view, and is intended for the practitioner of medicine in search of guidance in the treatment of disease, although the scientific side of the questions dealt with is very fully discussed.

The first section, written by Dr. M. Höfler, gives a historical account of the development of knowledge of the use of extracts of various organs in medicine, the earliest traces of which may perhaps be seen in the idea that devouring such things as the heart of a savage animal would confer on the eater the quality of courage, and so forth. Curious customs, such as totemism and theophagy, are incidentally discussed. The second section, on the morphological basis of organotherapy, by Professor Alfred Kohn, treats of the anatomy and histology of the organs that are supposed to possess internal secretions, and is illustrated by numerous cuts. The individual organs are then taken up in successive sections, the thyroid gland, about which we have much the most certain knowledge, being dealt with by Professor v. Jauregg, and the parathyroids by Professor F. Pineles. Removal of the latter "epithelkörperchen" produces tetany, but their administration as a remedy seems of no value, though transplantation in animals may be successfully carried out. The thymus gland, dealt with by Dr. Karl Basch, is an interesting organ developmentally, the nature of its cells being somewhat obscure. Removal of it in young animals seems to lead to defective development of the bones and sometimes to defective sensibility, cachexia, and death in coma. The value of thymus preparations, which have been tried in Graves's disease, rickets, and other affections, remains doubtful.

The pituitary body or hypophysis is the subject of a section written by Dr. L. Borchardt. The gland consists of two parts, the anterior and posterior lobes, each possessing a different structure, and the physiology of the whole is not well understood. Disease of the hypophysis is associated on the one hand with acromegaly, possibly due to increased functional activity, and on the other with increased deposit of fat accompanied by defective development of the generative organs (dystrophia adiposo-genitalis), said to indicate diminished internal secretion. An appendix to this section is devoted to the pineal gland, to which an internal secretion has recently been attributed, although morphologically it seems to represent a median eye-rudiment. Lesions of this body are associated with increased growth and genital precocity. The pancreas, which is chiefly of interest in connexion with diabetes, is treated of by Dr. R. Ehrmann, and the suprarenal bodies by Dr. G. Bayer. In spite of the discovery of adrenalin and of its later synthetic reproduction the physiology of the adrenals is not very clear. The double structure of the glands, which possess a cortical and a medullary portion of quite different histological appearance, complicates the question as to their function in the body, while the association of Addison's disease with visible lesions now in one, now in the other, portion increases the difficulty. The organotherapeutical relations of the genital organs are discussed by Dr. A. Foges, and a concluding section by Dr. Bayer collects together a mass of information on the possible value of extracts from other organs and tissues, such as liver, bone marrow, kidney, spleen, and so forth.

The treatment of the subjects throughout is very full and thorough, and much pains have been taken to make the account of recent investigations in this field complete. We recommend the book to all who are interested in the subject of organotherapeutics, either theoretically or practically.

Therapeutics, Dietetics, and Hygiene: An Australian Text-book.

By JOHN WILLIAM SPRINGTHORPE, M.D. Melb., M.R.C.P. Lond., Senior Physician to the Melbourne Hospital. In two volumes. Vol. I.: Hygiene and Dietetics. Melbourne: James Little. 1914. Pp. 604. Price 25*s.* net per volume.

THE real interest and value of this book lie in the special information on hygiene as related to life in Australia. The dietetic habits and food-supply of the various districts and cities of the Commonwealth are reviewed and criticised; there are some excellent chapters on dietetics in general in which the author takes up a broad and confident standpoint, in marked contrast to much that has been written in other parts of the world. The account of the chemical classification of foods is unequal, for of seven pages five are devoted to fats and lipoids, but we may add that the account given of these important bodies is very sound. The survey of modern theories on dietetics is one of the best sections in the book, though here there is no pretence at any originality. In the course of describing methods of indicating food values reference is made to the ingenious balance devised by Irving Fisher for arranging accurate diets rapidly.

Medical officers of health and "publicists" will find a mass of interesting material in other chapters, which deal with regulations in force in the various areas of Australia, but we could have wished for more information on that important question of to-day, the extent and certification of venereal disease, in the light of the experience of these colonies.

Though there is much that is of interest in this volume, it hardly fulfils the requirements of a "text-book" of hygiene either for a student or for a practitioner. The more important parts of the practical chapters on public health may be found in the works of Parkes, and Thresh and Porter, and such subjects as the examination of water-supplies had far better be studied in the original books. Instruction here should be very precise, and the gaps in the information supplied in this book are conspicuous. Thus in the consideration of the softening of water the Porter-Clark process is mentioned, but there is no hint as to the nature of the process. Again, in treating of the examination of sewage and sewage effluents reliance is placed entirely on the "soloid" tests.

This is a meritorious book, possessing many good qualities and providing much useful information. We have indicated a few directions in which improvements may be made in any future issues.

Taschenbuch für Frauenheilkunde und Geburtshilfe.

Von L. JANKAU. Vierte umgearbeitete und vermehrte Auflage. Leipzig: Repertorienverlag. 1914. Pp. 354. Price 7 marks.

THIS forms really an encyclopædia containing an immense amount of statistical and other information. The first part deals with the anatomy and physiology of menstruation, pregnancy, labour, and the new-born child. The second part deals with various methods of examination, both clinical and microscopic. The third part deals with clinical facts of all kinds, and the fourth with treatment. The whole is a collection of useful facts in an easily accessible form in connexion with the subject of diseases of women and midwifery. As a reference book it certainly should prove most useful.

Industrial Poisoning from Fumes, Gases, and Poisons of Manufacturing Processes.

By Dr. J. RAMBOUSEK. Translated and edited by THOMAS M. LEGGE, M.D. Oxon., D.P.H. With illustrations. London: Edward Arnold. 1913. Pp. 360. Price 12*s.* 6*d.* net.

THE continental countries, especially Germany, afford a most instructive field of study as to the administrative measures in force there in regard to industrial diseases and factory hygiene, and H.M. Medical Inspector of Factories in this country, Dr. T. M. Legge, has done a good service in presenting in the English language this work by Dr. J. Rambousek, the professor of factory hygiene and chief state health officer at Prague. As Dr. Legge points out, Dr. Rambousek has peculiar advantages in dealing with this broad and important subject, since he is a medical man, a chemist, and a Government official having control over industrial matters. He is therefore equipped with the very special knowledge required to describe the manufacturing processes giving rise to injurious effects, the pathology of the lesions set up, and the preventive measures necessary to combat them. In these few sentences the scope of the book is summed up, as will be seen from a consideration of the subjects dealt with in the three parts into which it is divided.

Part I. gives a description of the industries and processes attended with risk of poisoning, and the incidence of such poisoning is discussed. Part II. relates to pathology and treatment of industrial poisoning, and Part III. to preventive measures against industrial poisoning. The field covered is remarkably wide having regard to the size of the volume, and the descriptive chapters show how thoroughly studied and carried out are the regulations abroad which are framed to safeguard the health of the workers in the dangerous occupations described. We could not find any omissions. Even the cigar industry is included in the category of a dangerous trade owing to the injury to the health of tobacco workers caused by dust and fumes unless special methods of ventilation are adopted. There is a very serviceable appendix attached which contains a wealth of references.

The book is a valuable addition to the literature of dangerous industrial occupations, and is most interesting reading, whether the reader is or is not directly concerned with the subject.

Klinik der Nervenkrankheiten: Ein Lehrbuch für Ärzte und Studierende.

Von Dr. LEO JACOBSOHN. *Mit 367 Abbildungen im Text und 4 Tafeln in Farbendruck.* Berlin: August Hirschwald. 1913. Pp. 488. Price 19 marks.

THE author states that his object in writing this text-book for physicians and students is the production of a compendium of clinical neurology in which theoretical considerations are to be kept in the background, while only an irreducible minimum of pathological anatomy is to find a place. With this end in view the clinical aspects of nervous disease have been emphasised by the incorporation of a large number of unusually fine photographs; nervous diseases rather lend themselves to illustration in this way. It is true that the importance of the subjects illustrated is somewhat unequal, for rare anomalies, such as syndactyly, polydactyly, and muscle agenesis, are exemplified, while there is, on the other hand, for a text-book a poverty of diagrams.

In his task of supplying a useful and practical manual of clinical neurology the author has been very successful. If there are no particularly profound studies of any of the diseases dealt with, his handling of his material is uniformly sound. The teaching value of the book is considerable. The first part is taken up with methods of investigation, general symptomatology, and the principles of treatment. The second part consists of a systematic description of diseases of the peripheral nerves, the spinal cord, brain, meninges, followed by the neuroses, diseases of the vasomotor and sympathetic systems, diseases of the ductless glands, and other morbid conditions. The absolute rarities of neurology are omitted, but we should think the practitioner will not find the book wanting in regard to any nervous symptom he is likely to come across in the course of general medical work.

LIBRARY TABLE.

Palissy, Bacon, and the Revival of Natural Science. By Sir THOMAS CLIFFORD ALLBUTT, K.C.B., F.R.S. A paper read at the International Historical Congress, April, 1913 (from the Proceedings of the British Academy, Vol. VI.). London: Published for the British Academy by Humphrey Milford, Oxford University Press. Pp. 15. Price 1s. net.—Bernard Palissy shares with Robert Bruce's spider the honour of being an example to youth of the benefits of perseverance. Every well-instructed child has heard the story, as told by Palissy himself, of his struggles to produce finely glazed ware, with ornament in high relief, of his many failures, of his poverty, and finally how he burned the wretched furniture of his poor home to keep his furnaces going, and achieved success. But few persons, even those who are well read, know that Palissy was a really learned chemist and student in various branches of physical science, that he studied geology, and arrived at very sound conclusions with regard to the earth's history. His "Discours Admirables" are astonishing documents for the date (1580) at which they were published. Sir Clifford Allbutt, in the paper now before us, gives a résumé of the contents of Palissy's "Discours," of the lectures he gave (1575-1584) on geology and agricultural chemistry, and of the museum which he had organised wherewith to illustrate his lectures. Not only fashionable Paris but the leaders in science of the time attended his lectures, and at p. 329 of the edition of his works published by Charavay Frères (Paris, 1880) we find a list of them. First come 13 doctors of medicine, beginning with Maistre François Choisnyn and Monsieur de la Magdalene, physicians to the Queen of Navarre, then Alexandre de Campège, physician to Monsieur the Brother of the King. Next come the surgeons to the King, headed by the illustrious Paré, and after these a numerous throng of ecclesiastics, lawyers, and other learned persons, including Maistre Michel Saget, delightfully described as "homme de jugement et de bon engin." Palissy, his museum, and his lectures give occasion to Sir Clifford Allbutt to propound the interesting theory that Bacon, who went to Paris in 1576 with Sir Amyas Paulet, must have attended Palissy's lectures, and so was led to that study of direct investigation of Nature by facts which he later developed into the Instauratio Magna. It is true that Bacon nowhere mentions Palissy, but, as Sir Clifford Allbutt reminds his readers, Bacon was not the sort of man to mention that he had had friendly intercourse with one who like Palissy lay under suspicion on account of his revolutionary views, both religious and scientific.

The Anatomist's Notebook: A Guide to the Dissection of the Human Body. By A. MELVILLE PATERSON, M.D. Edin., F.R.C.S. Eng., Professor of Anatomy in the University of Liverpool. London: Henry Frowde and Hodder and Stoughton. 1914. Pp. 351. Price 6s. net.—Professor Paterson has done wisely in naming his volume a "notebook." It is an aid to dissection, and can be regarded as a useful substitute for the student's working notebook, but it would be a mistake to regard it as more than that, and to attempt to make it supplant any of the ordinary dissecting manuals. The author himself says that its use should "be supplemented by means of a knowledge of osteology and by means of a systematic text-book," and until the staff of demonstrators is enormously increased in our anatomical departments, or a far more self-reliant generation of students arises, it will be impossible to carry on dissections properly without the aid of one of the current manuals. As a notebook it is worthy of all praise; its outline drawings are excellent; its text is very brief, and it is freely interspersed with blank leaves for the dissector's own notes and sketches. There is no doubt that the student who adds this notebook to his working outfit will be all the better for its conscientious use. The nomenclature is that familiar to most medical students, and but few new terms are used.

JOURNALS AND MAGAZINES.

Archives de Médecine et Pharmacie Navales.—In the March number Dr. Plazy, staff surgeon in the French Navy, relates his experiences with salvarsan and neosalvarsan. He has treated 80 cases with 700 or 800 intravenous injections. As salvarsan is rapidly excreted (arsenic appears in the urine in 15 minutes and has ceased to be demonstrable within 48 hours), Dr. Plazy repeats injections with only two or three days' interval, and he gives many injections to each case, usually nine or ten within three or four weeks. He begins with 0·3 grm. and gradually increases to 0·9 grm. For infants and very stout patients he recommends that neosalvarsan be administered by enema, in doses of 2½ to 5½ grm. These injections in no way irritate the rectal mucosa, and appear to be readily absorbed, since the Wassermann reaction has been found negative soon after them.—Dr. Bouthillier and Dr. Goéré, staff surgeons in the French Navy, observing that Dr. R. S. Frew and Dr. A. E. Garrod reported in THE LANCET of Jan. 4th, 1913, cases of glycosuria during tuberculous meningitis, give an account of a case of pneumococcal meningitis which showed glycosuria on the first day, and excreted 457 grains of sugar during the second day. Lumbar puncture was then done and 30 c.c. of fluid under pressure were taken away. 20 c.c. of antimeningococcus serum being injected, the patient at once began to improve, passed no more sugar in his urine, and steadily recovered.—The sanitary precepts issued to the Italian expeditions in Libya are discussed. It is interesting to find that the drinking of even small quantities of wine is strongly discouraged in the Italian navy, histories being given of an expedition that failed through sickness when sutlers and wine-sellers followed the troops, and of another that succeeded, though more arduous, when all camp followers had been turned back. The importance of personal cleanliness and of the burying of excreta is effectively put before the sailors.

The Child.—The first article in the April issue of this journal is one by Dr. J. F. Halls Dally on Biometric and Eugenic Studies of Elementary School Children, based on the results of a detailed examination in the course of medical inspection for the London County Council of 975 children at the Jews' Free School, Bell-lane, London, E. The results of Dr. Dally's investigations are interesting. Other articles are Heredity and Education, by Professor Peter Sandiford, of the University of Toronto; Eczema in Children and its Treatment, by Dr. J. L. Bunch; and Child Welfare in Relation to Tonsils and Adenoids, by Dr. C. A. Adair Dighton.

Tumori. Archivio bimestrale fondato da G. Fichera. Roma, April 10th, 1914. Anno III. Fasc. V.—The last number of this publication contains several interesting articles. Dr. Fichera himself discusses new growths having the same structure as sympathetic nerve tissue. According to the nomenclature adopted by the Brussels International Commission of August, 1913, the name of the tumour described by him would be "myelinic gangliocellular neuroma." The tumour is retroperitoneal in origin, springing from the lumbar sympathetic. It occurred in a girl aged 15 years, and was diagnosed as a retroperitoneal fibro-sarcoma. After removal it weighed 550 grammes, was oval in form, its diameters being 13 and 11 centimetres.—Dr. Izar and Dr. Ferro continue their researches on antigens for the meiostagmic reaction in malignant tumours, experimenting with the esters of mannite and cholesterine.—Dr. V. Saviozzi draws attention to the intestinal symptoms associated with renal tumours. These are always present during the existence of renal tumours, and depend on the compression that the tumour exerts on a lengthy portion of the descending colon. This compression takes place gradually and slowly and increases progressively *pari passu* with the intensity and extent of the pressure exercised on the colon. The symptoms are those of progressive intestinal stasis.—Dr. A. Cimoroni discusses chronic mastitis and benign tumours of the mamma in a lengthy article on 61 cases observed at Professor Bastianelli's clinic at the Policlinico at Rome. They consisted of 14 cases of chronic mastitis, 1 of hypertrophy, 11 of cystic and 35 of solid tumours, and form a most interesting series of cases.

The Candid Quarterly Review of Public Affairs: Political, Scientific, Social, and Literary. Conducted by THOMAS GIBSON BOWLES. London: Henry Garratt. Price 5s. net. Subscription £1 per year, post paid to any part of the world.—The second number, dated May, 1914, of this new quarterly review, lies before us. It contains 15 unsigned but well and weightily written articles on matters political, economic, and military. There is nothing in this issue of especial interest to medical men as such, and the natural sciences are represented only by an article on the weather and its prophets, in which the growth and trend of present investigation into the data for a science of weather-lore are described. The character of most of the articles, unhampered by any appeal to the authority of a name, indicates that while they are open to contention they are for the most part by a writer or writers equipped with a wide study of the respective subjects and endowed with a power of original thought.

British Dental Journal.—Dr. N. N. Znamensky in the May 15th issue contributes a paper on the Causes of Alveolar Pyorrhœa. The changes occurring in the bone he describes as an osteoporosis, and he considers that the lesion either may develop in the bone itself or may be secondary to pathological changes in the gum around the tooth. He considers that arterio-sclerosis plays an important part in the development of alveolar pyorrhœa. Mr. H. Dewe Mathews contributes a "Note on the Present Treatment of Pyorrhœa." An abstract of the preliminary programme of the Sixth International Dental Congress appears in this issue.

BATH MINERAL WATER HOSPITAL:

THE NEW PATHOLOGICAL LABORATORY.

ON the afternoon of Thursday, June 4th, Sir William Osler, Regius Professor of Medicine in the University of Oxford, opened, in the presence of a representative gathering, the new pathological laboratory which has recently been established at the Royal Mineral Water Hospital of Bath. The Rev. C. E. B. Barnwell, President of the hospital, took the chair, and in his introductory remarks gave a succinct account of the history and growth of the hospital since its foundation in 1737.

Sir William Osler's Address.

Sir William Osler then addressed the meeting. He said that change was the order of the day; the only thing that did not change was man, and he did not change through the countless ages. As far as diseases went man had changed very little during the historical period. Doctors even had not changed much. For some diseases people were probably just as safe in the hands of Hippocrates and Galen as in the hands of Dr. Llewellyn or in his own hands; but there was one thing that had changed—namely, method: the way of looking at and investigating things. That had changed absolutely and radically, and it was as representing that change that their laboratory was opened that day. Sir William Osler then gave as an illustration the case of typhoid fever. This, he said, in the last generation was well treated (though with more drugs) and well nursed, and when the patient left the hospital doctors and governors were all rather pleased that the case had recovered, and nothing further was done. But nowadays there were at least four agencies at work in hospital upon a case of enteric fever. In the first place, much greater care was taken in the diagnosis, involving elaborate methods which required expert knowledge, and great skill, and represented long and laborious researches. Then the case was treated certainly with fewer drugs, was probably better nursed and was not sent out of the hospital until it was shown to be safe from the standpoint of the community, until it was known not to be a distributing centre of typhoid bacilli. Again, the case was reported to the health authority and the conditions under which it arose were investigated, while no hospital was nowadays complete that looked after a case only from the medical standpoint; they had to regard patients from a wider and humanistic standpoint, from the standpoint of social service. Thus care was taken that the conditions in a home where a case of typhoid fever arose were so altered that another case did not occur, and this social service work in connexion with a hospital was an enormous addition to its usefulness in a community. Lastly, there were interesting modern developments altogether in association with and as a result of laboratory methods. If, for instance, a case of typhoid fever occurred in a large household or common lodging-house, the medical officer of health saw that all persons exposed to infection were inoculated; for it had been shown unquestionably that anti-typhoid inoculation was not only safe but was imperative where large bodies of persons exposed to the disease were being dealt with. Sir William Osler here instanced the remarkable results achieved in the United States Army, and then turned to the disease having the most direct bearing on the work of the Royal Mineral Water Hospital—viz., chronic arthritis. A generation ago, he said, a case came into the hospital and they merely put it down as rheumatoid arthritis. To-day they studied such cases and differentiated them into separate groups with the object of determining their cause. He instanced the search for a septic focus in teeth or tonsil, or for some source of intoxication in the gastro-intestinal tract, or for some process of auto-intoxication as in gout. Here were three types of cases, and it was to be hoped that within a few years, by investigation pursued along these three lines, some well-defined knowledge would be reached of the cause of this terrible disease, so prevalent, so distressing for the individual, and causing such waste of human energy and life. Sir William Osler then touched on the aims and opportunities of the new laboratory, and in this connexion he uttered a word of warning against the establishment of too many laboratories with too many men entering a career which might lead a certain number of them into a blind alley. A laboratory should be specifically for the benefit of the sick in the hospital, for the purpose of diagnosis and treatment; but in laboratories associated with large collections of cases, as in that hospital, in the interests of the public the laboratory should be a centre of research. At Bath there was a great opportunity of studying types of rheumatoid arthritis with an ulterior object. The problem of the cause of arthritis would certainly be solved; they were now on the high road in getting accurate knowledge of different groups of the disease. There was a magnificent opportunity in Bath to make a very thorough scientific study of the whole subject of arthritis. For this purpose a good museum and a well-equipped and up-to-date library were both most important; also a new X ray department. Their laboratory was excellent, and it remained to be seen what they did with it; everything would depend on whether they had the courage and the money to get the right sort of men to manage it. Sir William Osler concluded his most lucid and interesting address with wishes for the prosperity of the institution and a reference to the long and distinguished medical history of Bath.

The Mayor, Dr. Preston King, in proposing a vote of thanks to Sir William Osler, congratulated the committee on the opening of the laboratory, which had been a very great need for many years. It marked an epoch not only in the existence of the hospital but also in the city of Bath. Dr. R. L. J. Llewellyn, in seconding the vote of thanks, pointed out that to Sir William Osler perhaps more than any other living physician they were indebted for inculcating the necessity on the part of physicians of acquiring a truly critical and scientific attitude of mind. Dr. J. Michell Clarke, Professor of Medicine in the University of Bristol, followed and paid a warm tribute to Sir William Osler's services on behalf of scientific medicine in England. He expressed the hope that the University of Bristol would still further cement the union between the two cities of Bath and Bristol, between which the medical associations had always been close.

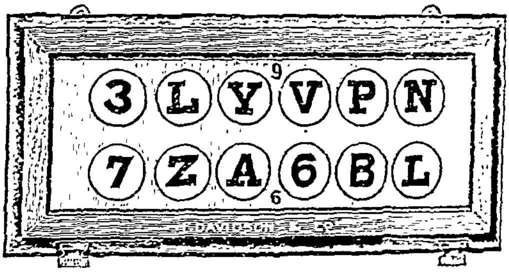
The New Laboratory.

The present laboratory is a large, well-equipped, and airy room in what was formerly the Nurses' Home. It replaces the small underground laboratory which was established six years ago and mainly upheld by grants from the medical staff. The pathological work done during the past year has been the investigation of joint fluids from bacteriological, cytological, and chemical points of view, and the estimation of tuberculin and Wassermann reactions in relation to chronic arthritis. The hospital is not a local institution, for the patients come from all parts of the British Isles, and it therefore deserves support from the country at large. An endowment fund for the laboratory and research scholarships would be a great boon, while morbid specimens, books, and reports dealing with chronic joint disease would be welcomed by the pathologists, Dr. J. M. H. Munro and Dr. G. H.-H. Almond, from members of the profession throughout the country. In the evening Sir William Osler and other medical guests were hospitably entertained to dinner at Fortt's Restaurant by the medical staff of the hospital.

New Inventions.

MOVABLE TYPE FOR TESTING THE EYES.

I HAVE frequently found that in testing the eyes in large schools the scholars have been able materially to assist their power of vision by committing the test type to memory. To obviate this I have designed a system of movable type which has been successful in practice. The type is mounted on a ribbon which travels behind a white plate through which little circular windows have been cut. The tape runs on rollers after the manner of a roller film camera, and by a half turn of the roller the order and lettering of the type are completely changed, so that several variations of lettering are obtained at will. The whole thing is 10 × 4 × 1 inches, and may be conveniently carried in the bag of the medical inspector. One might with advantage be permanently fitted in all large schools.



Messrs. Davidson and Co., Great Portland-street, London, W., are the manufacturers of the movable type.

Huntingdon. C. B. MOSS-BLUNDELL, M.D. Brux.

SCREW PLATFORM AND SCREW-CONVEYING FORCEPS.

IT is generally conceded that in the plating of fractures a rigid technique must be employed. If handling is to be avoided and assistance is limited, it is of great convenience to be able to select the required screw at a glance and pick it up easily. I have for some time been using the screw platform illustrated in Fig. 1 and screw-conveying forceps (Fig. 2), and have found them convenient and efficient. The apertures for the screws are so calibrated that the heads project just above the level of the surface. The screw-conveying forceps, of dissecting pattern, picks up a screw easily and certainly, and grips it sufficiently to steady it while being screwed home. The platform is reversible because the screw holes are complete perforations. The platform, containing a complete selection of screws of different sizes and lengths, can be boiled, and when required placed on the towel, where suitable screws can be rapidly and readily picked out.

FIG. 1.

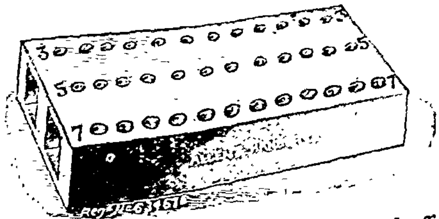
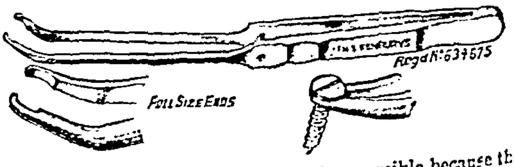


FIG. 2.



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LETTERS TO MEDICAL MEN

RESULTS, NOT "EXPECTATIONS," THE REAL TEST.

Clinical Evidence the Real Test.

DEAR SIR,—In a notice on Phylacogens in the "British Medical Journal" of May 2nd, the following remark occurs:—"So far as we have been able to gather, neither clinicians nor bacteriologists in this country are enthusiastic in their expectations of finding in the Phylacogens means of curing hitherto obstinate and incurable diseases." We desire to point out that the Phylacogens are not recommended upon theoretical grounds, but upon direct clinical evidence.

No Room for Dogmatism.

Since the therapeutic use of Phylacogens involves a departure from accepted theory and practice, it is not at all strange that clinicians and bacteriologists are not enthusiastic regarding it. Every innovation or discovery in medicine has always been confronted with a similar lack of enthusiasm. In a science so inexact as therapeutics discrimination and caution are essential, and there is little room for dogmatism. In the end theories have to be modified to fit the facts; and so it is with the Phylacogens. Because they do not accord with accepted theories it naturally follows that they make headway only in so far as they actually succeed where other remedies fail; they stand or fall by that test.

Phylacogens to be Judged by Results.

The real test of any system of medicine is not the "expectation" of those practitioners who employ it or of those other practitioners who simply look on, but what has actually been accomplished. When used primarily in an acute case, it is perfectly justifiable for anyone who is so inclined to say that something else would have done as well; that is to be expected. **Doctors are asked to test Phylacogens in suitable cases where other remedies have failed, and to judge by results.** As one writer recently said, the whole history of medicine shows that it is the clinical proof of the *curative value* of a new remedy that is of paramount importance to the physician. "The scientific explanation of how a remedy acts is highly desirable, and when established permits of greater precision and effectiveness in its use; but that the lack of it in no way invalidates clinical proof, nor stops the use of any remedy by those with the moral courage to do the best thing for the patient, is proved by the history of quinine, mercury, the salicylates, the iodides, and many other drugs."

We have nowhere claimed that Phylacogens will cure "hitherto incurable" diseases, but we claim, and we have evidence to prove, that diseases which have baffled the skill of physicians for 3, 5, 10, 15 or more years have been so influenced by Phylacogen treatment that the individuals suffering from them have, in the usual sense of the term, been "cured."

Some of the Results Obtained.

The *recorded* results of Phylacogen therapy in this country show 320 cases, reported by more than 150 medical men, of which number 89 per cent. are said to have been cured or much improved. A partial list of the conditions treated with Phylacogens, and reported, includes the following: rheumatism, 130; gonococcal infections, 89; pneumonia, 12; puerperal septicæmia, 12; sciatica, 9; otitis media, 6; eczema, acne, sycosis, iritis, erysipelas, chorea, neuritis, toxæmia, furunculosis, &c., &c. These reports come from London, Edinburgh, Glasgow, Manchester, Liverpool, Birmingham, Leeds, Sheffield, Dundee, and, indeed, from all over the country. Of these 320 cases, 33 were reported as unsuccessful, and in 5 cases the treatment was discontinued. In addition to these definite reports, we have had hundreds of opinions expressed in favour of Phylacogens by medical men who decline to give clinical reports. In cases where medical men have expressed adverse opinions, we have endeavoured to ascertain the actual facts, and where particulars have been furnished to us the cases have been recorded.

Reports by British Physicians.

We are constantly being invited to supply clinical evidence of the value of Phylacogens, furnished by British medical men, and in order to meet this demand we have adopted the system of addressing letters to the medical profession through the medium of the medical journals, incorporating in these letters the views of medical men who have made use of the new system of therapy. This, we need hardly say, is in no case done without the consent of the doctor concerned. *After all*, the men who constitute the court of first and last resort, and who pronounce the final judgment on the value of any treatment, are the practitioners who use the remedy on their patients. The value of the observations of these men is inestimable. As one writer, in giving the results of two and a half years' experience with Phylacogens, remarks:—"We practitioners have been, are, and always will be, attending to our part of establishing the position of a new remedy, and it is high time that theorists and special research workers should attend to their duty of explaining our results by careful impartial investigation, instead of arbitrarily belittling our clinical efforts."

We remain,
Yours respectfully,
PARKE, DAVIS & CO.

50, Beak Street, Regent Street, London, W.

THE LANCET.

LONDON: SATURDAY, JUNE 13, 1914.

The Value of the Coroner's Inquest.

Dr. F. J. WALDO, coroner for the City of London and borough of Southwark, prepares annually a report relating to the inquests held by him in the two areas of his jurisdiction. We have received the report for 1913 with his comments upon the salient features of the various inquiries, and it supplies, as it has done on previous occasions, matter for discussion closely affecting the public safety. The report, indeed, suggests that a series of similar documents from coroners, uniform in character and officially published for the information of those interested in domestic legislation, would be of considerable usefulness, not only to the medical profession, but to the community at large. Let us take an instance. Every now and then an inquest on the body of a person murdered, or supposed to have been murdered, followed by the necessary investigation in a police court and trial before a judge and jury, produces criticism of a nature *hostile* to the coroner's inquest. The usefulness of the inquest is denied, its methods are derided, and it is pronounced superfluous upon insufficient consideration of a limited section of the duties for which it exists. It is quite true that in an important class of cases the matter into which a coroner inquires is reconsidered before magistrates and again under the presidency of a judge of the High Court, and that the verdict of a coroner's jury is not always endorsed by that of the jury at assizes. Equally it may be found that evidence given on oath in a coroner's court upon a general inquiry into the cause of a death is not admissible before magistrates or before a judge against a person who has been definitely charged with murder or manslaughter. But to condemn the coroner's inquest to extinction upon consideration of these points alone is to ignore the far greater number of cases in which a coroner's inquest shows that no evidence exists upon which a charge of murder or manslaughter can be based. On these occasions, and indeed at all inquests, the public nature of the inquiry and the fact that the evidence is not limited to that affecting particular persons implicated should reassure public opinion. For frequently the inquiry absolves persons who otherwise would have remained subject to undefined charges, while at other times it enables suggestions to be made by members of the public with regard to matters affecting themselves as such. It is true that there are occasions when evidence is given which the education and training of the members of a coroner's jury hardly fit them to weigh adequately, but this is chiefly the case with regard to medical evidence concerning which a medical coroner can supply the necessary guidance. The importance of appointing medical men as coroners is already widely recognised, and is likely to be increased rather than diminished by the alterations in procedure with regard to inquests which have recently been recommended. The purely medical coroner may be weak on legal procedure, but the purely legal coroner is at least as likely to be weak on medical evidence, and the public run more risk under the latter's administration. It is possible that in the future a dual qualification will be demanded by far-seeing communities.

Among subjects of importance prominent in Dr. WALDO's report will be found the consideration of deaths due to vehicles. These, we need hardly point out, are not confined to the City of London or to Southwark, and would be found to occupy considerable space in the reports of coroners throughout the kingdom and in rural as well as urban localities. In the commercial centre of London the use of horses for heavy traffic is no doubt responsible for the fact that although motor vehicles cause many deaths there is still a noticeable proportion due to horse vehicles. The total number of such deaths during 1913 was 50, of which 22 took place in the City, 15 through motors and 7 through horse-drawn vehicles; 28 took place in Southwark, of which 20 are assigned to the former mode of traction and 8 to the latter. It is satisfactory to learn that this total is less by 11 than that of 1912, an improvement which may be due to an increase of central refuges or islands in the roadway. Dr. WALDO recommends that the number of islands should be still further augmented, and notes that juries have in many instances added riders to their verdicts calling attention to the need of them at particular spots. The construction of subways is not often advised nowadays in the light of experience. Those who will take the trouble to use them are comparatively few, and when not used they become a source of danger, for while the authorities are satisfied that they have supplied a safeguard no advantage is taken of it. The habit of dexterously crossing roads thronged with motor vehicles is being acquired, and this, when it is combined with an increase in the number of refuges, and an advance in the skill of drivers, should much minimise street accidents. But when accidents do take place they are usually of a very serious character, and a toll of human life amounting annually to 50 in a limited, if congested, area is a matter for serious consideration, when we remember that such an accident rarely takes place in circumstances which render it unavoidable. Two topics of importance are mentioned in this connexion in Dr. WALDO's report: the first is the possible compulsory adoption of guards or fenders for motor omnibuses and lorries, and the second the provision of ambulances for the removal of the injured when an accident takes place. The guards already in use upon many omnibuses are more or less of an experimental character, but more such devices would follow if a widespread use of them was present to stimulate the ingenuity of inventors. With regard to the extended use of motor ambulances, the City proper has long set an example to the rest of London, and the delays which have taken place in the organisation of a proper ambulance service for the County of London, and their various causes, do not call for discussion from us at this moment. References to the matter will be found not only in the present report of the coroner for the City of London but in those for past years, and whenever London can boast of a system of ambulances calculated to convey accident cases rapidly and safely to hospitals it will be due in no small measure to public attention having been drawn repeatedly to the matter by coroners' juries. Public opinion is not easily roused in a law-abiding population content to accept undesirable conditions of life as though they were inevitable, but in a popular tribunal like a coroner's inquest there is an opportunity for the expression of practical opinions by those most concerned which may prove at any time of value to the community.

The stimulus to legislative reform or municipal enterprise which is supplied by the verdict of the coroner's jury may manifest itself in many obvious ways. The dangers of flannelette and of celluloid in connexion with the loss of life through fire, the danger to infant life through children in humble circumstances sleeping in the same bed with their parents or playing in crowded rooms with unguarded grates, are matters in which the legislature has sought to interfere, and with regard to which the public mind is now generally better informed, largely through the intelligent efforts of coroners, than it was a few years ago. With respect to the wanton loss of infant life, the law has been brought into action in an appreciable degree by the expressed opinions of coroners' juries when the evidence has demonstrated that preventable deaths have occurred, and their verdicts have been delivered with force and unanimity largely because of the class from which coroners' juries are drawn. To these juries the exact conditions under which their neighbours live are very familiar, and they are able to make allowances for one witness and to neglect the testimony of another in a manner that in the long run makes for justice and reform. We should be sorry to see the coroner's court abolished unless some other tribunal with compensating advantages were substituted; and if reports supplied by many coroners were to be collected and published, in proof of the valuable nature of their duties, we think that much recent criticism would not have been uttered.

The Practical Importance of the Study of the Reaction of the Blood.

IT not infrequently happens that researches into biological problems, which at first appear to be abstruse and transcendental, prove in the light of wider experience and extended application to be of great practical significance and value. The study of the changes in the reaction of the blood, so ably and critically presented by Dr. F. GOWLAND HOPKINS in his important Oliver-Sharpey lectures, the second of which appears in our columns this week, affords an interesting case in point. The older text-books on physiology were content with the bare statement that the reaction of the blood and of its plasma was alkaline to litmus, and although a number of observations were made by titration to determine the degree of alkalinity in health and disease they achieved no general recognition until the part played by acidosis in pathology was established. The application of the methods of physical chemistry to the problem soon demonstrated that the older observations were erroneous, and that the actual reaction of the blood was practically neutral, although it was also found that considerable quantities of acid or of alkali could be added without altering the reaction of the blood.

That titration by standard acid could not be relied upon for the purpose of this estimation became evident from the fact that the end point varied with different indicators, such as litmus or phenolphthalein. Physico-chemical methods have demonstrated that the actual acidity of a solution depends upon the presence of free hydrogen ions, while alkalinity depends upon free hydroxyl ions in solution. The hydrogen ion concentration is capable of measurement even in small quantities of fluid by an electrical method. Dr. HOPKINS points out that it can also be efficiently and accurately determined by a method introduced by Mr. J. BARCROFT, which is capable of application to the clinical study of the reaction of the blood in disease. It consists in the study of oxyhæmoglobin dissociation curves, since BARCROFT and his co-workers have shown that these curves are displaced in regular fashion but not altered in form by variations in the effective acidity or hydrogen ion concentration of the blood. When the relation of the reaction of the blood to the activity of the various bodily functions is studied some interesting and important facts emerge. The respiratory centre proves to be extraordinarily sensitive to any change in reaction; the slightest increase in acidity, whether produced by carbonic acid or any other acid, leads to dyspnœa, while the slightest increase in alkalinity induces apnœa. Dr. HOPKINS refers to some other observations which tend to show that the kidneys must also be extremely sensitive to changes in the reaction of the blood and that they play an important part in regulating this reaction. It would seem that the lung controls the hydrogen ions due to carbonic acid, the kidneys those due to other acids, with the result that the mean normal reaction of the blood is adjusted with great exactness in spite of varying conditions. RYFFEL and POULTON by means of BARCROFT's method have shown that in uræmia there is excess of acid in the blood, and T. LEWIS and BARCROFT have demonstrated that cases of disease exist in which dyspnœa occurs without an equivalent cyanosis, apparently due to an increase in the proportion of acids to bases in the blood resulting from renal deficiency. Dr. HOPKINS points out that there is a good deal of evidence that the administration of alkalies increases the oxidative processes of metabolism while acids diminish them, and he suggests that the increase of alkalinity of the blood in fever may be a factor in producing the increased metabolism associated with it.

In regard to carbohydrate metabolism some interesting points are also discussed. Certain experiments by RONA and WILLENKO upon the isolated perfused heart have shown that the utilisation of sugar by the heart is lessened by rise of acidity in the fluid circulating through it, and Dr. HOPKINS mentions some interesting observations which suggest that the reaction of the blood may be a factor of great importance in regard to the mobilisation of the carbohydrate stores of the organism. It is somewhat surprising to find that the acidosis produced by strenuous exercise at high altitudes should induce more change in the actual reaction of the blood than the grave acidosis of diabetes, in which compensatory mechanisms are developed. Dr. HOPKINS multiplies examples of the importance of changes of the blood reaction to the activity of the various tissues and organs. His lectures, though apparently abstruse, prove to be full of suggestive ideas, and point the way to important practical researches in disease, and we cordially endorse his plea for the application of the methods he recommends to the study of many problems yet awaiting solution in this connexion.

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Certification under the Insurance Act in Ireland.

A mass meeting of the medical profession of Ireland was held last week at the Mansion House, Dublin, to consider the serious position that has arisen in regard to certification under the National Insurance Act. The exclusion of the medical benefit from the Act as it applies to Ireland has brought it about that the problems created for the medical profession of that country are quite different from those that the profession of Great Britain has had to face. Up to the present the chief difficulty has centred round the question of certification—that is to say, the provision of medical evidence entitling an insured person to the sickness or disablement benefit. Under the terms of the Insurance Act itself the onus of paying for such evidence was put on the administration funds of the Approved Societies, but no society has made use of its powers in this way further than in some instances to employ lay inspectors. Recognising that some special provision must be made to pay for certificates, the Treasury early in 1913 provided for that year a sum of £50,000. The Irish Insurance Commissioners, after consultation with the representatives of the medical profession, decided on the establishment of panels for certification on similar lines to the panels for medical attendance in England. In most of the country the panels failed to fill, the medical men considering the remuneration too small. In Belfast and Cork and in a few of the northern counties the panels filled, and have, we believe, worked satisfactorily. It is true that charges of slackness and of connivance at malingering have been levelled at the panel doctors, but, in spite of repeated invitations to produce specific cases of careless certification, neither the Commissioners nor the officials of the various society officials have reported a single instance of the kind either to the Local Medical Committees or to the General Medical Council. Nor have the Commissioners removed a single name from the panel.

The panels having failed to fill in the greater part of the country, the Commissioners last June and July appointed a number of so-called "medical advisers," whose duty was to examine patients on request from the secretary of an Approved Society. As was to be expected, these appointments did not meet with the approval of the medical profession, and the men appointed have failed to command the public confidence, while some of the Approved Societies, after a short experience, abstained from making further use of their services. Recognising that such appointments were only a makeshift, Mr. LLOYD GEORGE, in August, 1913, in the House of Commons, promised that the Treasury would find an additional sum of money for certification purposes in Ireland, the total not to exceed a capitation rate of 2*s.* 6*d.* per insured person. At that time this would have produced a sum of about £91,000. The money at the disposal of the Commissioners being now sufficient, the Irish Medical Committee, as representing the medical profession, offered its services to the Insurance Commissioners in drafting a scheme. It was not, however, until December last that this offer was accepted. The Irish Medical Committee then put forward two alternative proposals:—(1) an extension to the rest of the country of the panel scheme already in existence in some areas; and (2) a pooling scheme. Whichever scheme was adopted sufficient money to provide for the payment of referees and the provision of second opinions in necessary cases was to be deducted prior to distribution. To make this possible without undue diminution of the grants to country areas, the medical profession of the six county boroughs offered to pay out of their share the expense of referees for the entire country. The proposals of the Irish Medical Committee appeared to meet with the approval of the Insurance Commissioners, and it was hoped that a satisfactory scheme might have come into operation early in the present year. In the middle of January, however, the Insurance Commissioners held a conference with representatives of the Approved Societies. These representatives made a new demand. They asked that the Commissioners should appoint a sufficiency of whole-time medical certifiers, the societies to be relieved of the obligation to pay sickness benefit except on the certificate of one of these officers. Further, it was asked that these officers should be appointed at the nomination of the societies, but from this latter view the Commissioners dissented. After this conference the Irish Medical Committee was informed that the Commissioners despaired of formulating a scheme which would satisfy both the medical profession and the societies. There the matter has rested for nearly five months. During that time, however, the Irish Medical Committee has pressed for an interview with Mr. LLOYD GEORGE, but without effect, and has expressed its willingness to meet representatives of the societies and discuss the matter with them in the presence of Mr. LLOYD GEORGE.

Such in brief is the history of the proceedings that was put before the mass meeting last week. The meeting, in a series of resolutions, emphasised the necessity, from the point of view of the insured person, of the certificate of the patient's own medical attendant being accepted as primary evidence of incapacity. At the same time, it is to be borne in mind that the medical profession not only raises no objection to the establishment of a system of referees, but actually welcomes such a system. The present position is that the Insurance Commissioners are not unlikely to give way to the pressure of the representatives of the Approved Societies, and appoint a number of whole-time and part-time certifiers. It is scarcely necessary to point out how hardly such a system may press on the insured. At the meeting numerous instances were related of injustice to the insured through their failure under the system now in temporary vogue to receive the benefits to which they were entitled. In most instances this failure followed on the decision of a medical adviser. In one case a woman died penniless three days after a medical adviser—paid out of public funds—had stopped her sickness benefit. In another, a man died in the workhouse from cancer of the stomach ten days after his benefit had been stopped. In both these cases the certificate of the medical attendant had been ignored. In another case a patient was ordered to present himself for examination by a "medical adviser" 18 miles from his home. Such cases, we understand, are not unusual in the working of the Insurance Act in Ireland. Under a system of whole-time certifiers they are likely to be indefinitely multiplied. We do not know how far the Insurance Commissioners are committed to the plan put forward by the societies. As no public announcement has yet been made, we may assume that no scheme is yet complete. The entire success of the Insurance Act in Ireland appears to be at stake, including the working of the sanatorium benefit. The Insurance Commissioners and those to whom they are responsible will do well to weigh the arguments put forward at the mass meeting of the medical profession before they decide on a scheme which must meet with the hostility of the Irish medical profession and may submit members of Approved Societies to an intolerable tyranny.

Annotations.

"Ne quid nimis."

THE HOSPITAL CARE OF POLICE PATIENTS.

Dr. Maurice A. Cassidy has been appointed physician to the London or Metropolitan Police Force, a force which now numbers 22,000 men, and which, although a picked body, has a high sickness and injury rate owing to the arduous nature of the duties. It is clear that the appointment of a physician was absolutely required under modern conceptions of public duty towards a section of the community so large and so strenuously employed, while it seems to us that the needs of the force might well now be met in another direction. For all these 22,000 men, of whom as many as 14 per cent. may be annually injured *in the course of their routine work*, there is *not a single definitely allotted bed* in any of our general hospitals. We recorded recently with great pleasure that, under an arrangement made at the instance of Sir Edward Henry, the Commissioner of Police, with the approval of the Home Secretary, subscriptions from the police funds will be forthcoming equivalent to a sum of 1 guinea per week on account of every police in-patient admitted to any hospital during the year. This contribution, which is on a voluntary basis, is a valuable change in the methods of dealing with police in-patients in the metropolitan hospitals; but it seems to us that particular beds for the police might well be arranged for in these great institutions, unless, indeed, it should be found practicable to establish a small police hospital for the reception of the sick and injured of the force.

THE AERIAL CONVEYANCE OF INFECTION.

IN another column we publish an interesting article on this important subject by Dr. Frederic Thomson, medical superintendent of the North-Eastern Hospital, Tottenham, and Mr. Clifford Price. The question as to whether infection can be carried by the air has been much discussed, and although the atmosphere can scarcely be regarded as an important medium for the spread of diseases over long distances, nevertheless in the case of small-pox, and perhaps enteric fever, there is some evidence to suggest the disease may be carried by infected dust particles, probably fragments of dried discharges from persons suffering from the disease. Early in 1912 Dr. Thomson and Mr. Price commenced to make a series of observations in certain infectious diseases, using the most stringent precautions that the infection could not be carried by individuals who came in contact with the patients. The exact details are described in their communication, and prove that a patient and painstaking investigation was carried out. The diseases under treatment consisted of scarlet fever, diphtheria, rötheln, mumps, whooping-cough, measles, and chicken-pox. The arrangement of the ward was an interesting one, and as the result of their experience Dr. Thomson and Mr. Price assert that they could treat these infectious diseases in one ward, almost certainly, with perfect safety if the day of the disease on which the patients were to be admitted could be selected. The conclusions which were arrived at are stated with due caution. With regard to scarlet fever they consider that the infection is not air-borne. The evidence as to whooping-cough was uncertain, but in regard to measles they believe that the infection is probably carried by the air early in the disease only. The infection of chicken-pox also appears to be air-borne until the third day. The number of cases of other diseases which were treated were too few to be of any definite value. These observations are certainly interesting, and if corroborated by a larger number of cases would prove of considerable value.

PELLAGRA IN NYASALAND.

THE awakened interest in the problem of pellagra justifies reference to a recent paper by Dr. Hugh S. Stannus, medical officer at Zomba, Nyasaland, read before the Society of Tropical Medicine and Hygiene, and published in their Transactions.[1] To Dr. Stannus belongs the honour of discovering the existence and describing the symptomatology of pellagra as it occurs in that part of the world, and in this second communication[2] he amplifies his previous statements and supplies important data for a study of the etiology of the disease. During the last two years the spread of pellagra in and around the Central Prison at Zomba has been such that it amounts to an actual epidemic, in the course of which 131 cases have been directly under Dr. Stannus's observation. As far as the symptoms are concerned, stress is laid on the remarkable symmetry of the rash, which begins in these African cases usually on the antero-lateral surfaces of the upper third of the forearm, the anticubital fossa, and the lower third of the upper arm, appearing thereafter on the back of the hand, the triangles of the neck, the "butterfly" area of face, forehead, and upper surface of pinna. It is very common to find a condition like syphilitic rhagades at the corners of the mouth, where the epithelium becomes sodden and thickened, and cracks appear in it, passing across the mucocutaneous junction a little way into the mouth. A not infrequent affection of the free margin of the prepuce is exactly similar. There is often a glossitis with subsequent irregular epithelial denudation, giving an appearance described as "geographical" tongue. The whole mucous membrane of the mouth may be involved, and the process may spread to the fauces and pharynx. Dr. Stannus believes in the possibility of pellagra sine exanthemata, and quotes illustrative instances. The nervous system symptoms, the alimentary symptoms, and the numerous complications of the disease are described and tabulated, and then the writer proceeds to discuss the difficult matter of etiology. Six cases occurred among 27 warders employed in the prison, and 16 in some 150 men of the King's African Rifles, whose lines are close to the prison. On the other hand, none occurred in some 72 Sikhs, also stationed in the neighbourhood. The rations to prisoners, Sikhs, troops, and warders consisted mainly of rice, all drawn from the same supply. It is certain that in the case of many of the pellagrous prisoners maize has not entered into their diet at all for years. Dr. Stannus thinks that the data he adduces absolutely put all maize theories, as such, out of the question. On the other hand, if "grain" be substituted for "maize," then the theory is not to be so easily dismissed. At Zomba the prison ration consists of rice and salt, and in the majority of cases little or nothing else. It is therefore quite possible that so restricted a diet may lead to the appearance of pellagra as the expression of a deficiency, after the analogy of beri-beri. As the rice is eaten in Nyasaland, part at least of the pericarp is left on the grain. Dr. Stannus, however, shows that the risk of partaking of damaged rice is considerable. Turning to the theory of protozoal infection, Dr. Stannus has made a laborious investigation of the simulium distribution in Nyasaland in its bearing on Dr. Sambon's theory of the association of pellagra with the simulium fly. He has found the fly in abundance on all of the streams in the neighbourhood of Zomba, and frankly states that he can bring forward no facts to militate against Dr. Sambon's theory. At the same time, he points out that it must be carefully noted that the data brought forward equally support the theory which lays the cause of the disease at the door of malnutrition—i.e., nutrition wanting in some essential principle. Further, Dr. Stannus declares that in no disease caused by a living virus is a regular complete cessation of symptoms seen, with relapse at a definite season many months later, such as occurs or may occur in pellagra, and this leads him to believe that if the condition is associated with a protozoal infection there must be seasonal reinfection or intoxication, and not a relapse. Dr. Stannus's very careful clinical observations and investigations form a valuable contribution to the study of the disease.

INDEX CORRELATIONS.

IN connexion with the Lister Institute of Preventive Medicine a statistical study of index correlations has been undertaken by J. W. Brown, M. Greenwood, jun., and Frances Wood, particulars of which appeared in a paper in the *Journal of the Royal Statistical Society* for February last. The problem, which is of some importance in medical statistics, is of the following nature. In a series of districts with populations represented by z_0, z_1, z_2, &c., the deaths from a certain disease are x_0, x_1, x_2, &c., and from some other disease y_0, y_1, y_2, &c. The question arises whether there is any association between the x's and y's which is independent of the common relation of each with z. In order to obtain the requisite materials for this study the Report of the English Registrar-General for 1901 has been laid under contribution, the investigators having faced the very considerable labour of taking out from that source the first thousand registration subdistricts with populations between 1000 and 10,000, together with the corresponding numbers of births and deaths. The birth- and death-rates were then computed and the necessary correlation tables drawn up. These data were then completely analysed and the resulting constants appear in Table 10. The provisional conclusions derivable from this study are fully set forth in the paper, which will be found instructive and suggestive for further study of the problem.

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[1] Transactions of the Society of Tropical Medicine and Hygiene, vol. vii., No. 1, p. [illegible]

[2] See, for reference to the first, THE LANCET, Feb. 3rd, 1912, p. [illegible]

ANAPHYLAXIS AND IDIOSYNCRASY.

SINCE the introduction of serum therapy the phenomena of hypersensibility and the "serum disease" have been closely followed and studied with absorbing interest. One of the latest original contributions to the subject is from the pen of Professor T. Silvestri, of the University of Modena, published in a recent number of *Il Policlinico*.[1] Whether there exist anaphylactic properties in certain drugs, or whether such properties are limited to albuminoid substances or are possessed by colloids in general and by certain crystalloids, are questions which have previously attracted the attention of other observers, such as Gubler, Bruck, and Klausner, while E. Friedberger and Ito attempted to produce hypersensibility to iodine in guinea-pigs by preparing them by injections of iodised albumin. Nicola Barbaro in a recent note on the determining action of certain crystalloid substances relates the case of a patient with acute polyarticular rheumatism in whom a small quantity of salicylate of sodium (30 grains daily) and minimum doses of iodide of potassium (4 to 8 grains) were followed by gastro-intestinal disturbance, diffuse erythema, pyrexia, and blood changes, and another case of a man, in whom the ingestion of fish gave rise to urticaria, who exhibited alarming symptoms after the injection of ⅙th grain of morphia. These phenomena may be of an anaphylactic nature, but as the anaphylaxis is not specific in each case it must be admitted that the anaphylactic state may have been prepared or merely brought into action by the morbid process and determined by the medicinal crystalloids. While waiting for more light to be thrown on such cases, it might be stated provisionally that the crystalloids do not give rise to antibodies, but that where the latter already exist they may determine anaphylaxis. In the present state of our knowledge concerning the anaphylaxis of crystalloids it may be affirmed that it does not yet rest on a solid basis of experiment, and that although we are not in a position to deny in an absolute manner the affinity, if not the identity, between the manifestations of idiosyncrasy for certain drugs and those of anaphylaxis, there is a tendency among scientists to recognise that at least some crystalloid bodies have a determinant action, direct or indirect. In all cases of idiosyncrasy the symptoms are those of poisoning by the respective drugs; the peculiarity of the case consists in the rapidity, and especially in the disproportion between cause and effect. Hence we do not speak of anaphylaxis in such cases, but of intolerance or idiosyncrasy towards the drugs used. When, however, we come to investigate the significance of true anaphylactic shock we are struck by the fact that whatever be the antigen used the symptoms are more or less identical. To explain this phenomenon it has been supposed that anaphylactic shock is the effect of the reaction between albuminoid antigen and antibodies in the presence of blood serum, the antigen undergoing a fermentative action with the formation of highly toxic products. But, on the other hand, Doerr has pointed out that fermentative actions are slow processes, while anaphylactic shock often takes place with lightning rapidity, and that the quantity of antigen sufficient to cause fatal shock is so small that it is difficult to imagine how, from the release of so minute a quantity of albumin, sufficient toxic bodies can be produced. Professor Silvestri, in criticising these views, advances the opinion that just as in true anaphylaxis, i.e., a poisoning of proteic nature, so in drug idiosyncrasy we have a group of symptoms whose peculiarity consists in the rapidity, violence, and disproportion between cause and effect, which reproduces exactly the symptoms of poisoning corresponding to the substance in question. Hence anaphylaxis and drug idiosyncrasy have essentially something in common, nor is it a valid objection that in the latter we cannot explain the mechanism of the accident caused by substances not biologically active, since we are in the same state of ignorance concerning those instances where the system becomes tolerant of and accustomed to large doses of poisonous drugs. It seems to Professor Silvestri still uncertain whether the field of anaphylaxis should be so far extended as to cover true drug idiosyncrasy, or whether experimental or spontaneous anaphylaxis should be considered simply a particular instance of idiosyncrasy in general. Anaphylaxis he considers a defensive reaction of ancestral origin against anything that threatens the integrity of the economy, either wholly or in part. It is for him a tumultuous reaction, disproportionate owing to a lack of adaptation to a given virus or given substance, a reaction which precedes immunity. It may be that the exceptional gravity of the diseases which rage for the first time in a given locality is in some cases an instance of anaphylactic reaction. In evolution, says Professor Silvestri, anaphylaxis must have preceded immunity, as it precedes it, as a rule, in experimental and clinical anaphylaxis. If at times it accompanies or follows immunity—at least in the laboratory, in animals which furnish a highly antitoxic serum, and which therefore have acquired a marked immunity with respect to a given infection—this fact is not in absolute contradiction to what has been just stated, for it may be assumed that by repeating the stimulus (injection of toxin) for too long a time the organism would respond with a paradoxical reaction. This would constitute another argument in favour of the theory of the identity of anaphylaxis and idiosyncrasy in general.

JAUNDICE OF PREGNANCY WITH JAUNDICE IN THE OFFSPRING.

A REMARKABLE case is recorded by Dr. F. E. Tylecote in the *Medical Chronicle* (1914, p. 465) of a woman who married at the age of 18 in 1894, and who has since then had eight children. Each child was born prematurely, the first at six months, the second at seven months, and the remainder at eight months. With each pregnancy the woman had jaundice which came on at the third month, increased in intensity, persisting till three months after confinement, and was unassociated with any pain. Its onset was always insidious. She had never before had jaundice. Of the eight children seven had jaundice; this came on in six a week after birth; in the other, in two days. Six of the children died, all with convulsions, at ages varying from two days to nine months; the only child which recovered and which is still living was the fifth; like the rest it had jaundice when a week old. It was breast-fed for ten days from birth, an interesting fact, as all the other children were artificially fed. The only child which escaped jaundice was the first-born, which only lived an hour, and it is stated that in these familial jaundice cases immunity of the earlier children is common. The woman herself in 1910 had persistent jaundice accompanied by a marked xanthomatous condition which had started on the fingers and hands 14 years *after* the first attack of jaundice, which suggests the latter condition is not dependent, in this instance at any rate, upon xanthomatous nodules in the liver. She had a markedly enlarged liver, and there was bile in the urine. There was no pyrexia. The jaundice was deep, and during observation in hospital in 1910 was not variable in intensity.

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[1] Il Policlinico, anno xxi., fasc. 10, March 8th, 1914. Via del Tritone 46, Roma.

CHLOROFORM ANÆSTHESIA AND ADRENALIN.

THE general conclusion has been reached that though in some cases of death under chloroform anæsthesia the death is due to overdosage, in many others this is not the cause. Death has occurred frequently under light anæsthesia, often at the early stages, and sometimes when the anæsthesia has been interrupted and variable in intensity. When direct and careful observation has been made under conditions naturally militating against exact and scientific methods, it has been noted that it was the heart which failed and not the respiration. In cats under light anæsthesia A. G. Levy has noted the frequent incidence of cardiac irregularities and often sudden death. The latter was demonstrably due to ventricular *fibrillation*. It is suggested that this is the cause in clinical cases, and with much reason. Of the preceding irregularities and their relation to the final consummation, ventricular fibrillation, it was shown that they arose from an "irritable" ventricle, a ventricle giving rise to frequent extrasystoles and sometimes tachycardia. The intimate relation of such to fibrillation is sufficient to suggest that the latter is merely a further advance upon the *former*. Incidental to Levy's observations it was noted that the injection of small doses of adrenalin favoured both the irregularities and the onset of fibrillation. This was shown by the fact that even under deep chloroform anæsthesia its injection caused *similar* arrhythmias to those seen, without its addition, under *light* chloroform dosage. The practical value of these observations is obvious, and has been intensified by the recent clinical fatalities which have followed the administration of chloroform after local adrenalin application. More exact knowledge of this drug's action and its relation to light chloroform anæsthesia has been furnished by the admirable researches of E. Nobel and C. J. Rothberger, published in the *Zeitschrift für die Gesamte Experimentelle Medizin* (1914, Band iii., p. 151). These results, in the first place, confirm those of Levy with regard to the effect of adrenalin, but they differ from his view that increased "irritability" of the heart is the cause. Rather do they believe that the irregularity is due to simultaneous stimulation of the extracardial nerves, the vagus and the sympathetic. They noted that the "irritability" is depressed by chloroform, vagal central action is rather increased, and adrenalin acts much more easily when the vagi are intact. In one experiment standstill of the heart was induced by adrenalin and chloroform when the vagi were intact, a result never gained with divided vagi. This shows the effect of adrenalin upon the vagus, whose sensitiveness is, it is suggested, heightened by the chloroform. The heightened vagal tone is shown in most of the experiments (performed upon cats and dogs) by a primary bradycardia. There is sinal slowing. A further vagal effect follows. This is depression of *a.-v.* conductivity, leading even to complete dissociation of auricles and ventricles. With suitable strength of adrenalin further effects are noted, and these are due to accelerator stimulation. These effects are seen in frequent ventricular extrasystoles or tachycardia, arising usually, but not always, in the left ventricle, and often preceded by a brief period in which the node of Tawara (the secondary centre) controls the rhythm of the heart. Where sudden death occurs it is at this stage, when the tachycardia may break into fibrillation, or when the latter arises *de novo*. With recovery from the tachycardia there occurs a "secondary bradycardia." This is due to nodal automaticity, a condition only rendered possible by associated sinal depression, the persisting vagal effect. The irregularities, then, observed under light chloroform anæsthesia with adrenalin follow a definite plan. It is a plan explainable by synchronous vagal and accelerator stimulation, and in this respect follows strikingly the experimental effects following direct and combined stimulation of these nerves. Of practical importance is another fact elicited and explainable—namely, that previous injection of atropine, by cutting off vagal effects, renders irregularities less easy to produce. This it does in one way by maintaining the normal sinal dominance of rhythm. Atropine later in the experiment has not the same effect—in fact, may be dangerous. In cases, then, which require adrenalin and chloroform a preliminary injection of atropine is strongly advisable. The observations afford an explanation of facts previously seen clinically as well as experimentally, and indicate in a striking manner the practical application of the string galvanometer, by which alone could the interpretation of events be effected.

LEUCOCYTOSIS OF THE CEREBRO-SPINAL FLUID WITH MENINGEAL SYMPTOMS IN CEREBRAL HÆMORRHAGE.

AT a meeting of the Société Médicale des Hôpitaux of Paris on May 1st M. J. Amaudrut and M. A. Gendron reported two cases of cerebral hæmorrhage accompanied by conditions which have rarely been observed—leucocytosis of the cerebro-spinal fluid and meningeal symptoms. A man, aged 38 years, was taken to hospital on Oct. 7th, 1912, suffering from coma and right hemiplegia which began five days before. He had previously been quite well. On the paralysed side the plantar reflex was extensor, the patellar and tendo Achillis reflexes were abolished, and the radial and olecranon reflexes were increased. There were also meningeal symptoms; Kernig's sign was well marked on the sound side, the neck was rigid, and when the head was briskly flexed on the chest flexion of the left thigh was produced. There was no albumin or sugar in the urine, and the Wassermann reaction was positive. However, mercurial treatment was adopted. The patient remained in this state until the 16th. On the 19th he was sufficiently conscious for the existence of complete aphasia to be observed. The meningeal symptoms gradually diminished. On several occasions lumbar puncture was performed with similar results. On the 9th the cerebrospinal fluid was found under increased tension, of an amber colour and turbid. It contained 688 leucocytes per cubic millimetre, which consisted of 88·3 per cent. of polynuclears, 9·3 of lymphocytes, and 2·3 of mononuclears. Cultures of the fluid were sterile and inoculation of a rabbit negative. Recovery ensued. In the second case a man, aged 30 years, the subject of plumbism, was taken to hospital comatose on Sept. 26th, 1912. There was right hemiplegia. He had had a "stroke" during his work. He remained in this state for 48 hours, and on the morning of the 28th, when he became conscious, he was found to be aphasic. In the evening he again became comatose, and in addition to the hemiplegia meningeal symptoms were found. The neck was rigid and Kernig's sign was present on the left side. There was optic neuritis and the urine contained albumin. Lumbar puncture was performed several times. On the 26th the cerebrospinal fluid had the rose-colour of hæmorrhage. On the 28th it was of an amber colour and contained leucocytes in abundance. They were almost all intact polynuclears. There were no red corpuscles. Death occurred on the 30th. The necropsy showed an encysted hæmorrhage which had destroyed the left internal capsule and part of the grey nuclei.

LESIONS OF THE CAUDA EQUINA.

HIDDEN away as it is from most investigators, even from the enterprising surgeon of the twentieth century (whose researches lead him into districts that the pathologists of past generations were content to leave unexplored unless there were special reasons for going there), the cauda equina has hitherto received something less than its due share of attention. However, this is going to be changed, as two papers in the April and May numbers of the *American Journal of the Medical Sciences* show. The first, by Dr. Joseph Collins and Dr. C. A. Elsberg, describes recently observed cases of giant tumours encountered in this area. These tumours, they say, seem to originate in the pia over the roots or from the roots themselves; they grow slowly, causing few symptoms until they have attained such a size that they fill the entire lower part of the spinal canal, extending upwards over the conus and the lumbo-sacral cord. Three such cases are described, in the first of which the diagnosis was suspected, while in the other two a correct diagnosis of giant tumour of the cauda equina was made before the operation. In spite of this diagnostic accuracy the results of operation were not very good; two of the patients were considerably relieved, but it was impossible to effect a complete removal of the growth. The writers think that an earlier diagnosis would offer some hope of a radical success. As they point out, their patients' histories presented a long period of premonitory symptoms, chief among which were pain in the small of the back, extending sooner or later into one and then the other lower limb, and leading to a diagnosis of sciatica, stiffness of the lumbar back, increasing stiffness and weakness in the lower limbs, with drop-foot, and slight sphincter disturbances. To these data objective examination added the discovery of paralysis of the peronei and sometimes of the anterior tibial group, absence of the knee- and ankle-jerks, tenderness of the lower lumbar spines, irregular and asymmetrical sensory disturbances, and absence of cerebro-spinal fluid or of characteristic changes on lumbar puncture. The tumours removed were endotheliomata or endothelial sarcomata; they were relatively benign and did not tend to extend through the dura. The second paper, by Dr. Foster Kennedy, Dr. C. A. Elsberg, and Dr. C. I. Lambert, emanates from the same source, the New York Neurological Institute. In it the authors describe what they regard as a new morbid entity. This belief is based on observation of five cases so closely resembling one another, and so different from anything hitherto described, that it seems to be well founded. The symptoms were pain in the lower limbs, especially in the backs of the thighs and the calves; atrophy of the anterior tibial muscles, with drop foot; objective sensory phenomena most marked and severe in the areas supplied by the sacral roots; loss of knee-jerks, and (in three cases) a plantar extensor response. At the laminectomies which were performed in every instance the caudal roots were found to be swollen, congested, and bluish-red in colour. Pathological examination showed these appearances to be due to a meningo-radiculitis which was not syphilitic or tuberculous in character, but which is very suggestively compared by the authors to a similar condition found in horses, and to the phenomena produced experimentally in these and other nerve roots by bacterial toxins ascending from the periphery into the central nervous system along the nerve trunks. In these human cases, however, no source of infection of this kind appears to have been discoverable.

SEASONAL CHANGES IN THE HEALTH OF THE CONSUMPTIVE.

THE popular belief that the summer months are the most favourable for the consumptive is, no doubt, largely founded on the observation that coughs and colds are so much more frequent in the winter than in the summer. But even when the non-tuberculous conditions are excluded it would seem that the prevailing belief in the salubrity of the summer months is founded on fact as far as consumption is concerned. This view has lately been confirmed and amplified by Dr. N. J. Strandgaard, whose investigations, communicated at a meeting of the Medical Society of Copenhagen, have been published in *Hospitalstidende* of April 1st. It is the practice for patients in the Danish sanatoriums to be weighed every Saturday morning, and the average gain of weight is between 200 and 300 grammes. To be exact, the average is 270 grammes, which is the figure given for eight sanatoriums with an average total of 800 patients during a period of 10 years. The average gain of weight varies much with the season of the year. From December to May it is fairly uniform but low, being 225 to 250 grammes. It rises rapidly and steadily from May to September, during which month it reaches the maximum of 380 grammes. It falls from October to December, which is the month showing the smallest gain of weight. The average gain of weight in September is almost double that in December, and there can be little doubt that gain in weight is, as a rule, accompanied with improvement in the patient's health. Thus at Boserup, one of the Danish sanatoriums, it was noted during an observation period of 10 years, that the proportion of febrile patients confined to bed was about twice as great in the winter as in the summer months. The proportion of patients without expectoration and bacilli was greatest in August and September, least in the months January to April. Among the factors responsible for the seasonal changes in the patient's weight are the atmospheric conditions. In one week in the summer of 1908 the average for five sanatoriums actually showed a loss of weight, whereas there had been a substantial gain of weight during the preceding and following weeks. During these weeks the humidity of the air had been high; during the middle week it had been low. This relationship is further illustrated by the uniformity with which the average gain of weight curve follows that of the relative humidity of the atmosphere. The warmth of the air also seems to affect the patient's weight, for the atmospheric temperature was 2° C. higher during "heavy" than it was during "light" weeks. Dr. Strandgaard suggests that these observations point to sunlight, warmth and moisture being fattening, while darkness, cold and dryness would appear to be relatively emaciating. His observations on the relation of the consumptive's weight to the seasons of the year show a striking similarity to the results obtained by Bondeson and Jörgenson in connexion with soldiers, by Adsersen and Milo in connexion with the new born, and by Malling-Hansen in connexion with older children. Finsen's investigations into the amount of hæmoglobin in the blood during the seasons of the year also tally with Dr. Strandgaard's conclusions. These are instructive, but it should be borne in mind that they are based on statistics, and are not applicable to the individual. Probably in no disease so much as in consumption is the familiar adage true—"One man's meat, another man's poison."

THE INTERNATIONAL CONGRESS OF OPHTHALMOLOGY.

The Twelfth International Congress of Ophthalmology will be held at St. Petersburg, under the presidentship of Professor Bellarminoff, from August 10th to 15th. Arrangements are being made by which members can get from London to St. Petersburg on advantageous terms. Mr. W. H. H. Jessop, 73, Harley-street, London, W., who is in charge of the negotiations, will be glad to afford any necessary information as well as to receive the names of those intending to be present at the congress.

Mr. Alexander G. R. Foulerton, F.R.C.S. Eng., has resigned his appointment as Director of the Bacteriological and Clinical Pathology Laboratories at the Middlesex Hospital, and has been appointed to a lectureship in the Public Health Department of University College, University of London.

THE Cavendish Lecture will be delivered by Dr. F. W. Mott, F.R.S., before the West London Medico-Chirurgical Society on Friday, June 19th, at 8.15 P.M. in the Kensington Town Hall, on the Causes of Insanity. The lecture will be followed by the annual conversazione.

Dr. T. R. Elliott, F.R.S., will deliver the first biennial Sydney Ringer memorial lecture on Monday next, June 15th, in the lecture theatre of University College Hospital Medical School, at 5 P.M., on the Adrenal Glands. The lecture is open to all qualified medical practitioners and medical students.

Dr. Edwin Goodall will deliver the Croonian lectures before the Royal College of Physicians of London on Tuesdays and Thursdays, June 18th, 23rd, 25th, and 30th, at 5 o'clock, at the College, Pall Mall East, on "Modern Aspects of Certain Problems in the Pathology of Mental Disorders."

PREHISTORIC MAN AND HIS EARLY EFFORTS TO COMBAT DISEASE.*

BY T. WILSON PARRY, M.A., M.D. CANTAB.

The Stone Age.

THE Stone Age must be regarded merely as a stage of culture, as every nation and people on their emerging from an animal to a human level, however low, starts with its "Stone" Age, passes through its "Copper" or "Bronze" Age, thence through its "Early-Iron" Age, till it eventually arrives at its Historic period. The anthropological world is indebted to the late distinguished antiquarian, Lord Avebury, for suggesting the division of the great Stone Age into two parts—namely, the Palæolithic or Old Stone Age and the Neolithic or New Stone Age.

Palæolithic man was a hunter living at first on the banks of rivers ("river-drift man" he was then called); then he took to dwelling in caves (cave man). We find him in this last capacity as an artist, showing much ability and even some genius.

Neolithic man was of a different type. I think he may best be described as a farmer, a builder, and a surgeon. The Neolithic period is divided into three parts: (1) the Campigny period, (2) the Robenhausen period, and (3) the Carnac period. It is this last period that will specially interest us now, as we have absolute and certain proof that during this period the surgical operation of trephining was performed.

Pre-palæolithic Man.

To begin at anything like a beginning we must hark back to times much more remote than these. In pre-palæolithic days man was little above the lower animals. The picture that I have of the earliest primitive man at present is an admixture of Pithecanthropus erectus and the Piltdown lady. With the former's cranial capacity of 850 c.c. and the latter's simian lower maxilla and canine tooth, we are getting dangerously near our cousins the anthropoid apes. A large male gorilla may have a capacity of 600 c.c., and there would therefore be much less distance between him and "the fossil man of Java" than exists between this latter and an average modern European cranium. I need not enter into the controversy as to whether these fossilised human crania belong to the early Pleistocene or late Pliocene period. The geologist has strong inclinations towards the former, while the anthropologist has much to say on the latter. I have faith that there are still to be unearthed anatomical surprises of unparalleled importance which when discovered will necessitate a constant rearrangement of ideas as fresh material is brought to light.

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* An abstract of a presidential address delivered before the North London Medical and Chirurgical Society on May 13th, 1914.

Animals' Self-curative Instincts.

It is well known that animals possess strong self-curative instincts. Dogs and cats when indisposed will eat grasses that have a medicinal action usually of an emetic or purgative nature. The fibrous-rooted wheat-grass,[1] *Triticum caninum*, is frequently eaten by the former. If an animal has been injured it is noticed continually to lick the affected part, which is a somewhat crude combination of our modern fomentation and massage. Prehistoric man would most certainly have licked his wounds. Later, when he had lost some of his earliest animal instincts, he would observe what animals did and imitate them. Thus the use of hellebore[2] was believed to have been discovered from the goat.[3] Virgil tells us that dittany was "eaten by wild goats when they were shot with darts."[4] Pliny tells us that bleeding was taught man by the hippopotamus, "that intelligent animal finding himself plethoric, goes out on the banks of the Nile and there searches about for a sharp-pointed reed, which he runs into a vein in his leg, and having thus got rid of a sufficient amount of blood closes the wound with clay." Buffaloes, horses, and camels are exceedingly fond of licking salt. Prezevalsky says: "On the Mongolian camels salt, in whatever form, acts as an aperient, especially if they have been long without it." Livingstone says that "the chimpanzee, soko, or other anthropoid apes will staunch bleeding wounds by means of their finger or of leaves, turf, or grass stuffed into them." Primitive man must have done likewise, only always a little more.

The Instinctive Period of Medicine.

The first period in the history of medicine is known as the Instinctive Period or the Period of Demonology. As embryology epitomises evolution, so the study of the present-day primitive savage unfolds to us the larger history of prehistoric man. It was no doubt the twin mystery of disease and death that first stimulated man to think, that is why the medicine-man and the priest were one and the same individual at the outset. The position of the medicine-man in the tribe must have been a most exalted one. In a fascinating book just published on the American-Indian, called "The Vanishing Race,"[5] this is well shown. "The Indian," it says, "aspires to be a great hunter, he seeks fame as a noble warrior; he struggles for the eagle feathers of distinction, but his greatest longing is to become a medicine-man and know the great mystery." Witchcraft and magic early took a chief part in the treatment of disease and demonology reigned supreme for many millenniums. Demonology is based on "Animism," and this latter briefly consists in the belief in the influence of the spirits of dead persons. Animism has its beautiful as well as its hideous aspect. The wide belief among savage races that inanimate objects, as well as animate beings, are all possessed of a spirit has been well demonstrated by Maeterlinck's excellent allegory "The Blue Bird," which shows the happy side of this creed. The unhappy side is illustrated by the reverence bestowed on spiritual monsters and the propitiation required of them. The three chief theories of disease were: (1) the anger of a disaffected spirit, (2) witchcraft, or (3) offended spirits of dead persons. The Mantira,[2] a low race of the Malay Peninsula, believe that there is a separate disease-spirit for every illness, one for small-pox, one for inflammation of the hands and feet, and one for hæmorrhage; in the last-named case the spirit is thought to fasten itself on the wound of the individual and suck out his blood. The aboriginal New Zealanders[6] had a separate demon for each part of the body to cause disease: Tonga caused headache and sickness; Moko-Tiki was responsible for chest pains, and so on. In Brittany to-day similar pagan ideas are universally accepted, but under different auspices. The Breton's deities are neither Tonga nor Moko-Tiki, but if the Bretons are suffering from boils they offer prayers to St. Maudez; if from fevers they petition St. Gonéry.[7] The earth from the tomb of this latter saint is considered a cure for any kind of fever. It is sold in little muslin bags and tied round the necks of the patients.

Demonology the Reason for Trephining.

It must have been but a short step for the first man, who, firmly believing in demoniacal possession and who, at the same time, suffered either from frequent fits, severe pain in the head of a periodic or paroxysmal nature, chronic hemicrania or unbearable Ménière's disease, to make an effort to free himself from his fetters. Life had become an intolerable burden to him, and he believed there was a devil inside his cranium that was petitioning somewhat persistently for liberty. The first operation must have been troublesome and tedious, not to mention its extreme danger. The medicine-man had to incise the scalp with a sharp piece of flint, arrest the bleeding, and scrape the bone. This would take many hours to perform, but the patient was helpful and anxious to get rid of his devil, and possessed that unflinching stoicism to pain that is characteristic of the savage. If the patient recovered he was reverenced as a hero. If he died his skull was eagerly sought after. The trephined portion was removed by flint saws and pieces of bone, edged by part of the healed cicatrix, were removed. Either a hole was passed through this or a groove made for affixing a cord, so that it might be worn as an amulet to defend the wearer against the disease from which the dead man suffered. The first skull of this kind to which the attention of scientists was drawn was discovered by M. Prunières in the year 1868 in a dolmen near Aiguières. This observer mistook the hole with the smooth edges for an opening that had been made artificially after death for the lips, in the conversion of the skull into a drinking cup, a custom well recognised among savage tribes. It was left to Professor Broca to interpret this, and he showed indubitably that the hole in the skull had been made during life and had been done by scraping.[8]

Neolithic Trephining in Great Britain.

It might have been thought, considering the number of trephined skulls that have been unearthed in France, that the custom would have spread to the British Isles, as only the Channel separated the two countries, and we have evidence

DESCRIPTIONS OF ILLUSTRATIONS.

FIG. 1.—Skull of female (21 years) trephined by flint flake. Time taken 30 minutes.

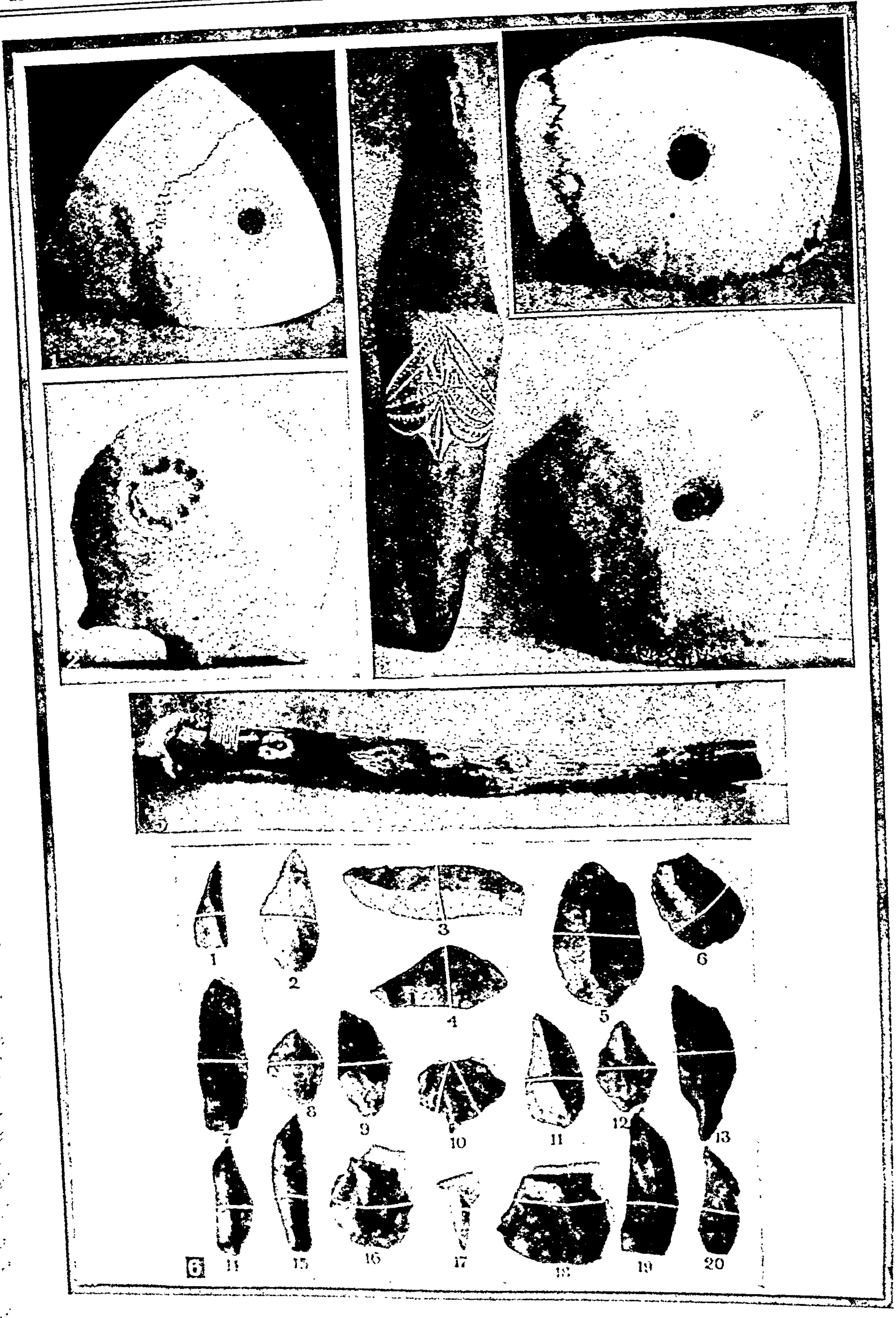
FIG. 2.—Dry skull partially trephined by shark's tooth. Time taken 1½ hours.

FIG. 3.—Skull of male (44 years) trephined by obsidian knife (Admiralty Islands). Time taken 30 minutes.

FIG. 4.—Skull of infant (16 months) trephined by flint flake. Time taken 15 minutes.

FIG. 5.—Hafted shark's tooth.

FIG. 6—Selected Neolithic flint flakes and borers (Coleraine). No. 20 was used in trephining skulls (Figs. 1 and 4).



Illustrations Representing Experiments of Different Kinds of Primitive Trephining with Tools used.

that no inconsiderable amount of traffic existed between the shores in Neolithic times. I have only been able to hear of three such skulls that have been discovered in this country, and would be most happy to be informed of any other specimens should they exist. The three specimens of which I know are the following: 1. A skull that was dredged from the bottom of the docks at Port Talbot, South Wales, in or about 1870–72. I have a photograph of this skull, which has been kindly lent to me by Mr. Thomas Gray. This skull shows a frontal excavation over the right supraorbital region. 2. An interesting specimen showing a ring-trephine, as if an effort had been made to remove a rondel of bone. This specimen was excavated in the autumn of 1863 from a long barrow, near Bisley, by the late Dr. W. H. Paine, assisted by Dr. Henry Bird. I have to thank Mr. A. E. W. Paine, son of the first-mentioned excavator, for kindly furnishing me with a photograph. Professor Arthur Keith, who has seen this specimen, states that "there is no mark of inflammation or disease on the bone." This probably belongs to the Bronze Age. 3. The third specimen is in the Northampton Museum. I can emphatically state that the three trephine holes in the form of a triangle, on the vertex of this skull, were not made during the Stone Age nor by any Stone-Age implements. All that is known of this specimen is that it was found "outside the British Camp called Hunsbery" in Northampton. On a modern skull I have made as exact a model as I can of the three holes, as regards size and relative position, and it is my opinion that they were made on the original not from any demonological reason, but as a means for suspending the skull as a trophy by a Bronze Age or later headsman. I have to thank Mr. Thomas J. George, curator of the Northampton Museum, for his kindness in sending me tracings[9] of General Pitt-Rivers's plates of this skull. It is probable that only one of these three specimens alluded to above is Neolithic.

Melanesian Trephined Skulls.

In the Museum of the Royal College of Surgeons of England are six skulls of modern Melanesians that have been either partially or wholly trephined by natives of those islands. In three of these specimens a complete perforation has been made in the cranial bones, and in the remaining three either the outer table alone or the outer table and diploë have been removed. One, a male from New Britain, has a large hole measuring 28 mm. by 34 mm. in the right occipito-parietal region. The outer edge of this hole is thin, bevelled and smooth, and shows a healed surface, demonstrating a successful operation. Of the five other skulls, all of which came from New Ireland, one shows two frontal scrapings. On the left side the outer table has been completely rubbed through and on the right is a circular scraping leaving a boss of bone in the centre, which looks as if an attempt had been made to remove a small rondel of bone. In the third skull is a beautifully rounded perforation measuring 14 mm. by 15 mm. in the left frontal region. The edges of this hole show perfect healing. There is a diseased patch of bone with considerable erosion in the mid- and right-frontal region which demonstrates the obvious reason for this operation. The fourth skull is similar to the last in the fact that a large scraping (17 mm. by 28 mm.) has been made, probably as a direct counter-irritation to relieve severe or continuous headache, in front of an extensively diseased area of bone. In the fifth skull there is a large elliptical scraping, 48 mm. by 35 mm., in the right parietal region. A deep furrow in the centre of this scraping illustrates the method by which this was done. In the sixth and last specimen there is a large perforation, 23 mm. by 40 mm., over the left frontal region, and part of this hole is filled up with fresh callus formed during the process of healing. All the cases have undoubtedly been done by scraping the bone with obsidian flakes. In Melanesia after the operation has been performed the scalp is replaced and simply bound into position by a bandage made of banana fibre. My thanks are due to Professor Keith for his courtesy in permitting me to describe these specimens in this paper.

Neolithic Methods of Trephining.

Being anxious to ascertain how Neolithic man trephined living subjects with the crude materials at his disposal, I made a series of some 19 experiments both upon recent and dry skulls. (See illustrations.) When showing the results of some of these experiments to Professor Keith he informed me of a pamphlet by the late Dr. Lucas-Championnière[10] in which I would find that several of my experiments had already been done by him. I was quite unaware of this brochure when making my tests. Referring to this pamphlet it appeared to me that Dr. Lucas-Championnière had only experimented with flint. The materials I used besides flint were obsidian, shark's teeth, shell, and slate. Flint I used both in the form of Neolithic scrapers and as a hafted sharp point to a bow-drill. This bow-drill, I may mention, is one of the oldest forms of mechanical contrivance. Obsidian I also used in two ways—first as an ordinary flaked scraper, and secondly as a hafted implement in the form of an Admiralty Island knife. I used two kinds of shark's teeth—a small variety, for an infant's skull, was obtained from the King's Mill Islands, and was identified by Mr. C. Tate Regan, of the Natural History Museum, as belonging to "*Carcharias glaucus* or a related species," while the larger specimen, which I used for adult skulls, was *Galeocerdo arcticus*. The shells I used were beach-worn specimens of *Ostræa edulis*.

For scraping a hole in bone, metal not being considered, there can be no better natural implement than a well-flaked piece of flint. When flint cannot be obtained, as in volcanic regions like the South Pacific Islands, obsidian makes a good substitute. Obsidian is a natural volcanic glass and can be flaked, in the same way as flint, by a sharp well-directed blow. Contrasting these two substances I would give flint the first place. A hard, sharp edge can be obtained in flint which is more resistant to counter-pressure than is obsidian. Both flint and obsidian when freshly flaked are excellent substances for surgical purposes by virtue of their smooth surfaces, which would be aseptic. The method I employed for scraping the trephine-hole in both flint and obsidian was the following. With a suitable flake I scraped as nearly as possible along a single line. This line I gradually converted into a groove, which soon showed two more or less prominent edges. With a curved movement of the scraper I next attacked these edges until a depression had been produced in the bone which gradually assumed an elliptical shape. It was now only a question of time and manipulation to convert this elliptical depression into a circular one, and thence, having penetrated the inner table of the skull, to expose the dura mater and enlarge the foramen to the size and shape required. As regards the bow-drill I bored a succession of holes, some fifteen in number, in a circular manner on the site chosen. These I enlarged till they touched one another. The next step was to break down the edges between them with a sharp, strong flake, and then by means of sawing and scraping eventually to remove a complete rondel of bone. This is an extremely tedious and clumsy operation, and not in any way calculated to bear comparison with the simpler method of scraping. As regards sharks' teeth as surgical instruments, I am satisfied that there is no more excellent natural implement for boring holes in bone than a hafted shark's tooth. Its keenly serrated edges and its strong, sharp point make it an instrument invaluable to the primitive surgeon. It moreover possesses a natural flange which converts it into a trephine of undeniable utility, for the flange is so placed as to prevent the point penetrating too deeply to the wounding of the dura mater. A ring of holes (as in the case of the bow-drill), packed as closely as possible, followed by breaking down the bridges between them, makes a hole (after removal of the rondel) as clean and neat as the most fastidious chirurgeon could wish. Trephining by shell was probably never attempted by Neolithic man in Europe, though primitive man in the South Pacific Islands certainly used shell for this purpose, and shell knives and lancets for opening abscesses. It took me nearly 25 minutes to trephine the skull of a 9 months old infant, which in time bears most unfavourably with the same operation on a 14 months old child which only took 9½ minutes, or on a 16 months old child, which took 15 minutes. I used slate in one instance, but it took me nearly 50 minutes to make a small hole in the skull of a man of 44 years. The originals of my experiments are exhibited in the Historical Medical Museum, and I have to thank the curator, Mr. C. J. S. Thompson, for his kind loan of aboriginal trephined skulls.

Conclusion.

We have been looking back into the far-away past and have been endeavouring to piece together the history of prehistoric man from specimens of his handiwork that have been heirloomed to us by the sheltering hand of Nature, who has protected them for us either by covering them over with the débris of rock or hiding them under stalagmite or in the deep breccia in the floors of caverns. To this has been added a passing glimpse at the methods of present-day primitive tribes. Tylor says[11]: "The uniformity which so largely pervades civilisation may be ascribed, in great measure, to the uniform action of uniform causes." Thus it is that the combination of these two parallel studies enables us to get a true insight into the life of prehistoric days.

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[illegible]

Sir George Reid, High Commissioner in London for the Commonwealth of Australia, will distribute the prizes to the successful students at Guy's Hospital Medical School on Thursday, July 9th.

THE NEW SCHOOL OF PHYSIOLOGY AT CAMBRIDGE.

On Tuesday last H.R.H. Prince Arthur of Connaught opened at Cambridge the new school of physiology, which has been presented to the University by the Drapers' Company.

The New Building.

The admirable building, designed by Sir Thomas Jackson, is erected on a site contiguous on one side with the existing laboratory of experimental psychology and on the other with the site allocated to a laboratory of biochemistry, for which the building fund has yet to be obtained. In this way the three great sections of physiological study will be housed in that intimate connexion with each other which modern developments demand, while the beautiful irregular quad of new schools, built on what was formerly a section of Downing Park, takes one step further to completion.

The building is five storeys in height, of the same purplish-red brick as the other schools, relieved with lighter brick adornments and stone dressings, and presents from the outside a businesslike as well as dignified appearance. On the ground floor, in addition to the store-rooms, battery and switch-board rooms, place is found for the electro-physiological department, for an aquarium used in the tank-storage of the marine invertebrates, and for the research rooms in thermo-electricity, where the measurements of the evolution of heat from the tissues can be taken and the influence of diets in this direction estimated. In the electro-physiological department large provision has been made for the study of the electric stimulation of muscles and nerves, and of the electric phenomena which accompany their action. Compressed air can be distributed for use in various manners throughout the building, while all the latest devices in electrometry are provided, including a capillary electrometer, in which vibration has been eliminated while the variations can be registered by photography, a string galvanometer, and a pendulum delivering electric shocks at small intervals of time. On the first floor are situated a large theatre, the professor's rooms, and six private research rooms, with the usual accommodation for weighing, photography, and cold storage. The theatre will allow of a demonstration to a class of 80, and the adjoining room contains a kinematograph. The library is also situated on this floor. The second floor is arranged for the study of the digestive and respiratory system, with rooms allotted for neurological research and research into the special senses and colloids. Three rooms have been designed for the study of respiration, especially with regard to the capacity of the blood to absorb oxygen and carbonic acid. Four mercurial air-pumps are provided in which the blood can be boiled *in vacuo*. In another type of apparatus the gases in small quantities of blood—a few drops—are estimated by expelling the gas from the blood on shaking it with appropriate reagents in a bottle fitted to a gauge. In the centre of the room containing this apparatus are gasometers containing gases of known composition. These gases can be put in suitable flasks and blood exposed to them at a known temperature in order to find the quantity absorbed. There are also on this floor private rooms for the staff, two more private research rooms, a photographic room, and the X ray department. On the two upper floors are large rooms for classes in histology, the fourth floor having a second and smaller theatre accommodating 50 students. In the large histology room with its galleries 150 students can work simultaneously. Throughout these floors the students are supplied with every new mechanical device.

The Opening Ceremony.

The proceedings commenced in the morning in the Senate House, when Lord Rayleigh, the Chancellor of the University, introduced to the Senate Colonel S. M. Benson, the Master of the Drapers' Company, who made a formal gift of the building to the University. Prince Arthur of Connaught then delivered a short address, in which he alluded to the intimate connexion of the Royal Family with the University, traced briefly the history of the school of physiology, and acclaimed a scientific education as pre-eminently the one which compelled exactness of thought and made half-knowledge an impossible condition. Professor Langley, the professor of physiology, then gave an interesting account of the development of the physiological school at Cambridge, after which Lord Moulton of Bank thanked Prince Arthur for attending to declare the new school of the University open. The degree of LL.D. *honoris causâ* was then conferred upon Prince Arthur of Connaught, Lord Moulton of Bank (an old senior wrangler), Lord Esher, and Colonel Benson. The degree of D.Sc. *honoris causâ* was conferred upon Sir William Osler, Sir David Ferrier, Sir Edward Schäfer, and Professor E. H. Starling. Sir John Sandys, the Public Orator, in each case introducing the recipients with happy Latin phrases. After this the Vice-Chancellor of the University (Dr. Montagu James, Provost of King's College) and the Fellows of the College entertained a large company at luncheon.

Punctually at 3 30 the Vice-Chancellor of the University entered the precincts of the schools with Prince Arthur of Connaught, who immediately opened the door of the new building and admitted thereto a large crowd of ladies, distinguished guests, and members of the University, who were not sorry to take shelter from a cold rain storm. The whole building was thrown open as a going concern, and in every department interesting demonstrations could be seen in actual course at the hands of lecturers, demonstrators, and students. For example, on the ground floor the working and use of the compressed air plant, was shown, while in one room Miss Dale demonstrated the electric currents generated in the human heart; in another, Mr. R. A. Peters showed how to determine the relative acidity of any two samples of blood by electrical methods, if sufficiently sensitive; and in another Mr. A. V. Hill and Miss A. M. Hill showed the possibility of measuring by delicate electrical methods the amount of heat given out in a single twitch of a muscle.

On the first floor a demonstration was given of the Lucas pendulum used to discover the rate of conduction of nervous impulses, the recovery of muscle and nerve after stimulation, and other phenomena of excitable tissues. Kinematograph demonstrations were given on this floor during the afternoon. On the second floor Mr. H. Roberts gave a demonstration of the possibility of estimating the chlorides of the blood when only one drop of blood is used; Miss Tweedy gave a demonstration in the use of the ultra-microscope; and Dr. C. G. Douglas showed how blood gas analysis is carried out at high altitudes. The room in which these experiments were being done was stated to be about the size of the Alta Vista hut near the summit of the Peak of Teneriffe, and the conditions reproduced as nearly as possible those of investigations into the properties of the blood of persons living in a rarefied atmosphere at an altitude of 11,000 feet. In another room demonstrations were given by Dr. W. H. R. Rivers on mirror contrast, flicker, and colour blindness, and in another Mr. J. Barcroft explained the modern methods of blood gas analysis. On the third floor microscopic specimens of the tissues of the body were arranged with descriptions appended; and on the fourth floor demonstrations were given by students of the effect of heat, cold, and fatigue on muscle contraction, and of salts on the beating heart.

The large histology room on the third room was used by Professor Langley and Mrs. Langley as a reception- and tea-room, and as the afternoon went on became crowded with well-known members of the University, their many distinguished guests, and a large number of ladies.

The programme of the day closed with a dinner at Trinity College, to which many of the distinguished visitors were bidden.

The Rise of the Cambridge School of Physiology.

The occasion was felt by all present to be one upon which the University might well congratulate itself, while recording sincere thanks to the Worshipful Company of Drapers whose grant for the building and towards its equipment amounted to £23,000. The cost of the splendid and elaborate fittings was about £4000, and has been met partly out of the gift of the Drapers' Company and partly from benefactions received by the University for the completion of a scheme for housing the three departments of physiology, biochemistry, and experimental psychology. The chief of these benefactions emanated from Mr. Otto Beit, Lord Glenconner, Mr. Almeric Paget, and the Worshipful Company of Mercers; while large gifts have been made for the specific endowment of the new school of physiology by Trinity College, Gonville and Caius College, Messrs. Rothschild and Sons, Mr. Marlborough Prior, and Mr. J. F. P. Rawlinson, the Member of Parliament for the University. To the past scientific students of the University the approach to completion of the building plans must give peculiar pleasure, as many of them can remember the actual beginning of the famous Cambridge school of physiology. This dates only from 1870, when Trinity College imported Michael Foster from University College, London, elected him to a fellowship, and equipped two rooms for him as prælector in this subject. Under the inspiration of Foster and his pupils the students multiplied, the prælectorship became a professorship, and in due succession all the laboratories in Cambridge connected with biological study arose. In 1879 the University built additional rooms for the use of the department of physiology; in 1886 further premises were found for histological work; in 1889 a large extension of the physiological laboratory with a lecture theatre to hold 230 students was built; but by 1893, when Foster resigned, to be succeeded by his deputy, the present distinguished professor, Dr. J. N. Langley, the need for more laboratories was severely felt if the department was to maintain its great position and powers of progress. How insufficient the accommodation at last became was pithily described in a note on the school, supplied to the guests at the opening of the building provided by the Drapers' Company. "Already the Physiological Laboratory as then constituted" (the note refers to 1893) "was quite inadequate for the needs of the subject. The classes had outgrown the building, and the rooms for practical instruction were seriously overcrowded. The rooms available for research work were too few, and were not well adapted structurally to modern requirements, and these very soon became wholly insufficient for the Cambridge men engaged in research and for the foreign students who came in increasing numbers to do work in the Cambridge school. The rapid growth of biochemistry, within the subject of physiology, added to the congestion, and this was very imperfectly relieved by the addition in 1907 of a dark basement room for chemical work, and in 1909 of two disused coal-cellars in which important researches in nutrition and in electro-physiology were carried on." From this position the generosity of the Company of Drapers and of a group of other benefactors has now rescued the Cambridge workers in physiology, who see approaching completion, and completion in splendid form, a scheme for housing the three main departments of physiology in close organic connexion.

MEDICINE AND THE LAW.

Action upon a Restrictive Covenant.

IN the Palatine Court of Chancery at Manchester the Vice-Chancellor, Mr. Stewart-Smith, K.C., heard an action brought by Dr. J. Reid claiming an injunction to restrain Mrs. Mary Lowry from practising medicine within eight miles of Preston or Ashton-on-Ribble, according to the terms of an agreement between them made three or four years ago. Mrs. Lowry before her marriage had become an assistant to the plaintiff, under an agreement by which she bound herself not to practise either in her own name or otherwise within a specified area if she should cease to be so employed. The defendant left the plaintiff's service upon marrying another medical practitioner in the same district, Dr. A. E. Lowry, and it was alleged by Dr. Reid that she had since practised in contravention of her agreement. It was contended by the defendant that she had not so practised, but that in accordance with a verbal permission or arrangement with the plaintiff she had attended cases of emergency when her husband, owing to his engagements or for other reasons, was unable to do so. It was also part of her defence that the agreement relied upon by the plaintiff was wider than was necessary for his protection and therefore void. After evidence had been called and counsel had addressed the Vice-Chancellor the latter suggested the desirability of a settlement being arrived at, and after an adjournment for this purpose it was announced that it had been agreed that the period of the restrictive clause should be reduced to 12 years, that if the defendant's husband died within that period his widow should be able to free herself from the restrictions imposed upon payment of a sum of money to the plaintiff, and also that the restrictions had been so redrafted that Mrs. Lowry would be able to attend her husband's patients in specified circumstances without injuring the plaintiff's practice. Counsel for the plaintiff, in conclusion, stated that his client had not had any desire to limit the scope of Mrs. Lowry's assistance to her husband, and the Vice-Chancellor expressed approval of the settlement and of the course adopted by Dr. Reid in assenting to it.

Adenoids and Parental Responsibility.

At Atherstone recently a labourer was summoned for neglecting to obtain treatment for his daughter, 12 years of age, who was suffering from adenoids and enlarged tonsils. The defendant had been first warned in 1910, and the child had been found to have become worse in 1912, nothing having been done for her. In January, 1913, notice was again given to the defendant, who before the magistrates urged that he had no means wherewith to provide suitable treatment. The bench adjourned the case for a month in order that the father might apply to the guardians for assistance.

A Question of Medical Privilege.

In the Burton-on-Trent county court recently his honour Judge Macpherson, at the hearing of a claim for compensation by a miner, against a firm of colliery proprietors, condemned the furnishing of information with regard to their patients by members of the staffs of voluntary hospitals. In a leading article in THE LANCET of April 4th last, p. 978, comment was made upon the attitude adopted by his honour Judge Mellor upon a somewhat similar occasion in a case in which the medical man who was put in the witness-box by the employer had attended the workman as his private patient, and the decision of Judge Macpherson is, so to speak, complementary to that of his colleague on the bench. In the case heard at Burton-on-Trent the workman had been treated in the Burton infirmary, and the advocate representing the employers was cross-examining a medical witness called on behalf of the workman, basing his questions upon information which admittedly had been supplied by one of the honorary staff of the hospital who had performed an operation upon him. The judge thereupon interposed, saying that he did not think he could allow the questions, and upon being informed that the usual practice had been followed, and that in the case of a hospital payment could be made and an official report obtained, he said: "There should be no difference between a patient in an institution and a patient operated on privately." He afterwards said that he had "never yet heard any justification for a medical man betraying the affairs of a patient," and in giving his decision as to the compensation to be paid to the claimant, again expressed his surprise at employers being able to obtain from hospitals information with regard to the condition of workmen treated in them. He said further that until otherwise instructed by a higher court he would always do his utmost to prevent advocates making use of information obtained in the way indicated. He considered the practice of giving such information to be a plain breach of the confidence expected to exist between a medical man and his patients. Medical practitioners upon the staffs of hospitals have no desire as a rule to figure as witnesses in county courts or elsewhere, or to be asked to furnish information or otherwise to assist in the carrying on of litigation. They will no doubt read with satisfaction the observations of Judge Macpherson, and hope that his attitude towards their evidence will be generally adopted, and that they will be instructed by judicial authority to withhold all information. On the other hand it may be pointed out that the hospital surgeon's evidence is likely to be the best obtainable in the interests of justice and for the purpose of getting at the truth, and that the employer who receives a report in the workman's favour may proceed to pay him compensation without bringing the matter before a judge. On such an occasion the medical man is treated as he should be, as an impartial deponent to facts and a partisan of neither side. Of course, the workman will not call him as a witness if his evidence is likely to be against the claim which is being made for compensation, and will be glad that the information he can give should not be at the disposal of the employer.

ANTE-NATAL HYGIENE AND THE NOTIFICATION OF PREGNANCY.—The council of the county borough of St. Helens have confirmed a resolution of the health committee that midwives should be instructed to notify to the medical officer of health forthwith on being engaged to attend a woman in her confinement, in order that advice may be given to expectant mothers, and suitable arrangements made in certain cases for their assistance.

REPORT OF THE SANITARY COMMISSIONER WITH THE GOVERNMENT OF INDIA FOR 1912.

Of the eight sections into which the Indian Sanitary Report for 1912 is divided the first two, concerning the European and Indian troops, are contributed by the Director of Medical Services in India, the officer formerly known as Principal Medical Officer to H.M. Forces. Section VI., relating to the medical institutions of the country, is by the Director-General, Indian Medical Service. For the remaining five sections Major J. C. Robertson, the Sanitary Commissioner, is directly responsible.

Health of the European Troops in India.

The average strength of European troops during 1912 was 71,001 warrant and non-commissioned officers and men. Their admissions to hospital numbered 547·9 per 1000; the constantly sick in hospital were 28·86, the deaths 4·62, and the invalids sent home 6·68 in ratios per 1000. These ratios were considerably lower than the corresponding figures for the preceding quinquennium (1907–11). The admission rate was rather higher than that for 1911 (524·7), and the constantly sick-rate practically the same (28·81 in 1911); the other two ratios were slightly lower than in the year preceding. The total deaths, amounting to 328, were less than in any former year, the ratio per 1000 (4·62) being also the lowest ever recorded. The most fatal diseases were enteric fever (26 deaths, or 0·37 per 1000), suppurative hepatitis (23), pneumonia (20), appendicitis (19), heatstroke (14), and pulmonary tuberculosis (11). There were also 20 deaths from gunshot wounds and 20 cases of drowning.

On comparing the health statistics of the troops in different parts of India, and taking the average number of men constantly sick in hospital as a guide, it is seen that the Burma Coast and Bay Islands group (Rangoon and Port Blair) is the most unhealthy, with a ratio of 39·3 per 1000, while in the Deccan the average ratio was only 28·4, and in the Southern India group 28·1. The admission ratio was highest in the North-West Frontier, Indus Valley and Rajputana group of stations (793·3 per 1000), and lowest in Bengal and Orissa (463·6). The individual stations of importance that have suffered most sickness have been Peshawar, with an admission ratio of 1163, and 44·1 per 1000 constantly sick; and Nowshera, with corresponding ratios of 934 and 29·4; Lahore, Rawal Pindi, Delhi, and Jhansi had over 800 admissions per 1000 strength. On the other hand, Belgaum had an admission rate of only 264·2, the constantly sick being 17·8; at Kirkee these ratios were 401 and 29·7; at Multan, 420 and 19·9; at Secunderabad, 488 and 28·6.

Principal Diseases.

The chief cause of sickness in India is fever of one kind or another, formerly returned as malaria, but now separated under various headings, in accordance with more exact methods of diagnosis. Of the total proportion of 547 admissions to hospital per 1000 strength those attributable to malaria, sandfly fever, and pyrexia of uncertain origin amounted to 134·1; the cases definitely diagnosed as malaria (82·4 per 1000) were less numerous than in the years immediately preceding, but the sandfly fever prevalence has risen to 30·5 admissions per 1000. The prevention of this fever, as of malaria, is largely a matter of protection by mosquito netting. We are informed that there is a slow but steady increase in their use in barracks; many are provided regimentally and a few by the men themselves out of their own pockets. It is most regrettable, however, to learn that "the Government of India have definitely decided to incur no expense in providing nets for soldiers other than in a few selected places." Among the large stations Lahore, with 302 admissions per 1000 for malaria, suffered most; Jubbulpore (285), Peshawar (276), and Delhi (221) also suffered severely. To these figures should be added the admissions for sandfly fever, which were 6·7 only at Lahore and 23 only at Jubbulpore; at Peshawar they were 265 and at Delhi 109 per 1000. At Nowshera the malaria admissions were not more than 102 per 1000, but those diagnosed as sandfly fever reached the very high ratio of 328, making this station the most fever-stricken of any, next to Peshawar. In a note on the sanitary condition of Peshawar it is stated that the surface drainage is unsatisfactory, but that the antimalarial measures adopted have been beneficial. The further curtailment of irrigation would appear to be necessary, even if the picturesqueness of the station be diminished.

The decrease in enteric fever continues most satisfactorily; the number of cases during 1912 (118, or 1·7 per 1000) was the lowest on record. Paratyphoid fever caused 64 admissions and 2 deaths. The two diseases combined, therefore, gave an admission ratio of only 2·6 per 1000, a figure which is to be compared with 8·5 per 1000 in 1907–11, and with 20·5, the ratio for enteric fever admissions in the decennium 1897–1906. Similarly the enteric and paratyphoid combined death-rate in 1912 was 0·39 per 1000; in the period 1907–11 it was 1·59; and in 1897–1906 it was 5 per 1000, more than 12 times that of the year now under consideration. The largest number of cases at any station was 27, at Fyzabad (30·6 per 1000), most of these occurring in March and May; no account is given of this outbreak. Secunderabad had 16 cases, 7 occurring in October. It is satisfactory to learn that 90 per cent. of the European troops serving in India have been inoculated against enteric fever; the amount of protection afforded may be gauged by the relative figures of incidence and mortality. Amongst inoculated men the admission and death ratios were 1·20 and 0·15 per 1000; amongst the non-inoculated they were 6·03 and 2·67; further, the case mortality in the inoculated was only 12·8, in the uninoculated it was 40, per 1000. So far inoculation against paratyphoid fever does not appear to be effective; of the 64 cases that occurred, all but one had been inoculated. The enteric fever depôts at Naini Tal and Wellington, for the Northern and Southern armies respectively, have continued to be most serviceable. The importance of sending to these depôts cases of pyrexia of uncertain origin, as well as enteric and paratyphoid, is fully recognised; two paratyphoid carriers were detected in this way. No carrier of B. typhosus was discovered during the year. Important work was carried out on the viability of the paratyphoid A bacillus in the fæces of carriers, buried in earth according to the ordinary trenching system as adopted in the plains. While remaining infective for a long period in the cold weather, owing to multiplication of saprophytes they lost infectivity within ten days in the warmer season. The same bacillus did not remain viable in flies fed on infected fæces longer than 24 hours.

A considerable increase is recorded in the prevalence of dengue, for which there were 364 admissions, mostly in Calcutta and Madras. The manner of infection is unknown, and microscopic research has so far not been successful, though there is reason to suspect conveyance by some kind of sandfly. It is most satisfactory to learn that not a single case of rabies occurred among the European troops, though 81 men and 14 officers underwent antirabic treatment for bites by suspected animals. There were no admissions for beri-beri, but 60 cases of multiple neuritis occurred, chiefly in Calcutta and other stations in Bengal; there were two deaths from heart failure. As to its causation, the writer of the report recommends suspension of judgment, but suggests that it may be due to the absence of some essential principle, or "activator," from certain foods. The cases occur consistently in certain areas where climatic conditions favour a rapid deterioration in the foodstuffs. A marked improvement is noticeable in two allied infections, dysentery and liver abscess. For the former the admissions were only 5·2 per 1000; in 1908 they had been 14·4, and in the period 1907–11 they had averaged 10·5 per 1000. For liver abscess the admissions were 0·7 per 1000; in 1908 they had been 1·7 per 1000. This reduction is probably largely due to the great increase in temperance in alcohol consumption that has been so marked a feature in recent years. A corresponding diminution in venereal disease is no doubt associated with the same factor. The admission-rate in 1912 was 55·5 per 1000; in 1907–11 it was 67·8; in 1897–1906 it had been 273 per 1000. There was a slight increase, it must be admitted, over the ratio for 1911. The usual great variation in prevalence is recorded. In Burma (excluding Rangoon) there were 107 admissions per 1000; in Meerut, Ambala, Rawal Pindi, &c., there were only 49·6 per 1000. The salvarsan treatment with subsequent use of mercury and iodides, has been carried out satisfactorily.

The number of men invalided home was the lowest on record, amounting to only 474 for all causes; in 1904 the corresponding number had been 2506. This improvement (and saving of expense) has been largely due to the policy at present adopted of sending as many men as possible to the hills during the hot season.

Health of the Indian Army.

The average strength of the troops composing the Indian army in 1912 was 132,232. From this force the admissions to hospital were at the rate of 547·5 per 1000, a slight increase over the rate for 1911 (515·8), but below the average for the quinquennium 1906–1910, which was 623·2. The number constantly sick was 20·1, and the invaliding ratio was 4·61 per 1000, both of these ratios being slightly in excess of those for the preceding year (19·8 and 4·43 respectively), but below the quinquennial averages of 21·9 and 6·07. The death-rate, 4·42, is the lowest hitherto recorded; for the quinquennium 1906–1910 it had been 6·14, and down to 1903 it had never been less than 10 per 1000. The chief causes of sickness during the year were the same as usual—namely, malaria (88·9 admissions per 1000), to which may be added pyrexia of uncertain origin (44·1) and sandfly fever (10); next, respiratory diseases (25·2), dysentery (16·7), and venereal diseases (14·4). The diseases that caused most deaths were pneumonia (0·83 per 1000), enteric fever (0·47), cholera (0·29), malaria (0·25), and tubercle of the lungs (0·24). The Northern army showed a higher admission-rate (633·8) than the Southern army (505·8), according to the experience of previous years; but the death-rate in the former (4·43 per 1000) was below that in the latter (4·81). The province of Bengal and Orissa showed the highest admission ratio of 817·3 per 1000, while in the adjoining area, known as the Gangetic Plain and Chota Nagpur, the corresponding ratio was the lowest, being only 446·4. This enormous difference was due to the high prevalence of malaria and uncertain pyrexia in the former area (chiefly in Calcutta), and their relative rarity in Lucknow and Fyzabad. Malaria was especially prevalent in Delhi (357 admissions per 1000), Dera Ismail Khan (403), and Fort Dufferin (353). There was on the whole considerably less fever during 1912 than in recent years, partly due to natural causes, but partly also, no doubt, to the measures that have been vigorously taken in cantonments all over the country to keep down mosquitoes. The causes for these special outbreaks seem to have been fairly satisfactorily determined. At Port Blair, for instance, a musketry camp was pitched within 50 feet of an anopheles-infected nullah. At Delhi fever occurred chiefly among the native infantry, whose lines at Daryaganj are near the swampy ground adjoining the Jumna, and have a malaria-stricken population in the bazar immediately alongside. A great increase is recorded in the occurrence of sandfly fever, for which there were 1316 admissions, compared with 114 in 1911. The stations most affected were Meerut (517) and Jullundur (271). Probably the large number of cases returned "was due mainly to greater attention being paid to slight cases of fever, which in former years would either have escaped notice and would not have been admitted to hospital or would have been included under other heads." There was less enteric fever (243 admissions and 62 deaths). The Gurkhas at Almora had 13 cases; at three other stations the native troops suffered more than has hitherto been usual; in each case (Aurangabad, Secunderabad, and Kohat) a polluted water-supply was considered to be the cause. Dengue showed a great increase—333 cases compared with only 2 in 1911. The 40th Pathans at Calcutta had 273 admissions, but the actual mode of infection was not demonstrated. Plague caused only 23 admissions and 13 deaths. A considerable amount of inoculation has been carried out, especially when the disease broke out in a station. Pulmonary tubercle remains at a low prevalence, 2·0 admissions per 1000, or 262 in all. [illegible] The Gurkhas suffered most (5·1 per 1000 with [illegible] deaths), the rest of the Indian army furnishing only 1·7 admissions and [illegible] deaths. Pneumonia continues to be the most fatal disease among native troops, the death-rate being 0·83 per 1000, a considerable improvement, however, on the decennial ratio for 1901–10, which was 2·26 per 1000.

Health of the General Population.

The birth-rate for British India rose from 36·56 per 1000 in 1911 to 38·95 in 1912, the mean ratio for the preceding quinquennium having been 38·04. Since the issue of the previous report the boundaries and designations of some of the Bengal provinces have been altered, so that a comparison with statistics of the years immediately preceding cannot be made. "Eastern Bengal and Assam" has been abolished and the new administrative areas are termed Bengal, Assam, and Bihar and Orissa. The highest birth ratio was 48·24 per 1000 in the Central Provinces; in Madras it was only 30·90. The death-rate for British India was 29·71, an improvement on the ratio for the previous year (32·01) and for the preceding quinquennium (34·28). The ratio was highest in the Central Provinces and Berar (42·34). In the North-West Frontier Province it was only 23·29 and in Madras Presidency 24·3 per 1000. Of the total death-rate (29·71 per 1000), fever accounted for 16·49. In Bengal the fever death-rate was 21·16 and in the United Provinces 20·66. On the other hand, in Madras it was only 7·6 and in Lower Burma 8·35. There were 253,067 deaths from plague, giving a ratio of 1·10 per 1000, compared with 3·07 in 1911. The prevalence was chiefly in the United Provinces (2·45 deaths per 1000), Bihar, and the Punjab. Cholera caused 407,769 deaths (1·71 per 1000), Bombay, Central Provinces, Assam, Bihar, and Bengal being chiefly affected, in the order named. Small-pox caused 89,357 deaths (0·37 per 1000), an increase over the mortality in 1911, which was 0·25 per 1000; it prevailed chiefly in the Punjab (1·57 deaths per 1000).

The health statistics of Delhi are of interest in view of the fact that it is now the official capital of the country. Its general death-rate (43·74 per 1000 for the city, 39·26 for the district, including the city) is to be compared with the general death-rate for British India (29·71) and the general death-rate for towns and municipalities (33·07). These are the figures for 1912. For the preceding quinquennium the death-rate for the city was 55·34, and 55·29 for the district, including the city; the general death-rate for British India was 34·28, and the general death-rate for towns and municipalities 36·48. No doubt extensive sanitary works will be undertaken to reduce this comparative unhealthiness of the existing city of Delhi, which would otherwise be a menace to the health of the New Delhi that is to come into being alongside of it. A special health department has already been created for the old city and the temporary capital on its north side, and the new works in course of construction to the south are in charge of special health officers.

Indian Jails.

The total prison population of India and Burma, including the Andamans, during 1912 was 103,906, the death-rate being 18·36 per 1000, compared with 21·76 in the decennium 1902–11. If the Andaman islands settlement be excluded the death-rate was only 16·74; this is the lowest ever recorded. In the Assam jails the ratio was as high as 38·92; in those of the Gangetic Plain the mortality was only 12·26; and in Southern India only 12·03. The chief causes of death were pulmonary tubercle (3·8 per 1000), dysentery (2·59), and pneumonia (1·72). The chief causes of sickness were malaria (105 admissions per 1000), ulcer, abscess and boil (61), and dysentery (55). Malaria showed an improvement over former years, except in Bengal, the Punjab, and the North-West Frontier Province. Pulmonary tuberculosis is still rather more prevalent than during the decennium 1902–11. In the Punjab jails the tuberculous admissions were 17·5 and the deaths 5·16 per 1000; in Bihar and Orissa these ratios were 13·6 and 3·96 respectively. Major W. C. H. Forster, I.M.S., has reported on the prevalence of tuberculosis in the jails of the Punjab, and attributes it partly to overcrowding and general insanitary conditions, and partly to infection. The local government has sanctioned the construction of a special jail for tuberculous patients. Small outbreaks of cholera occurred in the Vizagapatam and Ahmedabad jails, attributed to flies in each case.

The present report, prepared by Major J. C. Robertson, I.M.S., Sanitary Commissioner with the Government of India, is a model of condensation, and is extremely well printed; an excellent map is prefixed, which increases its interest.

MAY AT HOME AND ABROAD.

At Home.

THE rains of early May, after the long drought of April, were very welcome, and although they were not generally heavy did much for the agriculturist. After the 8th or 9th the weather was nearly continuously dry until towards the end of the month, and the subsequent rains, accompanied locally by sharp thunderstorms, swelled the total to nearly the May normal. As is usual, the month brought both hot and cold spells, according to the direction of the main wind current and the state of the sky. The first week was moderately warm, the second cold, and the rest of the period mostly summer-like until the sudden drop of temperature following the thunderstorms of the 24th and 25th. Both the days and nights for a time during the last week were very cold for the time of the year, and frost, which had until then been either entirely absent or too slight and local to do much damage to vegetation, became severe and widespread, and it is to be feared that great injury was wrought to fruit trees and early potatoes in certain Midland and Northern districts. In the London area, however, there was no frost sharp enough to do much damage, and at Kew the lowest point reached by the sheltered thermometer was 36° on the 26th. It is rare that all the elements agree so well with the average as was the case at Kew during May. The mean maximum temperature, 62°, was just 1° above the normal, while the mean minimum, 45°, was equal to it, and the total rainfall, 1·75 in., was also the same as the normal. The sunshine differed very little, the 194 hours recorded being only seven hours below the average. The highest shade temperature was 80° on the 22nd—a reading 31° above that of the coldest day on the 9th. Bath was as warm as Kew during the daytime and only a degree colder at night, and its total rainfall was rather less. Its sunshine, however, was lower, although only by 14 hours. The Midlands, as represented by Nottingham, had a mean maximum temperature of 60° and a mean maximum of 42°, a total rainfall of about 1·7 in., and a large amount of sunshine. At Nottingham the record was 15 hours higher than at Kew. The extreme south-west of England enjoyed a dry and very sunny month. At Torquay the total hours of sunshine amounted to 225, at the Scilly Islands to 222, and at Newquay to 202 hours, while in the Channel Islands the record was more than 230 hours. The mean minimum temperature at Torquay, Scilly, and Newquay was 48°, but Torquay was the warmest spot of the three during the daytime, having a mean maximum temperature of 61°, against 58° at Scilly and 57° at Newquay. Jersey was very slightly warmer both during the day and night.

Abroad.

Paris had many very warm days, the highest shade temperature being 84° on the 22nd, and the mean maximum for the month 63°, or a degree higher than at Kew. The mean minimum, however, was a trifle lower than the corresponding figure at Kew. The change from heat to relative cold was almost as great after the 25th as in this country. Few days were sunless, and on several there was scarcely a cloud, but the total amount of sunshine was only three more than at Kew and less than in many parts of this country. Paris had more frequent rain than London, and also a larger aggregate. At Berlin also the weather was more rainy than in London, and the total amounted to as much as 3·7 in. Changes of considerable magnitude in temperature were rather frequent, but the mean for the month was almost identical to that at Paris. The mean minimum was the same, and the mean maximum 1° higher. No frost occurred in either city. Vienna, although farther to the south, was appreciably colder than Berlin during the day, its mean maximum temperature being no higher than 59°, and the highest reading for the month 75°. At night, however, it was relatively mild, its mean minimum temperature being the same as that at Paris and Berlin. Rain fell on 14 days and yielded a total of 3·6 in. In the south-west of France there was a marked outburst of heat on the 22nd, the same day as the maximum in this country. At Biarritz the thermometer rose to 90°, but on the day following it got no higher than 66°. The mean maximum at that resort was 66° and the mean minimum no lower than 52°. Rain was never long absent, and the total for the month exceeded 3 in. Still further south, at Rome, the days were as hot as those of a warm July in England. Readings above 80° were common, and the mean maximum was as high as 72°. Very few of the nights were at all cold, and the mean minimum temperature was no lower than 55°. Italy generally had a fairly normal month, although rain, never very unwelcome in June, was perhaps more frequent than usual. The hottest days were experienced early in the month and after the middle, the end being comparatively cool.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the fortieth meeting of the Royal Commission on Venereal Diseases evidence was given by Dr. Dubois Havenith, of Brussels, who was secretary to the International Congresses of 1899 and 1902 dealing with venereal diseases.

Dr. Dubois Havenith reviewed the principal preventive measures for dealing with ordinary infectious diseases—viz., notification, isolation, disinfection, and general sanitary measures aiming at combating all unhealthy conditions; of these he said in the case of syphilis disinfection, by which he meant the getting rid of contagious lesions and the sterilising of contaminated objects, was essential. In effect, disinfection in the case of syphilis consisted in treatment. Dr. Havenith laid stress on the need for early diagnosis, free and readily accessible treatment, and supervision of the treatment for such time as might be necessary. For the purpose of early diagnosis it was necessary to make adequate provision of laboratories in which bacteriological and other tests could be carried out. The discovery of the existence of the disease should be followed immediately by treatment, and it was necessary to arrange for clinics which would be open after the ordinary hours of labour. In order that patients, who were often negligent or ill-instructed, should not abandon their treatment it was desirable to introduce some measure of control or surveillance. Such a system was already in operation at the dispensary founded by Professor Malvoz at Liége,[1] where arrangements had been made, with the consent of the patients, for keeping in touch with them, for the purpose of giving advice, for submitting them to the investigations necessary to determine the permanence of the cure, for warning them against contracting marriage too early, and so on. It had been found in practice that the scheme worked well and that patients were willing to fall in with the arrangements. Dr. Havenith thought that it was very important that the public should be enlightened upon the gravity of syphilis both from the individual and the public point of view, but it was equally important that it should be realised that syphilis was a curable disease, that as a rule it was avoidable, and that if properly treated it ceased to be contagious.

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[1] THE LANCET, May 9th, 1914, p. 1343.

THE Tenth International Congress of Otology will be held in Hamburg from Sept. 5th to 8th, 1915. The International Rhino-Laryngological Congress, to which reference was made in an annotation in THE LANCET of May 30th (p. 1554), will be held in the same place immediately afterwards—viz., from Sept. 9th to 12th.

UNIVERSITY OF LONDON.—An advanced lecture entitled Some Problems in Cardiac Physiology (being contributions to a study of the relations which exist between the various chambers of the Mammalian heart) will be given in the Physiological Laboratory of the University, South Kensington, S.W., by Mr. A. F. Stanley Kent, M.A. (Henry Overton Wills Professor of Physiology in the University of Bristol), at 5 P.M., on Thursday, June 18th. Admission free, without ticket. The last two lectures of the course of advanced lectures by Professor Brodie, F.R.S., on The Gaseous Exchanges of the Body, in the Physiological Laboratory of King's College, Strand, W.C., will be given on Monday, June 15th, and Thursday, June 18th, at 4.30 P.M., instead of on the dates previously announced.

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

County Borough of St. Helens.—The report relating to the health in 1913 of this well-known industrial borough in Lancashire (with a population now close upon 100,000) is made by Dr. H. J. Cates, who succeeded Dr. J. J. Buchan as medical officer of health in July of that year. It contains many matters of interest. Under the heading of "food poisoning" is described the illness of 20 persons in eight families, traced to eating corned beef obtained from a 6 lb. tin which was sold in portions by retail at a small shop in Parr. The tin was not opened until the meat was required by the first of the purchasers, and all those affected seem to have obtained and consumed the meat on the same day. It was normal in appearance and bacteriological examination gave no evidence of the presence of any organisms likely to give rise to the illnesses which occurred. On the other hand, specimens of blood from those affected reacted with certain of the organisms of the coli group, and the illness commenced at comparatively short intervals after the meat had been consumed, usually two hours; in the shortest case three-quarters of an hour, and in the longest five hours. It appeared probable, therefore, that the meat contained bacterial toxins, undestroyed by the process of cooking at the factory where it was canned. St. Helens has a public abattoir, with associated cold stores, at which thorough inspection of meat takes place, with satisfactory results. As usual, however, in English towns, the value of the abattoir is diminished by the continued existence of private slaughter-houses and by the use of places outside the borough for the preparation of meat which has not been inspected. The death-rate of St. Helens from pulmonary tuberculosis was 1·0 per 1000 during the year, and the total deaths recorded 103. In the same period 253 primary notifications were received, and it is noteworthy that 30 of the deaths occurred in persons concerning whom no notification was made, while in other 35 deaths the notification only preceded the death by a few weeks. Similar evidence of the large proportion of tuberculosis cases which must escape notification is afforded by the figures for non-pulmonary disease, of which 164 notifications were received during a period in which 90 deaths occurred. It is to be expected that the further development of the tuberculosis dispensary work, which is now carried out on new and well-equipped premises, will lead to earlier discovery and treatment of all forms of tuberculosis. Dr. S. J. C. Holden contributes an appendix to the report on the "after-care of the consumptive," in which the remedies for the disabilities of the tuberculous case after leaving the sanatorium are discussed. Dr. Holden suggests that the difficulty which these patients often have in maintaining their improved health when they return to defective or overcrowded dwellings might be met by provision of special cottages with open air rooms as part of municipal housing schemes, or by contribution by the local authority which will enable them to move to superior houses at higher rents, or again by municipal lodging-houses specially adapted for tuberculous cases, possibly built as an adjunct to the sanatorium. Such proposals certainly seem to follow logically on the general provision of sanatorium treatment, although some limit must be placed on the consideration given to the tuberculous at the expense of the healthy. It may perhaps be added that the special housing arrangements suggested for persons returning to work after sanatorium treatment are hardly likely to diminish that "unfounded fear" of employers of engaging tuberculous persons which Dr. Holden energetically attacks, and we are not sure that his further suggestion that the local authority should recruit its tram-drivers and tram-conductors from the sanatorium would receive public support. St. Helens had in 1913 a high birth-rate, 32·15. The rate of infant mortality, 155 per 1000 births, was, however, also considerable. The death-rate of infants from "premature birth" was higher than the corresponding rate in any of the county boroughs in England and Wales, and these deaths formed 22 per cent. of the total deaths under one year of age. Dr. Cates ascribes a large share of the infant mortality to what are collectively known as ante-natal causes, closely related to the physique and home circumstances of the mothers. Of the total births occurring in the borough during the year 93·8 per cent. were attended by midwives, a higher proportion than we remember to have seen recorded elsewhere. Stillbirths notified by midwives amounted to 4·6 per cent. of the births attended, the proportion varying considerably in the practice of different midwives. Dr. Cates reports that maternity benefit has already proved of great assistance in providing the necessary medical aid, clothing, and food.

Borough of Stafford.—Dr. F. M. Blumer reports considerable activity in applying the Housing Acts in this borough, but the making of closing orders in respect of insanitary property is delayed by the absence of suitable working-class house accommodation elsewhere. During the year the Local Government Board approved plans for the erection of 60 working-class dwellings, some being let at rentals of 3*s*. 9*d*. and 4*s*. 3*d*. a week, according as they have two or three bedrooms. Another batch of 40 cottages has been decided upon, and Dr. Blumer considers that this action by the town council has created a strong public opinion "which is acting as a driving power to insist on the provision of a sanitary house and surroundings for every family." At the same time, the report realises that however satisfactory the houses may be, there is a large class of tenants which would never attempt to keep them clean, and urges that children must now be educated scrupulously to appreciate cleanliness if slum conditions are to be abolished in the next generation.

Borough of Kingston-upon-Thames.—Special care is given to sewage treatment in this borough, which is sewered on the separate system. At the disposal works, which are in the centre of the town and adjoin the public gardens, the sewage is deodorised before pumping by mixture with charcoal and clay. It is then precipitated with sulphate of alumina, manufactured at the works, in eight large settling tanks, the effluent from which is treated in percolating filters before discharge into the Thames. The sludge is pressed and barged away to a fertiliser factory. The filtered effluent contains, it is stated, only about 1 part of albuminoid ammonia per 1,000,000, and is clear, sparkling, and free from odour. In commenting on provision for infectious diseases, Mr. H. B. Collins states that isolation of ordinary cases of scarlet fever and diphtheria has not been found necessary. Most of the fatal cases of diphtheria are moribund when notified—a somewhat unusual experience, and one which it might be thought would no longer be met with if the reception of diphtheria cases into hospital was regarded as a normal and not as an exceptional proceeding. Out of 893 births during the year as many as 150 were not notified under the terms of the Notification of Births Act. It is suggested that this is the result of dislike to the Act on the part of some of the medical men in the town, but Mr. Collins points out that the Act has been in operation for five years, and that to withhold notification merely as a protest is now only to give trouble to officials who have to carry out the Act but were not responsible for its terms.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 9504 births and 4555 deaths were registered during the week ended Saturday, May 30th. The annual rate of mortality in these towns, which had steadily declined from 15·1 to 13·9 per 1000 in the five preceding weeks, further fell to 13·5 per 1000 in the week under notice. During the first eight weeks of the current quarter the mean annual death-rate in these towns averaged 14·3, against 13·4 per 1000 in London during the same period. Among the several towns the death-rate during the week under review ranged from 5·1 in Edmonton, 5·2 in Bath, 6·5 in Acton and in Willesden, 6·8 in Enfield, and 7·5 in Gillingham, to 18·9 in Salford, 19·9 in Wigan, 20·1 in Sunderland, 21·0 in Middlesbrough, and 21·7 in Oldham.

The 4555 deaths from all causes were 198 fewer than the number in the previous week, and included 391 which were referred to the principal epidemic diseases, against 421 and 455 in the two preceding weeks. Of these 391 deaths, 139 resulted from measles, 111 from whooping-cough, 52 from infantile diarrhoeal diseases, 47 from diphtheria, 31 from scarlet fever, and 11 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·1, against 1·2 and 1·3 per 1000 in the two preceding weeks. The deaths attributed to measles, which had been 146, 138, and 143 in the three preceding weeks, fell to 139, and caused the highest annual death-rates of 1·0 in Liverpool and in Leeds, 1·1 in Manchester and in Sheffield, 1·7 in Wigan and in Rochdale, and 2·8 in Warrington and in Burnley. The deaths referred to whooping-cough, which had been 146, 143, and 144 in the three preceding weeks, declined to 111; of this number, 16 occurred in London, 12 in Manchester, 9 in Liverpool, 7 in Leeds, 7 in Sheffield, and 5 in South Shields. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 59, 69 and 83 in the three preceding weeks, fell to 52, and included 16 in London and 3 each in West Ham, Liverpool, and Middlesbrough. The deaths attributed to diphtheria, which had been 44, 31, and 51 in the three preceding weeks, fell to 47, of which 10 were registered in London, 4 in Manchester, and 3 each in Stoke-on-Trent, Birmingham, Liverpool, and Hull. The deaths referred to scarlet fever, which had been 27, 33, and 34 in the three preceding weeks, fell to 31; 6 deaths were recorded in London, 5 in Manchester, 3 in Sheffield, 3 in Middlesbrough, and 2 each in Birmingham, Liverpool, and Salford. The fatal cases of enteric fever, which had been 13, 7, and 13 in the three preceding weeks, were 11 in the week under notice, and included 4 in London and 2 in Oldham.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 2901, 2862, and 2909, at the end of the three preceding weeks, was 2910 on Saturday, May 30th; 377 new cases were admitted during the week, against 398, 349, and 415 in the three preceding weeks. The hospitals also contained on the 30th ult. 1086 cases of diphtheria, 367 of whooping-cough, 93 of measles, and 40 of enteric fever, but not one of small-pox. The 1026 deaths from all causes in London were 71 fewer than in the previous week, and corresponded to an annual death-rate of 11·8 per 1000. The deaths referred to diseases of the respiratory system, which had been 221, 190, and 188 in the three preceding weeks, further fell to 165 in the week under review, and were 21 fewer than the number in the corresponding week of last year.

Of the 4636 deaths from all causes in the 97 towns, 173 resulted from different forms of violence, and 381 were the subject of coroners' inquests, while 1387 occurred in public institutions. The causes of 33, or 0·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Sheffield, Leeds, Bristol, West Ham, Bradford, Hull, Newcastle-on-Tyne, and in 72 other smaller towns. Of the 33 uncertified causes of death, 8 were registered in Birmingham, 5 in Liverpool, and 2 each in St. Helens, Rochdale, Barrow-in-Furness, and Darlington.

In the 97 English and Welsh towns 7430 births and 4586 deaths were registered during the week ended Saturday, June 6th. The annual rate of mortality in these towns, which had declined from 15·1 to 13·3 per 1000 in the six preceding weeks, further fell to 13·2 per 1000 in the week under notice. During the first nine weeks of the current quarter, the mean annual death-rate in these towns averaged 14·2, against 13·3 per 1000 in London during the same period. Among the several towns the death-rate last week ranged from 3·7 in Eastbourne, 5·2 in Ilford, 5·9 in Hornsey, 6·8 in Enfield, and 7·1 in East Ham, to 18·8 in Liverpool, 19·2 in Stoke-on-Trent, 19·7 in Carlisle, 19·9 in Lincoln, and 21·1 in Oldham.

The 4586 deaths from all causes were 50 fewer than the number in the previous week, and included 401 which were referred to the principal epidemic diseases, against 468 and 391 in the two preceding weeks. Of these 401 deaths, 131 resulted from measles, 117 from whooping-cough, 80 from infantile diarrhœal diseases, 38 from diphtheria, 26 from scarlet fever, and 9 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·2, against 1·3 and 1·1 per 1000 in the two preceding weeks. The deaths attributed to measles, which had been 138, 143, and 139 in the three preceding weeks, further declined to 131 last week, and caused the highest annual death-rates of 1·2 in Middlesbrough, 1·9 in Burnley and in Barnsley, 2·1 in Bootle, and 3·3 in Rochdale. The deaths referred to whooping-cough, which had been 143, 144, and 111 in the three preceding weeks, rose to 117 last week; the highest recorded death-rates from this cause were 1·3 in Gateshead, 1·4 in Oldham and in South Shields, 1·7 in Exeter, and 1·9 in Barnsley. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 69, 83, and 52 in the three preceding weeks, rose to 80 last week, of which 26 were recorded in London, 7 in Birmingham, 6 in Liverpool, 5 in Cardiff, 4 in Manchester, 3 in Leeds, and 3 in Hull. The deaths attributed to diphtheria, which had been 31, 51, and 47 in the three preceding weeks, further fell to 38 last week, and included 11 in London, 3 in Manchester, and 2 each in Bournemouth, Birkenhead, Liverpool, and Leeds. The deaths referred to scarlet fever, which had been 33, 34, and 31 in the three preceding weeks, further fell to 25 last week; 4 deaths occurred in Liverpool, 3 in London, 3 in Oldham, 2 in Nottingham, and 2 in Manchester. The fatal cases of enteric fever, which had been 7, 13, and 11 in the three preceding weeks, further declined to 9 last week, but showed no excess in any of the large towns.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 2862, 2909, and 2910 at the end of the three preceding weeks had further increased to 2970 on Saturday last; 339 new cases were admitted during the week, against 349, 415, and 377 in the three preceding weeks. These hospitals also contained on Saturday last 1105 cases of diphtheria, 360 of whooping-cough, 100 of measles, and 32 of enteric fever, but not one of small-pox. The 1098 deaths from all causes in London were 73 in excess of the number in the previous week, and corresponded to an annual death-rate of 12·7 per 1000. The deaths referred to diseases of the respiratory system, which had declined from 221 to 165 in the four preceding weeks, rose to 179 in the week under notice, and were 17 in excess of the number in the corresponding week of last year.

Of the 4586 deaths from all causes in the 97 towns, 194 resulted from different forms of violence, and 388 were the subject of coroners' inquests, while 1331 occurred in public institutions. The causes of 32, or 0·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and in its 14 suburban districts, in Sheffield, Leeds, Bristol, Bradford, Hull, Newcastle-on-Tyne, and in 57 other smaller towns. Of the 32 uncertified causes of death last week, 8 were registered in Liverpool, 3 in Birmingham, 3 in Blackburn, 2 in Reading, and 2 in Sunderland.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1228 births and 686 deaths were registered during the week ended Saturday, May 30th. The annual rate of mortality in these towns, which had been 16·2, 15·3, and 16·1 per 1000 in the three preceding weeks, declined to 15·6 per 1000 in the week under notice. During the first eight weeks of the current quarter the mean annual death-rate in these towns averaged 16·0, against a corresponding rate of 14·3 per 1000 in the 97 large English towns. Among the several towns the death-rate during the week under review ranged from 5·9 in Clydebank, 8·5 in Leith, and 11·3 in Motherwell, to 20·6 in Paisley, 21·6 in Hamilton, and 24·1 in Kirkcaldy.

The 686 deaths from all causes were 23 fewer than the number in the previous week, and included 56 which were referred to the principal epidemic diseases, against 56 and 62 in the two preceding weeks. Of these 56 deaths, 23 resulted from whooping-cough, 17 from measles, 7 from infantile diarrhœal diseases, 5 from scarlet fever, and 4 from diphtheria, but not one from enteric fever or from small-pox. The mean annual death-rate from these diseases was equal to 1·3, against 1·1 per 1000 in the 97 large English towns. The deaths attributed to whooping-cough, which had been 17, 18, and 10 in the three preceding weeks, rose to 23, and comprised 19 in Glasgow, 2 in Paisley, and 2 in Coatbridge. The deaths referred to measles, which had been 31, 20, and 27 in the three preceding weeks, fell to 17; 7 deaths were registered in Glasgow, 3 in Dundee, 3 in Paisley, 2 in Edinburgh, and 2 in Hamilton. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 4, 6, and 14 in the three preceding weeks, fell to 7, of which 4 occurred in Glasgow and 2 in Aberdeen. The deaths attributed to scarlet fever, which had increased from 2 to 7 in the four preceding weeks, fell to 5, and included 2 in Glasgow. The 4 deaths referred to diphtheria, of which 2 were recorded in Glasgow, were 2 below the average in the earlier weeks of the quarter.

The deaths referred to diseases of the respiratory system, which had been 116, 104, and 107 in the three preceding weeks, declined to 96 in the week under notice; and 33 deaths resulted from various forms of violence, against numbers increasing from 16 to 32 in the three preceding weeks.

In the 16 largest Scotch towns 1293 births and 702 deaths were registered during the week ended Saturday, June 6th. The annual rate of mortality in these towns, which had been 15·3, 16·1, and 15·6 per 1000 in the three preceding weeks, rose to 16·0 per 1000 in the week under notice. During the first nine weeks of the current quarter the mean annual death-rate in these towns averaged 16·0, against 14·2 per 1000 in the 97 large English towns. Among the several towns the death-rate last week ranged from 9·4 in Falkirk, 10·1 in Motherwell, and 10·3 in Kilmarnock, to 17·6 in Glasgow and in Clydebank, 19·0 in Leith, and 20·0 in Paisley.

The 702 deaths from all causes were 16 in excess of the number in the previous week, and included 62 which were referred to the principal epidemic diseases, against 62 and 56 in the two preceding weeks. Of these 62 deaths, 19 resulted from measles, 19 from whooping-cough, 16 from infantile diarrhœal diseases, 3 from scarlet fever, 3 from diphtheria, and 2 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·4, against 1·2 per 1000 in the 97 large English towns. The deaths attributed to measles, which had been 30, 27, and 17 in the three preceding weeks, slightly rose to 19 last week, of which 11 occurred in Glasgow and 6 in Dundee. The deaths referred to whooping-cough, which had been 18, 10, and 23 in the three preceding weeks, fell to 19, and included 11 in Glasgow, 2 in Paisley, and 2 in Clydebank. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 6, 14, and 7 in the three preceding weeks, rose to 16 last week, of which 8 were recorded in Glasgow and 3 in Aberdeen. The 3 deaths attributed to scarlet fever, which comprised 2 in Glasgow and 1 in Clydebank, were 2 below the average in the earlier weeks of the quarter. The 3 deaths from diphtheria were registered in Aberdeen and were 3 below the average in the earlier weeks. The fatal cases of enteric fever occurred in Glasgow and Hamilton.

The deaths referred to diseases of the respiratory system, which had been 104, 107, and 95 in the three preceding weeks, slightly rose to 99 in the week under notice; 22 deaths resulted from different forms of violence, against numbers increasing from 16 to 33 in the four preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,250 persons at the middle of this year, 747 births and 412 deaths were registered during the week ended Saturday, May 30th. The annual rate of mortality in these towns, which had been 18·6, 18·2, and 18·9 per 1000 in the three preceding weeks, declined to 17·8 per 1000 in the week under notice. During the first eight weeks of the current quarter the mean annual death-rate in these towns averaged 20·3 per 1000; in the 97 large English towns the corresponding rate did not exceed 14·3, while in the 16 Scotch towns it was equal to 16·0 per 1000. The annual death-rate in the week under review was equal to 22·2 in Dublin (against 11·8 in London and 15·5 in Glasgow), 15·0 in Belfast, 18·4 in Cork, 7·6 in Londonderry, 17·6 in Limerick, and 17·1 in Waterford, while in the 21 smaller towns the mean rate was 17·3 per 1000.

The 412 deaths from all causes were 26 below the number in the previous week, and included 48 which were referred to the principal epidemic diseases, against 45 and 46 in the two preceding weeks. Of these 48 deaths, 19 resulted from measles, 11 from whooping-cough, 10 from infantile diarrhœal diseases, 6 from scarlet fever, 1 from enteric fever, and 1 from diphtheria, but not one from small-pox. The mean annual death-rate from these diseases was equal to 2·1, against corresponding rates of 1·1 and 1·5 per 1000 in the English and Scotch towns respectively. The deaths attributed to measles, which had declined from 45 to 18 in the four preceding weeks, were 19 in the week under notice, and comprised 14 in Dublin, 3 in Belfast, and 2 in Sligo. The deaths referred to whooping-cough, which had fallen from 14 to 7 in the six preceding weeks, rose to 11, of which 7 occurred in Belfast, 3 in Cork, and 1 in Dublin. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 3, 9, and 10 in the three preceding weeks, were again 10, and included 4 in Dublin and 4 in Belfast. The 6 deaths attributed to scarlet fever, of which 4 were recorded in Belfast, were 2 in excess of the average in the earlier weeks of the quarter. The fatal cases of enteric fever and diphtheria were registered in Dublin.

The deaths referred to diseases of the respiratory system, which had been 74, 86, and 79 in the three preceding weeks, rose to 85 in the week under review. Of the 412 deaths from all causes, 140, or 34 per cent., occurred in public institutions and 6 resulted from various forms of violence. The causes of 17, or 4·1 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes of death did not exceed 0·7 per cent.

In the 27 town districts of Ireland 552 births and 335 deaths were registered during the week ended Saturday, June 6th. The annual rate of mortality in these towns, which had been 18·2, 18·9, and 17·8 per 1000 in the three preceding weeks, further fell to 16·7 per 1000 in the week under notice. During the first nine weeks of the current quarter the mean annual death-rate in these towns averaged 19·9 per 1000; in the 97 large English towns the corresponding rate did not exceed 14·2, while in the 16 Scotch towns it was equal to 16·0 per 1000. The annual death-rate last week was equal to 19·9 in Dublin (against 12·7 in London and 17·6 in Glasgow), 16·6 in Belfast, 15·0 in Cork, 14·0 in Londonderry, 17·6 in Limerick, and 19·0 in Waterford; while in the 21 smaller towns the mean death-rate did not exceed 11·3 per 1000.

The 335 deaths from all causes were 27 below the number in the previous week, and included 35 which were referred to the principal epidemic diseases, against 45 and 48 in the two preceding weeks. Of these 35 deaths, 21 resulted from measles, 6 from whooping-cough, 4 from infantile diarrhœal diseases, 3 from diphtheria, 1 from enteric fever, and 1 from scarlet fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·6, against corresponding rates of 1·2 and 1·4 per 1000 in the English and Scotch towns respectively. The deaths attributed to measles, which had been 21, 18, and 19 in the three preceding weeks, slightly rose to 21 last week, of which 18 occurred in Dublin. The deaths referred to whooping-cough, which had been 8, 7, and 11 in the three preceding weeks, fell to 6, and comprised 4 in Belfast and 2 in Dublin. The fatal cases of infantile diarrhœa and enteritis, which had increased from 3 to 10 in the four preceding weeks, fell to 4 last week, of which 2 were registered in Dublin. The 3 deaths attributed to diphtheria, comprising 2 in Belfast and 1 in Dublin, were slightly in excess of the average in the earlier weeks of the quarter. The fatal case of enteric fever occurred in Dublin, and that of scarlet fever in Belfast.

The deaths referred to diseases of the respiratory system, which had been 88, 79, and 85 in the three preceding weeks, fell to 63 in the week under notice. Of the 335 deaths from all causes, 122, or 32 per cent., occurred in public institutions, and 6 resulted from various forms of violence. The causes of 17, or 4·4 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes of death did not exceed 0·7 per cent.

THE SERVICES.

INDIAN MEDICAL SERVICE: ANNUAL DINNER.

THE annual dinner in London of the Indian Medical Service was held on June 8th at the Hotel Cecil, under the chairmanship of Surgeon-General Percy Hugh Benson. The following were present:—Guests: General Sir Edmund Barrow, G.C.B., Military Secretary, India Office; Sir James D. La Touche, K.C.S.I., member of the India Office Council; Sir Thomas Barlow, Bart., K.C.V.O., President of the Royal College of Physicians of London; Sir Rickman J. Godlee, Bart., K.C.V.O., President of the Royal College of Surgeons of England; Sir Francis H. Champneys, Bart., President of the Royal Society of Medicine; Mr. Austin Low; the Editor of THE LANCET; and the Editor of the *British Medical Journal*. Sir David Ferrier, President of the Medical Society of London, was invited but was unable to be present. Members: Surgeon-Generals: Sir R. Havelock Charles, G.C.V.O., J. Cleghorn, C.S.I., A. M. Crofts, C.I.E., J. P. Greany, and G. W. R. Hay. Colonels: C. W. Carr-Calthrop, D. ffrench-Mullen, W. G. H. Henderson, H. Hendley, D. E. Hughes, M. D. Moriarty, R. D. Murray, A. Porter, and P. A. Weir. Lieutenant-Colonels: A. Alcock, C.I.E., W. Alpin, J. Anderson, A. E. Berry, W. H. Burke, W. H. Cadge, D. G. Crawford, R. H. Elliot, P. J. Freyer, G. H. D. Gimlette, C.I.E., H. Greany, P. de H. Haig, J. G. Hulbert, G. B. Irvine, E. R. Johnson, J. N. MacLeod, C.I.E., D. P. MacDonald, R. K. Mitter, T. R. Mulroney, A. H. Nott, S. E. Prall, K. Prasad, J. J. Pratt, B. J. Singh, W. H. Thornhill, D. Warliker, H. P. Woolbert, H. G. L. Wortabet, and F. W. Wright. Majors: S. H. Lee Abbott, C. R. Bakhle, F. L. Blenkinsop, F. D. S. Fayrer, J. K. Fleming, W. F. Harvey, E. C. Hepper, S. P. James, G. King, R. W. Knox, W. H. Leonard, W. T. McCowen, W. R. J. Scroggie, M. H. Thornley, J. N. Walker, and C. G. Webster. Captains: A. C. Anderson, C. H. Barber, D. P. Goil, A. F. Hamilton, L. Hirsch, J. L. Lunham, A. C. Munro, R. D. MacGregor, J. O'Leary, M. F. Reaney, H. Ross, T. C. Rutherford, W. D. H. Stevenson, and M. F. White. The toasts of "The King" and "The Indian Medical Service" were duly honoured, and, in accordance with custom, there were no speeches, but a number of songs were given by Madame Edith Grey-Burnand. The proceedings were thoroughly enjoyable, and the thanks of those present are due to Lieutenant-Colonel J. J. Pratt, honorary secretary of the dinner, for a most successful evening.

ROYAL NAVY MEDICAL SERVICE.

Surgeon John Courtenay Folliott Dudley Vaughan has been promoted to the rank of Staff-Surgeon in His Majesty's Fleet (dated May 19th, 1914).

ROYAL ARMY MEDICAL CORPS.

Surgeon-General W. Ford, D.S.O., has been selected for appointment as Deputy Director of Medical Services to the Northern Command Headquarters Staff.

Colonel T. P. Woodhouse has been appointed Deputy Director of Medical Services to the Aldershot Command.

Lieutenant-Colonel S. F. Clark has joined at Chester. Lieutenant-Colonel M. P. C. Holt, D.S.O., has been appointed to hold charge of the Cambridge Military Hospital at Aldershot. Lieutenant-Colonel A. T. I. Lilly, Officiating Assistant Director of Medical Services, Bombay Brigade, has been granted leave of absence. Lieutenant-Colonel W. E. Hardy has been appointed to hold charge of the Military Hospital at Calcutta on transfer from Allahabad Cantonment. Lieutenant-Colonel C. Dalton has been appointed Commandant and Director of Studies to the Royal Army Medical Corps Camp of Instruction at Longmoor, Aldershot. Lieutenant-Colonel A. P. Blenkinsop has been selected for appointment as Assistant Director-General at the Medical Division of the War Office in succession to Lieutenant-Colonel C. Burtchael, whose tenure of appointment expires in August next. Lieutenant-Colonel J. J. Russell has been selected for advancement to the higher grade of his rank under Article 358 of the Royal Warrant for Pay and Promotion.

Major H. B. G. Walton has been appointed to the Military Hospital at Ranikhet Cantonment. Major B. B. Burke has been placed under orders for transfer from the Military Hospital at Dover and appointed to hold charge of the Duke of York's School. Major G. T. K. Maurice has been transferred from Worcester to the Military Hospital at Tidworth. Major G. M. Goldsmith has arrived home for duty from Lebong Cantonment. Major A. W. N. Bowen has been transferred from the Belfast District to the Military Hospital at the Curragh. Major F. E. Gunter has been appointed to the Southern Command. Major M. Babington has taken up duty as Bacteriological Specialist at Queen Alexandra's Military Hospital, Grosvenor-road. Major J. Power has been appointed Specialist in Midwifery and Gynæcology to the Chatham District and placed in charge of the Military Families Hospital at Chatham. Major R. H. Fuhr, D.S.O., has taken up duty as Assistant Medical Officer in charge of the Royal Arsenal at Woolwich. Major G. B. Moore has been appointed to hold charge of the Medical Division at the Cambridge Military Hospital, Aldershot. Major M. M. Rattray has taken up duty at the Royal Herbert Hospital, Woolwich. Major G. J. A. Ormsby has arrived home for duty from the Military Hospital at Meerut Cantonment. Major A. H. Safford has been transferred from the Military Hospital at Colchester and appointed to hold medical charge of the Training Camp at Felixstowe. Major J. F. Martin has taken up duty in the Aldershot Command.

Captain E. C. Phelan has arrived home for duty from the Military Hospital at Barrackpore Cantonment. Captain H. C. Sidgwick has been appointed Specialist in Advanced Operative Surgery to the Herbert Hospital at Woolwich. Captain W. F. H. Loughnan has taken up duty at the Military Hospital, Hounslow. Captain M. B. H. Ritchie has been appointed to the Military Hospital at Colchester. Captain H. M. Thompson has joined at Aldershot. Captain C. G. Sherlock has been granted six months' general leave of absence home from India. Captain W. C. Nimmo has been appointed Specialist in Midwifery and Diseases of Women and Children to the Aldershot Command. Captain T. C. C. Leslie has embarked for India. Captain T. H. Dickson has been transferred from the Military Hospital at Bareilly to Ranikhet Cantonment. Captain C. Scaife has arrived home for duty from Belgaum Cantonment. Captain A. H. Heslop has arrived home from Rawal Pindi Cantonment. The following Captains have joined the Camp of Instruction at Longmoor:—H. A. Meadon, F. E. Roberts, O. Ievers, and M. O. Wilson. Captain K. A. C. Doig has been transferred from the Military Hospital at Meerut Cantonment to Chakrata. Captain R. D. O'Connor has arrived home for duty from the Military Hospital at Multan Cantonment. Captain D. M. Corbett has been appointed to the Western Command. Captain M. O. Wilson has arrived home for duty from Aden. Captain W. J. Tobin has been transferred from the Military Hospital at Madras to Bangalore. Captain F. Casement has been appointed to the Scottish Command. Captain W. Mitchell has joined the Military Hospital at Wrexham. Captain E. B. Lathbury has been transferred from the Cork District to Kilworth. Captain E. D. Caddell has been appointed to the Eastern Command. Captain J. A. Bennett has been transferred from Cork to Youghal. Captain C. W. Bowle has been appointed to hold charge of the Military Hospital at Enniskillen. Captain G. A. D. Harvey, specialist in physical training at the Royal Army Medical College, Grosvenor-road, has been appointed to the Egyptian Army. Captain W. K. Beaman has been appointed to the Northern Command. The following Captains have been detailed to attend the next course of instruction for promotion to the rank of Major at the Royal Army Medical College, Grosvenor-road, S.W.: R. G. H. Tate, R. J. C. Thompson, F. Worthington, C. W. Bowle, A. C. Elliott, W. E. Marshall, W. E. C. Lunn, W. Mitchell, and D. de C. O'Grady. Captain A. L. Foster has been transferred from the Second (Rawal Pindi) Division to the Aden Brigade. Captain A. G. Wells has arrived home for duty from Ambala Cantonment.

Lieutenant A. G. Bigham has embarked for duty with the Northern Army in India. Lieutenant E. A. Strachan has been transferred from Lucknow Cantonment to the Military Hospital at Bareilly. Lieutenant C. M. Ingoldby has been appointed to the Second (Rawal Pindi) Division. Lieutenant R. B. Phillips has been transferred from medical charge of the barracks at Tipperary to Cork. Lieutenant W. O. W. Ball has taken up duty at Bordon. Lieutenant F. C. Lambert has been appointed to the Military Hospital at Poona Cantonment. Lieutenant J. T. McEntire, at the termination of leave of absence, has been placed under orders to join the Irish Command. Lieutenant W. S. R. Stevenson has been transferred from the Karachi Brigade to the Fourth (Quetta) Division. Lieutenant R. Davidson has been appointed to the Military Hospital at Lucknow Cantonment on transfer from Hounslow. Lieutenant W. L. Webster has been placed under orders for duty in Egypt. Lieutenant E. B. Allnutt has been transferred from the Fourth (Poona) Division to the Military Hospital at Purandhar Cantonment. Lieutenant H. N. Sealy has taken up duty at Kildare. Lieutenant H. F. Panton has embarked for India. Lieutenant J. Hare has been transferred from the Military Hospital at Enniskillen to the Belfast District.

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel G. F. W. Braide, Inspector-General of Prisons in the Punjab, has been appointed to officiate as Inspector-General of Civil Hospitals in the Punjab during the absence on leave of Colonel C. J. Bamber, M.V.O. Lieutenant-Colonel R. G. Turner, civil surgeon at Lucknow, has been appointed to the staff of the King George Medical College as Professor of Midwifery. Lieutenant-Colonel V. B. Bennett has arrived home on combined leave of absence from India. Lieutenant-Colonel A. Buist has relinquished charge of the District Jail at Campbellpore. Lieutenant-Colonel J. N. MacLeod, agency surgeon, has been granted ten months' combined leave of absence. Lieutenant-Colonel W. T. Irvine has joined at Peshawar. Lieutenant-Colonel B. J. Singh has arrived home on leave of absence from India. Lieutenant-Colonel P. B. Haig has been appointed Agency Surgeon to Bhopal State.

Major T. C. MacCombie Young, Deputy Sanitary Commissioner to the Government of Assam, has been granted three months' privilege leave of absence. Major H. J. Crossle, on return to India from leave of absence, has been appointed to hold civil medical charge at Hazara. Major H. Melville has taken up duty at Lahore. Major E. J. O'Meara, civil surgeon and Principal of the Government Medical School at Agra, has been granted three months' privilege leave of absence. Major J. Woods has been appointed to Burma for plague prevention duty. Major H. Austen Smith has been appointed to Simla. Major W. M. Anderson has been appointed to hold civil medical charge at Quetta. Major S. H. Burnett has joined at Calcutta. Major H. R. Nutt, civil surgeon at Muttra, has been granted privilege leave combined with furlough on medical certificate home from India for eight months. Major W. S. Willmore, civil surgeon at Sitapur, has been transferred to Agra and appointed to officiate as Civil Surgeon and Principal of the Government Medical College. Major M. H. Thornley has arrived home on leave of absence from India.

Captain R. S. Townsend, plague medical officer at Aligarh, has been appointed to officiate as Civil Surgeon at Agra, vice Major H. R. Nutt. Captain F. E. Wilson has been appointed to hold civil medical charge at Sibi. Captain H. C. Keates has been appointed Superintendent of the Multan District Prison, vice Major M. Corry. Captain F. F. S. Smith has arrived home on leave of absence from India. Captain R. E. Flowerdew has been appointed Civil Surgeon at Port Blair and Superintendent of the Cellular and Female Jails. Captain E. A. Walker has been appointed to officiate as Civil Surgeon at Meiktila. Captain J. C. G. Kunhardt has been appointed to the Bacteriological Department. Captain E. C. C. Maunsell, medical officer to the 94th Infantry, has been appointed to officiate as Civil Surgeon at Cochin. Captain J. O'Leary has been appointed to hold substantive medical charge of the 8th Cavalry.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

The undermentioned to be Lieutenants (on probation):—John Alexander O'Driscoll, late Cadet Lance-Corporal, Royal College of Surgeons in Ireland Contingent, Officers Training Corps (dated April 27th, 1914). Ivan Millar Pirrie, late Cadet Colour-Sergeant, Durham University Contingent, Officers Training Corps (dated May 4th, 1914). Cadet Edgar Stanley Rowbotham, from the London University Contingent, Officers Training Corps (dated May 6th, 1914). From the Aberdeen University Contingent, Officers Training Corps (dated May 9th, 1914): Cadet Lance-Corporal Forster Heddle Brown Norrie, Cadet Robert Scott Cumming, Cadet Ian George Macdonald Firth, and Cadet Robert Boulton Myles. Cadet Sergeant John Forbes William Sandison (dated May 11th, 1914). Cadet Robert Daniel Lawrence (dated May 12th, 1914).

TERRITORIAL FORCE.

Royal Army Medical Corps.

3rd East Anglian Field Ambulance, Royal Army Medical Corps: Lieutenant Walter R. S. Roberts to be Captain (dated May 1st, 1914).

3rd North Midland Field Ambulance, Royal Army Medical Corps: Guy Fleetwood Haycraft to be Lieutenant (to be supernumerary) (dated May 1st, 1914).

1st Northumbrian Field Ambulance, Royal Army Medical Corps: Supernumerary Lieutenant Joseph W. Craven is absorbed into the establishment (dated April 1st, 1914).

Ronald Greig Badenoch (late Cadet, Durham University Contingent, Senior Division, Officers Training Corps) to be Lieutenant (dated April 28th, 1914).

1st London (City of London) General Hospital, Royal Army Medical Corps. The under-mentioned officers resign their commissions:—Lieutenant-Colonel Samuel West and Major Joseph A. Ormerod (dated June 6th, 1914).

4th Northern General Hospital, Royal Army Medical Corps: John Jekyll Rainforth to be Captain (dated May 1st, 1914). Major George W. Shipman resigns his commission (dated June 6th, 1914). Captain Edward C. Clements to be Major (dated June 6th, 1914).

East Lancashire Clearing Hospital, Royal Army Medical Corps: Thomas Blakeway Wolstenholme to be Lieutenant (dated April 8th, 1914).

Attached to Units other than Medical Units.—Jesse Robert Garrood to be Lieutenant (dated Feb. 27th, 1914).

CENTENARIANS.—Mrs. Mary Shelton, of Rowcroft, Stroud, Gloucestershire, celebrated the 102nd anniversary of her birthday on May 29th, and she walked to the local post-office to receive her old age pension.—Mrs. Rebecca Clark, the centenarian of Wood Green, North London, and said to be the oldest woman in England, celebrated the 110th anniversary of her birthday on June 9th.—Mrs. Ruth Turner died recently at Bolton, aged 101 years.

A new series of lectures on Modern Theories of Correcting Vision and New Aids to Vision (Punktal lenses, &c.), by Carl Zeiss, Jena, will be given with numerous experiments and demonstrations by Dr. O. Henker, at the Eye Clinic of the Berlin University during the week commencing June 17th. Further information can be obtained by ophthalmologists and surgeons from Herr Sanitatsrat Dr. Wertheim, Berlin W. 15, Meineckestrasse 5, or from Messrs. Carl Zeiss, 13–14, Great Castle-street, Oxford Circus, London, W. Lectures on the same subject will subsequently be given by Dr. Henker at Prague (Bohemia), Lund (Sweden), and Dresden, Munich and Düsseldorf (Germany).

NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION AND OTHER FORMS OF TUBERCULOSIS.—The preliminary programme of the sixth annual conference of this association, which will be held at Leeds on July 7th and 8th and of which the King is patron, has just been issued. It announces that a joint committee composed of various authorities interested in the prevention of consumption has selected the following subjects for discussion—namely, the house in relation to tuberculosis; tuberculosis, especially surgical, in children; and domiciliary treatment. The two first subjects will be discussed at the morning and afternoon sessions on July 7th respectively, and the third subject at the morning session of July 8th, a general discussion on all the subjects that have been under consideration taking place at the afternoon session of that day. It is hoped that the Duke of Devonshire, the Chancellor of the University of Leeds, will open the conference, and the opening addresses will be given by Sir William Younger, one of the members of the Royal Commission (Scottish) on Housing; Mr. R. Lawford Knaggs, Professor of Surgery in the University of Leeds; and Sir William Osler, F.R.S., Regius Professor of Medicine in the University of Oxford. There will be the usual excursions and social functions, which, however, have not yet been definitely arranged. Full particulars may be obtained from the Secretary of the Conference, 20, Hanover-square, London, W.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(Continued from p. 1641.)

XLVIII.—YARMOUTH: THE ACT AND THE BATTLE OF THE CLUBS.

Great Yarmouth, the popular Norfolk seaport and health resort, was formerly the field of a great engagement between the medical profession and medical aid associations, and it is now the seat of a struggle that threatens to be indefinitely prolonged. Perhaps it is because the profession but a short while ago was firmly united here that the prevalent discord is more keenly felt. Rarely have I come across such bitterness, or contemplated an outlook so sombre for those who had hoped that, given a little time for adjustment, the National Insurance Act would bring peace and goodwill. Not so long ago—that is, before the Insurance Act came into force—everyone who visited Yarmouth was agreeably impressed by the friendliness that prevailed between the medical men of the town. There was cordiality on all sides. To understand the meaning of this we must go back some 20 years, when the medical men of Yarmouth took a very active part in the battle of the clubs. These clubs or Friendly Societies formed an institute consisting of a federation of societies, and by importing whole-time medical officers they defied the attempts of the profession to improve the conditions of club or contract practice. At first the doctors were defeated, losing a great part of their club patients; but in the course of time the subscribing members of the institute became dissatisfied with the treatment supplied to them, and one by one they returned to their former medical advisers or to some independent practitioner, accepting the fair terms demanded. These were based on the principle of treating the men for only 4*s.* per year, but for the children 4*s.* each was also charged, and for the women 6*s.* The idea underlying the arrangement was that when the breadwinner is at work it is easier to pay for attendance on the other members of the family. In the struggle against the clubs the medical officers claimed the right to refuse to attend on members who were well-to-do; and this establishing of a wage limit was the principal reason that made the clubs federate and found an institute. On leaving the federation they accepted the wage limit.

At Yarmouth the profession was at this time so united that the boycott of the institute medical officers was very effective, and only one medical officer was serving its needs during the time the Insurance Bill was first discussed. It is unnecessary to say that but for the new legislation the profession at Yarmouth would have been completely victorious. But the Insurance Act has given the institute a new lease of life, and this alone has sufficed to arouse a strong feeling of resentment. It must be borne in mind that the battle of the clubs as conducted at Yarmouth had been no trivial contest, but a very serious matter. One of the Yarmouth practitioners told me the institute had taken from him so many club patients that he lost during the first year nearly £300. But some of the clubs came back to him, and many of the members returned to consult him as private patients, so that he ultimately recovered his loss. Other practitioners have similar stories to tell, and it follows therefrom that, having fought the battle of the clubs with a large measure of success, the medical profession in Yarmouth anticipated that the Insurance Act also could be resisted if it imposed upon them terms which they felt as a body to be inequitable.

How Yarmouth Yielded.

The fact that the resistance collapsed, in spite of such a favourable precedent, accounts for the present bitterness of feeling. The local division of the Association includes with Yarmouth Lowestoft and the surrounding country. To deal, however, with purely local matters the Yarmouth practitioners formed a medical guild. With the exception of the full-time medical men employed by the Friendly Societies' Medical Institute, all the Yarmouth practitioners belonged to the guild. Then there was also a social medical club to which a large number of doctors belonged. Thus there was much organisation that should have helped to keep the profession together and ensure their unity of action. Every practitioner in the town signed the pledge to resist the Act, even the whole-time men in the employ of the institute. This was in the summer of 1912, and they reiterated their undertaking in December, 1912. All remained of one mind until the Representative Meeting of the British Medical Association that was held towards the end of December. The delegates from the district to these meetings held in London by the Association were always instructed to vote against attempting to work the Act. It seemed as if everything was settled, and Yarmouth continued to hold out, though many other towns had yielded. At last some local practitioners began to ask that yet another local meeting should be convoked, and finally signed a petition to that effect. This could not be refused, and the meeting was called together. The tone by this time had changed. Much was made of the fact that Bradford had yielded, and a great deal was said about the threatened importation of doctors. This meeting took place early in January, and on the evening of the same day the Yarmouth doctors met the Insurance Committee, which was uncompromising in its stated intentions. An operating surgeon was to be imported, who would receive £1000 a year. Nine general practitioners were alleged to be coming, and these would be paid annually £500 each. The chairman of the Local Insurance Committee stated that Mr. Smith Whitaker, deputy chairman of the Insurance Commission and formerly medical secretary of the British Medical Association, had declared he could from his personal knowledge of the town indicate exactly where to place these medical men, so that a State Medical Service could be run to the best advantage, a statement that certainly could not have been made with Mr. Smith Whitaker's authority or knowledge. Some of the local practitioners were impressed by these threats, for there were five or six of them who might have been very seriously affected by the loss of their clubs if they did not go on the panel. But as many as 16 local practitioners joined the panel before they were relieved of their pledge. Nine refused service, and though now they are no longer bound by any pledge to resist they nevertheless are still holding out.

Faint Support for the Non-panel Doctors.

These nine have forwarded forcible appeals to the British Medical Association to stand by them, and have called upon headquarters to take some definite step to prove their sympathy, often asserted, with those who are resisting the Act. In January, 1913, when the question of contracting out was acute, a request was made that a speaker should be sent to Yarmouth to support dissentient views. The answer of the Association was to the effect that perhaps such a meeting was scarcely advisable as it might not be agreeable to the panel doctors, for it must be remembered that by this time the pledge had just been rescinded. The idea persisted that "the whole weight of the Association" had been promised to the men who held to their bond. Even after absolution from the pledge or pledges, therefore, this was considered an unsatisfactory reply, and the meeting was abandoned. The Association was now accused of showing sympathy rather with those who had broken than with those who had kept their pledge. The non-panel doctors of Yarmouth felt that they were not properly supported, and the panel doctors formed a Local Medical Committee without informing them. This was irregular, for the whole of the local profession is entitled to participate, and consequently another election had to take place. While the non-panel doctors were endeavouring to obtain a wide application of the contracting-out system, the panel doctors wanted the Insurance Committee to allot to them those insured persons who had not yet selected a medical adviser. Further, the two parties came into conflict as to what use should be made of the general hospital. As it is for the most part the leading medical men in the town who have not joined the panel they were able to exercise control over the hospital in this respect, even though a threat was made to persuade the Friendly Societies not to subscribe any more to the hospital fund. This challenge, however, was ignored, and the hospital remains independent of the panel and of the Insurance Act. But the members of the hospital staff complain that the panel doctors send their worst cases to them. Thus some of those medical men who refused to go on the panel have, as the honorary medical staff of the hospital, to do—and this, of course, for nothing—some of the most difficult part of the panel doctor's work.

A Land of Small Fees.

In the old club days there were many persons of small means who, though they belonged to clubs or Friendly Societies, nevertheless consulted private practitioners, especially if they were seriously ill. To-day, however, these persons can hardly afford to pay their share of the insurance money and continue giving fees to independent medical attendants. They are thus likely to avail themselves of their panel doctor more frequently than they did of their club doctor. At Yarmouth there is an unusually large number of people with small wages who constitute the back-bone of local medical practice. They only gave small fees, but they paid, at the accepted rate, for services rendered. Such patients were associated with the various phases of the fishing industry, as coopers, carters, and so on, or were employed at one of the several factories. Further, there are large drapery establishments. During the season a large proportion of even quite small householders engage in the precarious calling of letting lodgings, while a great amount of laundry work is done by the Yarmouth women. Then, after the holiday season is over, from September to December, some 5000 to 6000 Scotch women come to dress the fish. Lastly, there are the fishermen, some of whom sleep on shore in lodgings, though many remain on board their boats. All this represents a large population able to pay a few small fees. All these people are living on slender earnings, but they are not so poor as to be suitable recipients of charity. On the other hand, there is not an extensive prosperous middle-class in Yarmouth to leaven this mass of comparatively poor. There are few schools now which attract residents to Yarmouth in the way that schools in many seaside resorts appear to do. Society here consists of the tradesmen and a few professional families. This, therefore, is a town where the Insurance Act should improve the conditions of medical practice, at least from the financial point of view. The non-panel doctors do not deny this fact, but claim that it is all the more to their credit that they do not go on to the panel.

During the summer season the population is doubled, but the holiday folks are, generally speaking, a poor class of people. Many come from the East-end of London and only for three or five days. It will be understood how ardent, in such circumstances, the battle of the clubs must have been when so large a section of the population was living on, so to speak, the frontier line of contract practice. Still, as stated, this battle was fought, and the profession was not so much hurt by the clubs, particularly of late, when so many club patients had returned to the doctors they at first left to join the institute created by the Friendly Societies. Thus, after a battle of 20 years' duration, the profession were reaping the fruits of their victory when the Insurance Act threatened to destroy what they had gained. The indignation felt may be easily understood, though, as a matter of fact, the establishment of compulsory insurance has not impoverished but enriched a good many practitioners, while it has not so seriously damaged those who would have nothing to do with it. The truth is that the population of Yarmouth, as explained above, could not afford to spend much for medical attendance. The money now collected by the administration carrying out the Insurance Act has brought to the medical profession a larger sum than was ever before devoted to medical purposes. Thus it happens that while the incomes of the panel doctors have been considerably increased, those of the non-panel doctors have not proportionately diminished.

(To be continued.)

THE West African Medical Staff dinner will be held at the Grand Hotel, Charing Cross, London, W., on Monday, June 15th.

ASSOCIATION OF REGISTERED MEDICAL WOMEN.—A conference on tuberculosis was held in the rooms of the Medical Society, 11, Chandos-street, Cavendish-square, W., on June 9th, Dr. Jane Walker being in the chair. A discussion took place on the Present Position of Tuberculin Treatment. This was opened by Dr. Hilda Clark, late tuberculosis officer for Portsmouth, and among those who took part were Dr. Noel Bardswell, Dr. F. W. Burton-Fanning, Mr. H. J. Gauvain, Dr. Annie McCall, and Dr. Harrington Sainsbury. After tea there was a discussion on the Present Position of Sanatorium Treatment (*a*) for children, and (*b*) for adults, opened by Dr. Esther Carling and Dr. Esslemont respectively. Dr. Muriel Bywaters, Mr. George Finch, Dr. Alfred Salter, and Dr. Henry O. West took part in this discussion.

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

BRISTOL AND WESTERN COUNTIES.

Decrease of Vaccination in Bristol.

THE decrease of vaccination still continues in the Bristol union. During April last the births numbered 683. 133 children were vaccinated and 179 conscientious objection certificates were received during the month.

Sanitary Inspectors' Association.

A meeting of the Devon and Cornwall branch of this association was held at Plympton on June 6th. Mr. J. Siddalls read a paper on Sanitary Legislation, and in referring to the Tuberculosis Order of 1913, said that if it was to be of any real utility it must be enforced with greater energy than had been the case. Other papers were read, and a discussion took place on the Pure Milk Bill; several members considered it would be a difficult matter to deal with the rural authorities. Other speakers hoped that the American plan of grading milk into "A," "B," and "C" classes would not be included in the Bill.

The Sanitary Condition of Dartmouth.

Dr. F. St. George Mivart, of the Local Government Board, recently reported in reference to some of the houses in the town, "It is difficult to understand how any sanitary authority can tolerate the existence of such dens as some of those visited." An inquest was held last week upon the body of an old man who died in a house which the medical witness described as "filthy," and the jury in their verdict added a rider urging the council to take early steps for better inspection and supervision of these houses. Dartmouth is visited by so many tourists in the summer months that it is to be hoped the local authorities will immediately remedy the present state of affairs.

Midwives and Medical Officers of Health.

Mr. S. Noy Scott, medical officer of health for the Plympton rural district, in his annual report for 1913 alludes to the inspection of midwives in Devon by an inspectress. Mr. Scott says that this lessens the control medical officers of health have over midwives. He is of opinion that this control should not have been taken away from the district medical officer of health, and the inclusion of ophthalmia neonatorum with the notifiable diseases increases Mr. Scott's opinion of this fact, since medical officers of health are responsible for the investigation of puerperal fever and ophthalmia neonatorum, and he contends that it is common sense for the officer whose duty it is to "control" these diseases should also be the officer to "control" one of the chief factors in their origin.

The Medical Officer of Health of Wiltshire.

At the last meeting of the Wilts county council it was decided to increase the salary of the medical officer of health from £600 to £700 per annum, and that of the deputy medical officer of health from £400 to £450.

Death of Mr. B. J. Collyer.

Mr. Bertram Joseph Collyer, L.R.C.P. Lond., M.R.C.S. Eng., died recently at his residence at Paignton, Devonshire, in his forty-fourth year, from pulmonary tuberculosis. He received his medical education at St. Bartholomew's Hospital and qualified in 1898. After holding resident appointments at the General Hospital, Birmingham, Mr. Collyer commenced practice at Paignton, where he soon became very popular. He was medical officer to the post office. Mr. Collyer was a keen yachtsman, and was a member of the Torbay Sailing Club, and took an active part in the annual Paignton Regatta. He will be much missed in Paignton and the district, and sympathy is widely felt there for his widow and two children.

June 9th.

SCOTLAND.

Child Study Society Conference in Edinburgh.

THIS annual Conference, again held in Edinburgh after an interval of 14 years, met on June 4th. Dr. John Macpherson is the local president, and Sir James Crichton-Browne, the President, delivered the opening address. Dr. Macpherson then submitted a paper entitled "A Plea for the Wider Recognition of the Instincts in Education." In the evening a civic reception was given in the City Chambers, and was largely attended. On the following day a paper on a Survey of the Recent Investigations and Criticisms on the Binet-Simon Tests was read by Miss Johnston. The paper dealt with these tests for the measurement of intelligence, and reviewed the present position with regard to the scale. In the afternoon the delegates were entertained to a garden party in the Scottish Zoological Park. On Saturday Mr. Cyril Burt, psychologist to the London County Council, delivered the last of the papers of the present meeting, entitled "Mental Tests." The Conference met with great success; the delegates numbered about 50, and the meetings were largely patronised on all available occasions by many interested.

Edinburgh Dinner of the Indian Medical Service.

This dinner was recently held in the Caledonian United Service Club under the chairmanship of Sir Alexander Christison, Bart. Among others present were Sir William Hooper, K.C.S.I., Sir Joseph Fayrer, Surgeon-General Turnbull, K.H.S., Surgeon-General Hay, Surgeon-General Sinclair, C.S.I., Colonel Arnott, Colonel Smith, and Colonel O'Halloran, R.A.M.C.

Association of School Medical Officers for Scotland.

At the annual general meeting of this association the following were elected office-bearers: President; Dr. Arbuckle Brown, Govan Parish. Vice-Presidents: Dr. Hally Meikle, Edinburgh; Dr. Kidd, Dundee. Secretary and Treasurer: Dr. John Hunter, Linlithgow. Council: Dr. Clarke, Edinburgh; Dr. Cameron, Glasgow; Dr. Jardine, Midlothian and Peebles; Dr. Mackenzie, Dunfermline; Dr. Roberts, Glasgow; and Dr. Sinnette, Greenock.

Maternity Benefit in Glasgow.

Recently the Glasgow Obstetrical and Gynæcological Society appointed a committee to inquire into the effect of the maternity benefit of the National Insurance Act in Glasgow. The committee have prepared a report dealing with the subject, and the general conclusion reached is that the maternity benefit under the Act has not promoted in Glasgow the comfort and security of mothers and infants to the extent that might have been hoped for. Information was obtained principally by means of a schedule of questions issued to 450 medical men engaged in general practice in the city, and also by inquiries made at the various institutions in the city where midwifery cases are treated. The outdoor cases of the Maternity Hospital in the first year of the Insurance Act are less by 967 than in the previous year, and there is a falling off in the number of cases at the Poor-law hospitals, so that there must have been a transference of work to other hands. The transference has apparently not been to the private practice of medical men, and it must have been mainly to midwives practising independently. In Scotland there is no State regulation of midwifery nurses, and many who practise as midwives are wholly untrained or without adequate training. Even if it be accepted that the trained nurse is now more frequently employed, still the untrained midwife continues in favour. Now that there is money available from the "maternity benefit," it is probable that housekeeping services, which before were rendered freely for friends or neighbours, have now to be paid for, and that the "handy woman" who will care for the house as well as the patient is preferred on that account to the midwife who carries on a practice, or to the well-trained nurse whose whole time could not be engaged by the poor, even if she were willing to undertake the housekeeping. The weight of opinion, as evidenced by the answers to the questions in the schedule issued to medical men, is against the view that there has been an increase of unskilled service, but the fact remains that the "handy woman" has not been eliminated by the operations of the Act, nor is she likely to be till there is a change in the administration of the benefit. Apart from these considerations the reduction in number of patients in the outdoor practice of the maternity hospital is likely seriously to hamper that portion of the work of the hospital which deals with the training of medical students and nurses.

Resignation of Professor James Musgrove, University of St. Andrews.

Professor James Musgrove has intimated his resignation of the chair of anatomy at the University of St. Andrews as from the end of the academical year. In accepting the resignation the University Court of St. Andrews resolved to record in the minutes its sense of the distinguished services rendered by Professor Musgrove to the study of anatomy and to the development of the medical school of the University.

Sick Children's Hospital in Dundee.

Mr. Frederick B. Sharp, of Hill of Tarvit, has offered under certain conditions to contribute the sum of £10,000 towards the cost of erecting and endowing a hospital for sick children in Dundee. The conditions are that the institution be managed by the directors of the Dundee Royal Infirmary, and that the necessary funds for building and endowing the said hospital be forthcoming within two years, otherwise the offer is to be withdrawn. At a recent meeting the infirmary board resolved to accept Mr. Sharp's generous offer under the attached conditions.

June 9th.

IRELAND.

The Medical Profession in Ireland and the National Insurance Act.

FOR the past ten months the Irish Medical Committee, as representative of the medical profession of Ireland, has been engaged in attempting to arrange with the Insurance Commissioners a satisfactory system for the certification of insured persons. At one time success seemed to be in sight, but other influences proved too strong.

and at present the Irish Medical Committee finds the position the same as it was last August. The Commissioners have as yet promulgated no scheme, but it is commonly believed that they intend shortly to appoint a number of whole-time and part-time medical certifiers to do all certification of the insured, to the exclusion of the medical attendants upon the insured. Recognising the gravity of the position, from the point of view of the insured public as well as from that of the profession, the Irish Medical Committee decided to put the history of the entire negotiations before the profession and the public. In consequence of this decision a mass meeting of the medical profession, at which representatives of the press were present, was held in the Mansion House, Dublin, on Tuesday, June 2nd. The chair was occupied by Dr. R. D. Purefoy, President of the Royal College of Surgeons in Ireland, and there was a very large attendance of members of the profession from all parts of the country. Mr. M. R. J. Hayes, medical secretary of the Irish Medical Committee, read a statement detailing the efforts made by that body during the past ten months to effect a settlement of the certification question. This was published substantially in the daily papers, and told a long story of baffled attempts to come to an understanding satisfactory to all parties and beneficial to the insured population. The following resolutions were then put and carried unanimously:—

That, in the opinion of this mass meeting of the medical profession, the medical attendant of the insured is in the best position to form a just opinion of his fitness or unfitness to work.

That any system of obtaining evidence of fitness or unfitness to work which ignores the opinion of the medical attendant will result in injustice to the sick insured, and will prevent their obtaining the benefits to which they are legally entitled.

That it is essential for the successful working of the sanatorium benefit of the National Insurance Act that the services of the general practitioner should be employed, both for the reporting of cases of tuberculosis and for carrying out domiciliary treatment.

Among those who spoke to the various resolutions were the Right Hon. Michael F. Cox, P.C., Sir Arthur Chance (past President of the Royal College of Surgeons), Mr. J. B. Story (President of the Irish Medical Association). Dr. J. S. Darling (Lurgan), Mr. J. S. McArdle, Dr. J. Power (Ardfinnan), Dr. J. C. McWalter (Governor of the Apothecaries' Hall), Mr. R. J. Johnstone (Belfast), and Dr. J. Cotter (Cork). Numerous instances were adduced by the speakers from their own experience of the failure of the sick insured to secure their benefit owing to the certificate of the patient's medical attendant being ignored. Many instances were also adduced of interference with treatment by the "medical advisers," whose only duty was to examine the patient and report to his society.

Annual Meeting of the Irish Medical Association: The Annual Dinner.

The annual meeting of the Irish Medical Association was held at the Royal College of Surgeons on June 3rd under the chairmanship of Mr. J. B. Story, the outgoing President. The annual report was received and adopted, and the report of the scrutineers of the ballot for officers and council was next submitted, showing that the following officers were elected:—President: Dr. F. W. Kidd (Dublin). Vice-Presidents: Ulster, Dr. Leonard Kidd (Enniskillen); Munster, Mr. James Keating (co. Cork); Leinster, Mr. J. B. Story (Dublin); Connaught, Dr. E. C. MacDowell (Sligo). Honorary secretary: Dr. T. Donnelly. Honorary treasurer: Dr. H. U. Byrne. The new President, Dr. F. W. Kidd, then gave a brief address dealing with the present position of the Association, and referred in particular to the decision of the British Medical Association to open a branch office in Dublin and to appoint a medical secretary for Ireland. He feared that jealousy between the two Associations would be aroused, but emphasised the advantages to the medical profession of Ireland of possessing an association of its own, and urged members to use their influence in recruiting. A discussion of the motions on the agenda followed, when Dr. Leonard Kidd proposed the appointment of a committee of seven to report to the council on a scheme for revising the articles of association "with a view to altering the method of electing the executive, improving the administration of the affairs, and extending the sphere of usefulness of the Association." It is generally admitted that the executive of the Association is cumbrous, consisting, as it does, of a president, four vice-presidents, an honorary secretary, an honorary treasurer, 32 members representing councils, 32 general councillors, and 5 *ex-officio* members—76 persons in all. Dr. Leonard Kidd's resolution led to a keen debate, as the question of affiliation to or amalgamation with the British Medical Association came under consideration. Most of the speakers felt that the present was an inopportune time for putting forward proposals for closer coöperation with any other association. Eventually the resolution was passed, and the nomination of the committee was left to the council.—The annual dinner was held on the same evening, Dr. F. W. Kidd presiding, Mr. Justice Dodd, the Solicitor-General, Mr. P. J. MacNamara, and Sir Charles Cameron being among the guests.

Royal College of Surgeons in Ireland.

The annual election for the President, Vice-President, Secretary, and Council has resulted as follows:—President: F. Conway Dwyer. Vice-President: William Taylor. Secretary: Sir Charles A. Cameron. Council: William Stoker, Sir Charles A. Cameron, Sir Lambert H. Ormsby, Richard D. Purefoy, Henry Gregg Sherlock, Sir Charles B. Ball, John B. Story, Sir Thomas Myles, Sir John Lentaigne, Sir Arthur Chance, F. T. Porter Newell, Shepherd M'C. Boyd, Sir Robert H. Woods, Richard Lane Joynt, R. Bolton McCausland, Thomas E. Gordon, R. Charles B. Maunsell, Trevor N. Smith, and William Ireland Wheeler. The new President, Mr. F. Conway Dwyer, is a graduate in arts and medicine of Trinity College. He is a Fellow of the College since 1898. He has been in turn surgeon to Jervis-street Hospital and to the Meath Hospital, and is at present surgeon to the Richmond Hospital. He is also professor of surgery in the School of the Royal College of Surgeons.

The Tuberculosis Scheme in Belfast.

After a long delay the committee of management of hospitals and dispensaries of the city corporation of Belfast have appointed, by coöption, three members out of the Local Insurance Committee, making this new corporation committee to consist altogether of 18 members. It was simply a question of money, as the Local Insurance Committee declined to grant—as they had the power—a sum of £10,000 towards the treatment of insured persons under the corporation's scheme for the treatment of tuberculosis, unless they had representation on the committee which is to run this new Belfast municipal scheme.

Typhus Fever in Belfast.

An outbreak of typhus fever has arisen. Two cases occurred last October, and in December the driver of the disinfecting van was attacked, and since that there were in all 11 cases up to May 5th. It was hoped the epidemic was over, but on May 9th, suddenly, a large number of cases occurred, most of them coming from two streets. In all, throughout the year 38 cases of typhus (quite an unusual number) were reported, although some of these were not undoubted cases.

June 9th.

PARIS.

The Dust on the Metropolitain Railway.

THE Conseil d'Hygiène of the Department of the Seine has for two years been pursuing an exhaustive inquiry on this subject. Of the two underground railroads in Paris the Nord-Sud furnishes only from 6 to 16 mgm. of dust, while the Metropolitain shows 134 mgm. The explanation of this difference lies in the fact that the rails of the Metropolitain are of ordinary steel and the brake shoes are of cast metal, whereas in the Nord-Sud the rails are of hardened steel and the brakes are made of a mixture of fibre and tar. Consequently in the first case the friction of stopping at a station adds materially to the supply of floating metallic particles, whilst in the second case the dust consists of organic matter. The proportion of this dust varies with the time of day. At 5 A.M. the atmosphere is limpid, the dust having settled during the night, but from the time the trains begin to run the amount increases progressively until they stop running at 1 A.M. The Conseil d'Hygiène, on the report of M. Kling, director of the municipal laboratory, has submitted to the Prefect of Police suggestions for increasing as much as possible the number of airholes on the underground and for substituting rails of hardened steel on the Metropolitain, at any rate near the stations, with the substitution of non-metallic brakes, such as are used on the Nord-Sud. He further recommends that in the stations the flooring of loose stones should be replaced by a paving easy to wash. The council has also dealt with the removal of the dust left by passengers in the carriages, which is becoming progressively dangerous notwithstanding the prohibition of spitting. The council forbids the dry cleaning at present in use, which is harmful for everyone, employees included. It proposes instead impermeable and washable floors for carriages, such as those of the Nord-Sud, and in the others cleansing at night in the depôts by means of damp sawdust.

Cheap Dwellings.

About 100 societies exist in Paris and its neighbourhood for the provision of hygienic dwellings for the poor, some of which—such as the Société Philanthropique, the group of workmen's houses, and the Weil and Rothschild foundations—possess considerable capital. The last-named, in particular, has 16,000,000 francs capital. These societies are for the most part prosperous, for notwithstanding the modest rentals the capital invested earns about 3 per cent., a rate of interest equal to that of the Funds. M. Ambroise Rendu in his report to the committee of patronage gives some very interesting statistics: the number of certificates of sanitation sought in 1913 in the Department of the Seine for such dwellings reached 1176, as against 1000 in 1912, 619 in 1911, and 495 in 1910. These certificates give to builders of cheap dwellings exemption from taxation for a certain number of years. The proportion of rejected applications was 25 per cent., the refusal dealing principally with collective houses, and being based on the lack of yard accommodation, the insufficiency of water-closets, and the inadequate space of the dwellings. These societies have already constructed 1281 individual or tenement houses for 12,000 inhabitants, of whom 7000 are children. The administration of the Assistance Publique itself, which has considerable capital at its disposition, has used part of it, at the instigation of the Conseil Municipal, in buildings of this kind. A departmental committee on cheap dwellings was created some years ago by the Government, and was charged with examining the plans of such projected buildings and granting or withholding its consent according to their compliance or otherwise with certain prescribed hygienic data. Failure to obtain this consent deprives these houses of the qualification of "cheap dwellings" and of the privileges accorded to the builders by law, especially of relief for 12 years from taxation and of security for interest. A very singular adventure has recently befallen the Administration of the Assistance Publique, which has applied 20,000,000 francs to the construction of cheap dwellings. Its architects have furnished for that purpose magnificent plans which at various exhibitions have had a gold medal awarded to them by competent juries. On June 27th 724 dwellings are to be begun and the city of Paris has agreed to a subvention of 100,000 francs for the projected structures. 7,698,000 francs have been already used in constructions, and new works to the extent of 9,000,000 francs are to be undertaken, for which the Assistance Publique, according to law, has submitted its plans for the approval of the Departmental Council of Cheap Dwellings. To the general surprise, this committee, after an examination of the plans, has refused its authorisation for their construction on the ground that they do not conform to the prescribed hygienic conditions. 59 per cent. of the buildings already constructed by the Assistance Publique have also been condemned for nonconformity with the regulations of 1910. A conflict has thus arisen between the departmental committee, which as a legally constituted body is independent and holds that its duty is to enforce the regulations, and the administration of the Assistance Publique, which contends that its plans have received the approval of all competent judges and that the regulations are inapplicable in certain particulars; for example, the obligation to leave 10 metres of unoccupied ground in front of each window, as laid down in the regulations, would condemn as not hygienic the greater part of the most beautiful buildings on the Champs Elysées, in which many of the inner courts have less than 9 metres in one of their dimensions.

Congress of Internes of the Hospitals.

The internes and former internes of the civil hospitals of towns possessing a faculty of medicine, in which these posts are awarded by competition, held a congress this week at Lyons, delegates being present from Bordeaux, Montpellier, Lille, Nancy, and other towns. Matters of professional interest relating to the welfare of the internes were dealt with in communications by Dr. Couchet, Dr. Winstel, Dr. Lesieur, and some present internes. The principal conclusion of the congress was the establishment of a permanent bureau. The next congress is to be held at Lille in 1916.

Statistics of Medical Students.

The Faculties of Medicine of the French Universities show for the current year 10,045 students, of

301 more than last year. The number of students in pharmacy remains almost stationary.

A Monument to Marey.

A monument erected by subscriptions from his friends and pupils has been unveiled to the memory of the great physiologist Marey in the park of the Institut International Marey at Boulogne-sur-Seine. The sculptor, Auban, has represented Marey seated, attentively examining a group of foot-runners, and above them a group of riders, in allusion to his researches on the analysis of movement. The President of the Republic himself delivered an address at the ceremony in which he traced the career of this brilliant physiologist.

June 8th.

Correspondence.

"Audi alteram partem."

THE EARLY TREATMENT OF MENTAL DISEASE.

To the Editor of THE LANCET.

SIR,—The annotation in your issue of June 6th on the paper by Dr. Helen Boyle and the discussion thereon, again calls attention to the urgency of legislation regarding the early treatment of mental cases, and very wisely also, to the very important suggestion that neurologists and psychologists should work more together in these cases; and there can be no doubt that either of these sections of medicine at present, if acting alone in these cases, makes sometimes very deplorable mistakes—and many instances of such mistakes could be given. The early treatment of mental cases has unfortunately to be dealt with from the side of finance, since care with adequate supervision, outside the walls of an institution, must be of necessity an expensive matter. That in proper private care, with right social surroundings, and, above all, with adequate supervision, many early cases get well, no one with experience in this direction can for one moment doubt.

With regard to sending these patients to institutions for the insane, although under the voluntary boarder clauses this can be done and so certification be avoided, there is a great factor in the public mind against this plan being adopted—viz., the want in many such institutions of proper classification. I have for years maintained that these institutions should have several departments, and that the early quiet cases should have no chance of coming in contact with the acutely maniacal cases.

In the institution I managed for some years I had four departments for my cases, and a fifth one consisted of my own family circle. I have had early cases living with my family who got well without ever having come in contact with the other cases. Patients were often transferred from one department to another in the course of the day according to their mental condition, and I found this plan most beneficial.

On the other hand, in many institutions there are only two sides. On one side those who can enjoy a quiet social life are placed; and on the other side those who cannot enjoy such a social life are herded together. Individuality in treatment is thus to a great extent lost, and with its loss a much lessened chance of recovery is given. May not this absence of proper classification, and the loss of individual treatment have something to do with the grave fact that the recovery rate of insanity in institutions is not improving and has not improved for many years, and that in spite of the great advance in pathological knowledge, and the better accommodation, &c., given in institutions?

I am, Sir, yours faithfully,
LIONEL A. WEATHERLY, M.D. Aberd.

Bournemouth, June 6th, 1914.

THE PREVALENCE OF SYPHILIS.

To the Editor of THE LANCET.

SIR,—In a leading article in THE LANCET of April 4th, 1914, reference was made to a letter published in the same issue from Mr. A. Corbett-Smith, the editor of the *Journal of State Medicine*, who suggested that there is exaggeration on the subject of the dissemination of syphilis.

It is always difficult at a distance to appreciate the full significance of statistics, and it is not remarkable that Mr. Corbett-Smith should have been led to think that an infection of 0·5 per cent. of the population of Melbourne was an official estimate. Such a belief, however, is far removed from fact. In the course of the letter he stated that—

> In an address delivered at the Paris Congress of the Royal Institute of Public Health it was stated by a well-known doctor that, upon expert opinion, "about 7 per cent. of the whole population of Melbourne was syphilitic, or 40,000 cases out of a population of 600,000." Upon this basis he calculated 500,000 cases for Greater London. But I find that the official estimate for Melbourne is about 5 per 1000, or, say, 3000 cases.

Now the official estimate for the distribution of syphilis was not 0·5 per cent. No official estimate has ever been made. During the course of the comprehensive inquiry into the distribution of syphilis in Melbourne made by the Government of Victoria, under the direction of Dr. Burnett Ham, syphilis was made a compulsorily notifiable disease within a radius of ten miles of the General Post Office for 12 months, but there was practically no obligation, other than a moral obligation, on a practitioner to report cases. In any event, only suspicious cases were reported. So it came about that during the year 5500 cases were reported. Of 5000 of these 3167 were proved to be syphilitic. 900 of the cases, however, came from one hospital, and many practitioners did not report any cases, so that the figures in no way show the distribution in the population, except that they proved conclusively that *at least* 0·5 per cent. were syphilitic. But during four months of the year all cases visiting my clinic at the eye and ear hospital on Monday and Thursday and on Tuesday and Friday afternoons, were subjected to the Wassermann test irrespective of the disease for which they applied. The result was that of those who attended on Mondays and Thursdays 13 per cent. were found to be syphilitic, and of those who attended on Tuesdays and Fridays 15·8 per cent. were syphilitic, or of the whole 550 cases examined 13·3 per cent. The people who attended were not usually suffering from obvious syphilitic diseases. Very few cases were even suspicious. They came to the hospital for spectacle fitting, to have foreign bodies removed from the cornea, and so on.

The above are some of the *facts* relating to the Melbourne investigation of syphilis and show how it is that the misconception alluded to above has arisen. These facts were fully set out in *Bedrock* in January, 1913, and in the Proceedings of the Australasian Medical Congress, Sydney, 1911. Estimates of the distribution of syphilis can be best based on the results of the Wassermann method. There are other modes of investigation, such as the careful calculation of the distribution of general paralysis and tabes. It is, however, just as important to be sure that the extent is not under-estimated as it is that it should not be over-estimated.—I am, Sir, yours faithfully,

JAMES W. BARRETT, M.D. Melb., F.R.C.S. Eng.
Melbourne, May 6th, 1914.

DEFENSIVE FERMENTS OF THE ANIMAL ORGANISM.

To the Editor of THE LANCET.

SIR,—My attention has been drawn to the annotation on the Sero-Diagnosis of Cancer and the review of Professor E. Abderhalden's work on "Defensive Ferments of the Animal Organism," in the columns of THE LANCET of May 16th (pp. 1411 and 1399). The subject is one in which I am much interested, and I desire, at once, to associate myself entirely with you in admiration for the work of this distinguished scientist, the advances he has made in this important subject, the demonstration of specific protective ferments in the blood, and the serum tests he has devised in carcinoma and in pregnancy.

But may I point out that similar observations in regard to a defensive and induced tryptic and ereptic ferment response in the tissues in carcinoma, analogous to the ferment response in the bowel in normal processes of digestion, were published by me some years ago.[1] In particular, I referred to the intracellular ferment erepsin described by Vernon,[2] and to the facts of an increase of this ferment noted by him in the tissues investigated (kidney, liver, and cardiac muscle) in different conditions, and for instance in certain cases of cancer. This intracellular ferment increase seemed to me to be (*a*) similar to the adaptation or correlation of the various secretions and ferments to the different foodstuffs in the bowel in normal processes of digestion, described by Starling[3]; (*b*) to be called forth "irregularly, uncontrolled and unequal to the demand, save in rare instances of spontaneous cure"; or, (*c*) as I had suggested previously, "compensatory" in action.[4]

I should scarcely have ventured to trouble you but for the bearing such observations had, and have, on treatment. The production of trypsin and erepsin in the tissues was put forward by me in contradistinction to the administration of trypsin, and, alternatively, the use of prepared tissue extracts—normal, fœtal, and cancerous—was suggested. In this connexion at the time, and in view of Starling's work on "hormones" or chemical stimuli, I instanced a case of apparent recovery (three years) in sarcoma in the practice of the late J. H. Webb (Melbourne). He had treated the patient with prepared (acid) extract of fœtal tissues, and I suggested that it was not improbable "in thus administering an acid extract he may have been administering a fœtal 'secretin,' and that one or other excited the dissimilatory, breaking down, ereptic or tryptic ferment in his patient."

The principle of a ferment defensive response in the tissues is therefore now not only confirmed in the independent work of Abderhalden, as set forth in the annotation and review in your columns, but underlying methods of treatment by prepared tissues in inoperable cancer.

Furthermore, may I venture to point out that investigation of the blood in cancer and in other conditions has not been altogether neglected in this country. The opportunity of prosecuting work in this direction, and the modifications of the blood-serum exhibited after injections of various tissues, tissue extracts, and substances in animals, and after cancer inoculation, was afforded me by Professor W. D. Halliburton in the Physiological Laboratory, King's College, London. On the suggestion of Dr. Otto Rosenheim, investigation has been made on lipase, the fat-splitting enzyme of the pancreas, and partly in conjunction with him I published, in 1910, preliminary accounts of the results obtained.[5] Briefly, it was found that in certain cases of carcinoma the serum, while possessing no true fat-splitting action in itself, has the property of considerably increasing, accelerating, or activating the fat-splitting action of pancreatic extracts and pancreatic juice, compared with the action of normal serum. After injections with various tissues, tissue extracts, and substances in animals, as I showed later, and after inoculation with cancer tissue—prepared and fresh—and with cancer serum, this property is increased, while suggestions have been made by me from time to time not only in regard to the production of the fat-splitting ferment as a factor in the protective processes but in regard to sero-diagnosis and treatment.[6]

I am, Sir, yours faithfully,
June 4th, 1914. J. A. SHAW-MACKENZIE.

THE PLEA FOR IMMEDIATE OPERATION IN APPENDICITIS.

To the Editor of THE LANCET.

SIR,—After a quiescent interval of two years Sir George T. Beatson, in THE LANCET of May 30th, again advocates the policy of "wait and see" in the treatment of acute appendicitis which has existed for from three to four days.

By taking up this position Sir George Beatson makes one of two alternative claims. He must maintain either (1) that all perforated and gangrenous appendices *are* surrounded by localising adhesions, or (2) that he is able by the eye of faith to see, in a given case, what is happening within the abdomen. There is no alternative position. Both claims are equally indefensible. That in all cases the appendix is walled off is contrary to the experience of operating surgeons. At the Liverpool meeting of the British Medical Association in 1912 I gave a series of consecutive cases[1] in which in 46 per cent. of the patients there was a septic focus without any protective adhesions. It is difficult to believe that these patients would have had a better chance without than with operation. During the discussion at the meeting and in the columns of a contemporary[2] I challenged Sir George Beatson to tell us *how* he can judge accurately of the condition of the appendix in a given case, how he can determine whether or not it is shut off by adhesions, and how he can foretell the future course of the disease—whether resolution will occur or whether gangrene with diffuse peritonitis will ensue. The answer has yet to come! I venture to think that no one dare claim such clinical acumen. And yet nothing short of such insight and prophetic talent can justify procrastination in a case of acute appendicitis.

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[1] Medical Press and Circular, July 17th and 24th, 1907.

[2] The Ereptic Power of Tissues as a Measure of Functional Capacity, by H. M. Vernon, M.A. Oxon., M.D., Journal of Physiology, 1905.

[3] The Chemical Correlation of the Functions of the Body, by E. H. Starling, M.D., F.R.S., THE LANCET, August, 1905.

The Nature and Treatment of Cancer, fourth edition, 1906.

[5] Proceedings of the Physiological Society, February, 1910; Journal of Physiology, 1910, vol. xl., pp. 8 and 12; also the Separation of Lipase from its Co-enzyme, by O. Rosenheim, p. 14; Proceedings of the Royal Society of Medicine 1910 (Pathological Section), vol. iii., p. 153.

[6] Proceedings of the Physiological Society, January, 1911; Journal of Physiology, 1911, vol. xlii., p. 11; Proceedings of the Royal Society of Medicine (Section of Therapeutics and Pharmacology), 1912, vol. v., pp. 152–61, and 1913, vol. vi., pp. 114–18; and Some Reactions of the Blood after Cancer Inoculation, Seventeenth International Congress of Medicine, London, 1913 (Section of Therapeutics).

[1] Brit. Med. Jour., 1912, vol. ii., p. 873

There are still over 2000 deaths from appendicitis annually in England and Wales, and this high mortality rate will continue until the teaching prevails that operation should in every case be performed as soon as possible. It should not be necessary to discuss the question whether or not to operate during the third and fourth days of the disease: operation should be performed within the first 48 hours. As Dr. John B. Murphy wrote as long ago as 1890, "every case of appendicitis brought to the surgeon with pus outside the appendix is incontrovertible proof that the case was badly managed up to that time."

I am, Sir, yours faithfully,
HERBERT J. PATERSON.
Upper Wimpole-street, W., June 4th, 1914.

A PRINCIPLE OF DIETETICS.

To the Editor of THE LANCET.

SIR,—I notice that in your issue of June 6th Dr. J. Sim Wallace takes me to task for having told a lay audience that it is absurd to instruct mothers of the working classes to give their children raw fruit at the end of every meal in order to cleanse their teeth. Well, Sir, with all deference, I think such instruction *is* absurd. In the first place raw fruit at every meal all the year round is a luxury which poor people cannot afford, and in the second place I venture to think that even if it could be afforded it would do the children's digestion more harm than it would do good to their teeth.

I hope, however, that Dr. Wallace will succeed in his desire to start a discussion in your columns on oral sepsis and its prevention. As a small contribution to it, may I suggest that the pathological consequences of oral sepsis tend at the present moment to be greatly exaggerated?

I am, Sir, yours faithfully,
ROBERT HUTCHISON.
Queen Anne-street, W., June 9th, 1914.

To the Editor of THE LANCET.

SIR,—I gather from Dr. J. Sim Wallace's letter in your issue of June 6th that Dr. Robert Hutchison is horrified at the idea of a child eating a raw apple at bedtime (or after its last meal), and neither Dr. Hutchison nor Dr. Wallace appears to approve the old adage, "Eat an apple going to bed and make the doctor beg his bread." My own experience is quite in its favour. An apple eaten after the last meal, which, of course, is better taken at least two hours before bedtime, leaves the mouth in a clean and comfortable condition, is a good aperient, and can hardly be a serious difficulty to the digestion. But children are often supposed to need some *bonne bouche* to go to bed on. Would Dr. Hutchison say an apple is more injurious than cake or chocolates? I should prefer the apple if some sacrifice must be made to Moloch. I enclose the instructions issued in this borough. Dr. Wallace is mainly responsible for them, but Dr. Hutchison was consulted. I hope the alterations made in deference to his opinion will have exempted the instructions from his condemnation.

I am, Sir, yours faithfully,
SIDNEY DAVIES.
Public Health Department, Town Hall, Woolwich,
June 8th, 1914.

"PURELY MOTOR" NERVES.

To the Editor of THE LANCET.

SIR,—In connexion with your annotation in THE LANCET of June 6th on Dr. J. Ramsay Hunt's paper on "The Neural Atrophy of the Muscles of the Hand, without Sensory Disturbances," a strong protest ought to be, I think, made against his statement that the thenar branch of the median and the volar branch of the ulnar are purely *motor* nerves. Not only is this incorrect, but there is no known instance in any vertebrate of a purely *muscular* nerve which does not contain afferent fibres. In short, there is no such thing as a purely *motor* nerve. Let us take the thenar and the volar nerves: the muscles which are supplied by them receive no other nerve-supply; now anyone can by squeezing his own thenar and hypothenar muscles satisfy himself that they receive afferent algetic nerve fibres; therefore the thenar and volar nerves convey these afferent fibres. The experimental proof of the truth of my contention is so easy that I forbear to point out how it can be proved experimentally that these two branches are mixed nerves like all the other 20 or 30 purely *muscular* branches which exist in man. Now Dr Hunt bases his conclusion that the thenar and volar branches are purely *motor* solely on his failure to find sensory changes in any of his cases; but it is to be noted that nowhere in this paper of his (April, 1914) nor in any of his earlier papers on this subject in American journals does he state whether he applied digital or algometric deep pressure over the atrophied muscles; the only objective sensory tests mentioned by him are those for touch, pain (by which he probably means pin-prick), and temperature. But even the algometer might fail to settle the matter, because even if the algetic afferent fibres passing to these atrophied muscles were completely degenerated there would still be at least some pain on firm pressure of the skin over them on account of the preservation of cutaneous sensibility; but a careful comparison between the two sides might possibly show at least a slight diminution of pressure-pain sensibility on the affected side. Apart from this possibility—one which has apparently never yet been tested in one of these rare cases—there is only one way by which the matter could be effectually tested in a living man—viz., by cutting down on the atrophied muscles and then squeezing or compressing them; in this manner the element of cutaneous sensibility would be eliminated. As the pathological basis of Dr. Hunt's syndrome is doubtless, as he teaches, a slow compression neuritis (really nerve degeneration) of these two muscular nerves, I feel convinced that sensory changes are really always present in these cases in the shape of a relative diminution of the muscle-pain sensibility on the affected side. We cannot and never shall be able to tell whether it is entirely lost because the crucial experiment is never likely to be tried on a patient in the manner which I have just indicated. I need hardly say we are all grateful to Dr. Hunt for telling us of the existence of this important, though relatively rare, group of thenar and hypothenar atrophies. But purely *motor* nerves have no existence.

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[2] Ibid., p. 147. THE LANCET, August 17th, 1912, p. 443.

I am, Sir, yours faithfully,
LEONARD J. KIDD.
London, N.W., June 6th, 1914.

THYROID INSUFFICIENCY.

To the Editor of THE LANCET.

SIR,—The interesting letter of Dr. C. W. Crawshaw in THE LANCET of May 30th on Thyroid Extract in Nervous Disorders leads me to call attention to another class of cases in which there seems to be some insufficiency of thyroid secretion, although not enough to cause the classic symptoms of myxœdema. My attention was called to this class of cases some years ago by my friend Dr. Morgan Dockrell, of London, and since then I have met several, all of which have been much benefited by the administration of thyroid extract. The following case is typical.

A middle-aged man, organically sound, had suffered for many years from bad circulation, feelings of cold, and liability to chill. His temperature was usually about 1°F. below the normal. In winter he had to use an enormous quantity of bedclothes, and, even with those, he usually woke up feeling cold and miserable. There was breathlessness on exertion. He had become quite bald in early life. After taking thyroid extract for a little while he began to experience an unwonted feeling of warmth. Cold feet and hands became warm. He gradually dispensed with some of the bedclothes, so that he now uses only about one-third as much as formerly. The temperature rose to normal. The heart's action became stronger and steadier, and he can now take violent exercise which was formerly impossible. The progressive loss of hair has ceased, and the scalp, which was formerly as polished as a billiard ball, now shows an abundant growth of downy hairs. The amount of hair on the body has also increased. The patient feels quite a new man and much more vigorous than formerly.

I have had several other cases in which alleviation of similar symptoms has been brought about by thyroid extract, and it seems, I think, quite evident that the extract supplies something which in these instances is wanting in the system.

I am, Sir, yours faithfully,
JOHN P. HENRY, M.D., B.Ch. Dub.
Galway, June 1st, 1914.

LONDON PANEL COMMITTEE AND THE SUPPLY OF LOCUM TENENTS.

To the Editor of THE LANCET.

SIR,—Our attention has been drawn to the report in the *British Medical Journal* Supplement of May 30th last of a meeting of the London Panel Committee which was held on May 25th. That committee passed a resolution undertaking to supply "deputies" to panel practitioners, and we learn with no slight astonishment that the proposal was stated to have met "with the approval of the medical and transfer agencies."

As we have never been approached on the matter we take this opportunity of informing the medical profession that we strongly object to this unauthorised assertion, and the more so as we know that the above committee further discussed the question of undertaking the transfer of practices.

Whilst reserving our opinion as to its statutory powers to transact such business, we are reluctant to believe that medical men can be in sympathy with this movement.

We are, Sir, yours faithfully,
J. FIELD HALL
(Field Hall, Ltd.).
HERBERT NEEDES.
J. C. NEEDES.
PEACOCK AND HADLEY.
J. A. REASIDE
(The Medical Agency).
A. V. STOREY
(General Manager of the Scholastic, Clerical, and Medical Association, Ltd.).
PERCIVAL TURNER.
London, W.C., June 9th, 1914.

MUST THE DOCTOR BE A COMMON INFORMER?

To the Editor of THE LANCET.

SIR,—As the matter is of such grave moment I wish to draw your readers' attention to the decision of the General Medical Council in one of the recent penal cases.

A practitioner attended a female who had had a miscarriage. She pledged him to secrecy. The patient died from peritonitis. The doctor being bound by law to certify the "cause of death" wrote in his certificate "peritonitis and cardiac failure." Because he did not also state the concomitant fact of the abortion the General Medical Council concludes that he has been properly convicted of a misdemeanour. It is not permissible to say more, for the case has not formally concluded, but the opinion already given by the General Medical Council seems to lay a new burthen on practitioners

1. Cause is usually interpreted in law to mean immediate operative antecedent. Now it seems we must not only give immediate cause of death, as peritonitis, but, under peril of being unfrocked, the cause of peritonitis, as dirty instrument; the cause of virulence of dirt, as streptococci; the cause of activity of streptococci, as mixed infection, &c.

2. Every medical man in practice is often asked to bring about abortion. This alone being a criminal offence, it would seem he is bound to hand over the offender to justice.

3. Transmission of contagious disease being a grave offence, it would seem that to prevent this misdemeanour the doctor is bound to notify the wife or other person likely to be affected by the patient suffering from infectious sore.

I am, Sir, yours faithfully,
J. C. MCWALTER, M.D., LL.B.,
Barrister-at-Law.
Dublin, June 7th, 1914.

SOCIETY OF TUBERCULOSIS OFFICERS.

To the Editor of THE LANCET.

SIR,—With reference to Dr. Thompson Campbell's letter on the above subject, in your issue of to-day's date, may I say that I recently joined the Tuberculosis Society (secretary, Dr. W. O. Pitt, Walthamstow, Essex), and that I was informed that this body already numbered about 60 tuberculosis officers amongst its members?

I am, Sir, yours faithfully,
TUBERCULOSIS OFFICER.
June 6th, 1914.

THE NATIONAL INSURANCE ACT.

FRIENDLY SOCIETIES AND NATIONAL INSURANCE.

AT the annual conference of delegates from the lodges of the Manchester Unity of Oddfellows held at Aberystwith, and at the annual meeting of delegates of the Hearts of Oak Benefit Society held in London, the effects of national insurance upon the position of these important societies occupied a prominent place in the presidential addresses delivered. In each case satisfaction was expressed at the increased membership and at the proportion of members who had joined for the purposes of State insurance and had also insured independently. Both chairmen spoke of the suggestion that voluntary State insurance might some day take the place of the present compulsory system, the chairman of the Oddfellows saying:—

> Compulsory insurance has come, and it has come to stay. No thinking man attaches any importance to the purely tactical suggestion that a voluntary measure of insurance could now be substituted.

The president of the Hearts of Oak meeting said on this subject:—

> I am strongly opposed to any legislation which will bring about the abolition of the compulsory principle of the Insurance Act, first, because we all know that the Act would not have been required if it had not been for the millions of people who would not voluntarily join any Friendly Society, and who, by their apathy and indifference, really constituted a serious danger to the community; and, secondly, in the interests of the Approved Societies themselves, who, having now got new machinery to meet the new conditions, are beginning to breathe more freely with the improved working of the machine.

The latter speaker made the following remarks upon the subject of alleged excessive expenditure upon sickness benefit:—

> Referring to the experience of the working of the Insurance Act in regard to sickness, he saw no reason to pay too much attention to the alarmist rumours which were rife a few months ago. In regard to the alarm in certain quarters as to the abnormal sickness experienced by women members, while he agreed that very great caution was necessary, he did not share the pessimistic views expressed in many quarters.

The chairman of the Manchester Unity condemned the administration of sickness benefit by competing Approved Societies, amounting, he stated, to 23,500, as producing lack of uniformity and confusion. He predicted that at no very distant date the State would undertake the administration of the Act through its own officials, and he believed that the change would be advantageous to the voluntary thrift movement. With regard to the inequalities arising under the present system of administering sickness benefit, he said:

> Some Approved Societies, notably those connected with trade unions, administer sickness benefit as though it were intended to relieve not only sickness but also unemployment and that morbid disinclination to work which is so prevalent amongst some classes of the community. Others interpret the phrase "incapable of work" so strictly as to deny sickness benefit in some cases to those who are legitimately entitled to it.

ABERDEENSHIRE INSURANCE COMMITTEE.

At a meeting of the Aberdeenshire Insurance Committee held on May 29th the communication of the executive committee of the Scottish Association of Insurance Committees, inviting opinion as to the desirability of amending the Act with the view of empowering the Commissioners to dispense with the necessity of county committees constituting district committees, came up, and it was unanimously decided to approve the resolution. With regard to dispensing by medical practitioners, the committee decided that those doctors who dispensed their own medicines before the Act came into operation should be allowed to continue to do so, and that those doctors who did not dispense medicines prior to the inauguration of the Act should not be allowed to do so now. The report of the finance subcommittee in connexion with the 20 per cent. deduction on doctors' payments and chemists' accounts was adopted, with the addition of a resolution that the committee make immediate representation to the Insurance Commissioners to the effect that protests had been received from the chemists and doctors against the action of the committee in not fulfilling their bargain, and that the committee be immediately placed in funds to pay both the chemists and the doctors 95 per cent. of the amounts due to them.

Medical News.

UNIVERSITY OF CAMBRIDGE.—Dr. C. S. Myers, Director of the Psychological Laboratories, gives notice that during the Michaelmas term he will give a course of lectures in the Psychological Laboratory on General and Experimental Psychology, considered especially in relation to Medicine. These lectures are intended for medical students and for candidates for Part I. of the Diploma in Psychological Medicine. They will be given on Mondays, Wednesdays, and Fridays, at 9 A.M., beginning on Friday, Oct. 16th, and in connexion with them a practical class will be held. Those who wish to attend this course are requested to inform Dr. Myers before August 1st. Instruction in the physiology of the central nervous system, suitable for the above-named candidates, is provided in the course of lectures given by Dr. H. K. Anderson in the Physiological Laboratory on Tuesdays, Thursdays, and Saturdays, at 9 A.M. (beginning on Oct. 15th), with practical work on Mondays, Wednesdays, and Fridays, at 10 A.M.—The following medical degrees have been conferred:—

M.D.—A. H. Gosse, Caius; E. G. White, Christ's.
M.B., B.C.—M. H. Watney, Trinity; G. Sparrow, Caius.
M.B.—C. W. Archer, Trinity; H. J. S. Shields, Jesus.

BRITISH HOSPITALS ASSOCIATION CONFERENCE.—As we have already announced, the fifth annual conference of the British Hospitals Association will be held in the library of the Royal Victoria Infirmary, Newcastle-on-Tyne, from June 18th to 20th, under the presidency of the Lord Mayor of Newcastle, Sir George Hare Philipson acting as deputy chairman. Among the papers to be read is one by Dr. G. H. Hume on the Voluntary Hospital on its Trial, while Mr. P. J. Michelli, C.M.G., will open a discussion on Pensions for Hospital Officers. The association, of which Sir William Osler is the retiring president, has done much useful work in connexion with hospital economy and management.

THE BROWN INSTITUTION.—The annual report of the superintendent of the Brown Animal Sanatory Institution (Mr. F. W. Twort) has been received by the Senate of the University of London, and states that in the year 1913 the total number of examinations of animals made was 7036 and the total number of animals brought to the institution was 6022, of which 565 were in-patients at the hospital. Animals under treatment included 3956 dogs, 1355 cats, and 535 horses, the commonest diseases being distemper, mange, and scabies in dogs and lameness in horses. It was estimated that 400 animals were sent away to veterinary surgeons, treatment being refused on the grounds that the owners could afford to pay the proper fees. Of the 565 in-patients, 520 were cured or relieved, 17 died, and 28 were destroyed as incurable.

The research work of the laboratory attached to the institution included investigations on the thyroid gland, Johne's disease, tuberculosis, leprosy, and infantile diarrhœa, the last investigation being carried out for the Local Government Board.

Dr. Benjamin Moore, F.R.S., Johnston Professor of Bio-chemistry in the University of Liverpool, has accepted an appointment at the laboratory at Mount Vernon, Hampstead, which is to be opened in October next for research work under the National Insurance Act.

THE REBUILDING OF THE CHELSEA HOSPITAL FOR WOMEN.—On Tuesday last the foundation stones of the new Chelsea Hospital for Women and of the Nurses' Home in connexion with it were laid by the Earl and Countess Cadogan, the site having been generously furnished by Lord Cadogan.

THE NEW TREASURERS OF ST. GEORGE'S HOSPITAL.—Lord Greville and Sir Gerard Lowther have accepted the invitation of the committee of management of St. George's Hospital to become joint honorary treasurers of the charity, filling the vacancies caused by the recent resignations of Lord Plymouth and Mr. A. W. West.

RESEARCH DEFENCE SOCIETY.—The annual general meeting will be held at the house of the Royal Society of Medicine, 1, Wimpole-street, Cavendish-square, W., on Tuesday, June 30th, at 4.30 P.M. The president, Lord Lamington, will give an address, and the annual report will be submitted for adoption. After the business of the meeting there will be a demonstration with the kinematograph.

BRUSSELS MEDICAL GRADUATES' ASSOCIATION.—A dinner of this association will be held under the presidency of Dr. Howard Humphris at the Garden Club, Anglo-American Exhibition, on Wednesday, June 17th, at 7.30 P.M. All graduates of the University of Brussels will be welcome, and members are invited to bring ladies. Tickets, price 7*s.* 6*d.* (not including wine), may be obtained from the honorary secretary, Dr. Arthur Haydon, 29, Broadhurst-gardens, Hampstead, N.W.

ROYAL INSTITUTE OF PUBLIC HEALTH.—Dr. L. Vaillard, Inspector-General in the French Army Medical Service, will deliver the Harben lectures on Wednesday, Friday, and Monday, July 1st, 3rd, and 6th, at 5 P.M., in the lecture room of the institute, 37, Russell-square, W.C. He has taken as his subjects: (1) "Carriers from a Public Health Point of View"; (2) "The Etiology and Prophylaxis of Tetanus from a Consideration of Researches of the Past 30 Years"; (3) "House Flies and Public Health." All interested are invited to attend, and communications should be made to Dr. E. W. Hope, honorary secretary of the institute.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Milk and Dairies Bill.

A BETTER reception was given to the Milk and Dairies Bill on second reading in the House of Commons on Tuesday, June 9th, than was the fate of previous measures dealing with the same subject in recent years. In such a Bill as this pains have to be taken to meet the objections of the agricultural interest. The first speaker in the debate, Mr. CHARLES BATHURST, who represents an agricultural constituency, made it clear that the compromise which was alluded to on the introduction of the measure was accepted. The honourable Member went on to say that the Central Chamber of Agriculture and other leading agricultural organisations unanimously asked the House to accept the second reading of the Bill. They, however, hoped that no drastic amendments would be introduced in committee such as would destroy the compromise. He thought that there ought to be a certified supply of milk as was in force in the United States.

Criticism of the Bill was confined to details, and as a rule it was of a friendly character. Dr. ADDISON, who considered the Bill immensely valuable, thought that the Government ought to have proceeded by investing the larger authorities rather than the smaller ones with powers of action under the Bill. He made an important point by asking that the reports on milk-supplies should be made by medical officers who had a reasonably secure tenure. He also supported the contention that the certification of milk should be introduced into the Bill. A grading of milk would create public favour for clean milk. Mr. H. FORSTER regretted that the Bill did not deal a little more thoroughly with milk-supply as a whole. He admitted that it would do something to punish impurities, but it would not make the supply cheaper or more plentiful.

Mr. ASTOR dealt at some length with the provision of the Bill forbidding the sale of tuberculous milk. The country, he thought, could not afford by a stroke of the pen to wipe out 10 per cent. of the milk-supply. In his opinion the improvement ought to be made by a process of gradually raising the standard and by grading and classifying the milk. In the course of the subsequent debate a general agreement was disclosed on the desirability of securing a pure milk-supply, but various Members took objection to the provisions for the taking of samples for dealing with suspected cows, for the inspection of labourers, and also as to the compensation to be paid to farmers.

Mr. HERBERT SAMUEL, President of the Local Government Board, who is in charge of the Bill, replied to the debate and expressed satisfaction at the friendly reception which had been given to the Bill. He would, he said, approach the consideration of amendments with an open mind. He was particularly glad that the spokesmen of the agricultural interest had on the whole expressed a favourable opinion of the measure. Of course, he regarded milk producers not as persons to be harassed, but as persons whose business was indispensable to the nation. It was essential to maintain the cheapness of the milk-supply, and the Bill would be mischievous indeed if it sent up the price to the poorer classes. He did not believe that it would do anything of the sort. The regulations which the Government had in view were not designed to impose expense, but to enforce care. With regard to the authorities who were to administer the Bill, it had been urged that these should be the county and not the district authorities. But he would remind the House that in this matter it was not dealing with a *tabula rasa*. The district councils had the administration of the Diseases of Animals Acts. They already appointed inspectors to inspect the cattle, and there would be much complaint if the county councils were required to appoint another set of veterinary inspectors. If there was a general desire for the codification of the law relating to the milk-supply after the Bill passed, he should be glad to introduce a measure to bring all the existing law on the subject into one statute. Some honourable Members had taken objection to the inspection of labourers under the Bill, but the object of the provision was to secure that persons who were dirty should not contaminate the milk. There was also the case of the person with diseased hands. It was certainly essential to deal with that point. He did not view with any favour the proposal to have certified or graded milk, if that was to be a substitute for the proper regulation of the whole of the milk-supply. It would not be enough to say that the wealthy and well-to-do classes could obtain proper milk by paying for it and to leave the rest of the community without full protection. That was not a policy which could commend itself to the House of Commons. But the principle of the certification of milk was one which had very much to commend it. He did not introduce it into the Bill because he wanted to proceed very cautiously. He was quite content to leave that subject to be discussed in committee. If it appeared that a proposal was desired to protect those who chose to certify milk and to penalise those who wrongly claimed that the milk which they sold was certified, then he would be quite prepared to be guided in that matter by the committee. He sincerely trusted that the Bill would become law this year.

The second reading was agreed to without a division.

Milk and Dairies (Scotland) Bill.

The second reading of the Milk and Dairies (Scotland) Bill was also agreed to after a very brief debate. It was stated that the apprehensions of agriculturists had been met on many points, but there were still matters which would have to be considered in committee.

HOUSE OF COMMONS.

TUESDAY, JUNE 9TH.

Grants for Sanatoriums.

Mr. GODFREY LOCKER-LAMPSON asked the President of the Local Government Board whether, in a circular of April, 1913, certain figures were given to county councils on the subject of grants to be made by the Board to councils for the purpose of erecting sanatoriums; whether certain councils based their calculations on that circular; whether the Board had recently written stating that they must not be held as committing themselves to a grant, on the ground that it would be impossible to make grants at the rates referred to in the circular; and whether he proposed to take any action in the matter.—Mr. HERBERT SAMUEL replied: No circular was issued on this subject in April, 1913. The Local Government Board explained the basis on which grants were proposed to be made towards the cost of new sanatoria in a circular issued on May 14th, 1912, and in a further circular of Feb. 25th, 1913, they indicated that other considerations besides the population of the area would have to be taken into account in distributing the capital grant. I understand that some misconception has arisen in certain counties as to the amount of capital grant which is available in aid of the provision of hospital beds for the treatment of tuberculosis, but the maintenance grant of one-half the net cost of all schemes of treatment approved by the Board will make the total grants towards the cost of providing both sanatoria and hospitals for treating tuberculosis considerably larger than was contemplated in the circular of May 14th, 1912.

The Drug Fund.

Mr. LOCKER-LAMPSON asked the honourable Member for St. George's-in-the-East whether he was aware that a meeting was called in Lancashire recently, at the instance of the Pharmaceutical Society of Great Britain, in consequence of the deficiency in Insurance Committees' Drug Fund, which was increasing to a marked extent; and whether he could now make any announcement as to the payment of chemists' accounts.—Mr. WEDGWOOD BENN answered: The honourable Member is misinformed. The conference in question was convened to consider the most economical method of carrying out the necessary administrative work in connexion with the scrutiny of prescriptions.

Forcible Feeding of Suffragist Prisoners.

Mr. WEDGWOOD asked the Home Secretary on how many occasions and in what prisons the prison doctor had refused to feed forcibly a suffragist prisoner.—Mr. MCKENNA replied: There has been no such refusal by a prison doctor.

The Supply of Radium.

Mr. H. LAWSON asked the Secretary of State for Foreign Affairs whether any steps had been taken or were proposed to be taken by foreign Governments to limit or control the export of radium, with the object of reserving the home supplies in the first instance for the satisfaction of the home demand for radium for use in the treatment of disease.—Sir E. GREY answered: I understand that the Austrian Government in 1912 acquired the mines in the Joachimstal, from which the greater part of the world's supply of radium is said to be derived. In 1908 State control was established in Saxony over the search for and exploitation of minerals and water containing radium. I have no information as regards the steps taken by these or any other Governments to limit or control the export of radium, but I will make inquiries as to any regulations at present in force or in contemplation.

Sleeping Sickness Report.

Sir J. D. REES asked the Secretary of State for the Colonies what action would be taken on the Inter-departmental Committee's Report on Sleeping Sickness; and whether he had taken note of the Committee's finding that any such drastic measure as a general destruction of wild animals was not justified by the evidence.—Mr. L. HARCOURT replied: I am consulting the Governors of our colonies and protectorates in tropical Africa with regard to the recommendations of the Committee, and in the meantime I am not in a position to make a statement. I have noted the finding referred to.

WEDNESDAY, JUNE 10TH.

Chemists' Accounts.

Mr. G. LOCKER-LAMPSON asked the honourable Member for St. George's-in-the-East whether certain Scottish chemists had become so anxious about the payment in full of their accounts in respect of insured persons that they had threatened to discontinue the supply of medicines to insured persons unless satisfactory assurances were forthcoming; and whether the Scottish Commissioners had received representations to that effect.—Mr. WEDGWOOD BENN said in reply: The Scottish Insurance Commissioners have not received any such general representations as the honourable Member suggests. Two pharmaceutical committees have communicated with the Insurance Commissioners. The Scottish accounts for drugs will be dealt with in exactly the same manner as the drug accounts in other parts of the country.

Mr. LOCKER-LAMPSON asked the honourable gentleman what was the approximate proportion of insurance committees that had paid by way of advance less than 90 per cent. of the chemists' accounts for the quarter ending April, 1914.—Mr. WEDGWOOD BENN answered: The information for which the honourable Member asks could only be obtained by calling upon all the 193 insurance committees in Great Britain to prepare a special return.

Mr. CASSEL asked whether the honourable gentleman could give any assurance that the chemists would ultimately be paid their balance in full.—Mr. WEDGWOOD BENN replied that the chemists would be paid in accordance with the terms of the agreement which they had voluntarily entered into.

Mr. LOCKER-LAMPSON asked whether it was the case that the Birmingham Chemists' Committee had only a balance of £400 with which to pay a balance of £5000.—Mr. WEDGWOOD BENN answered that if the honourable Member would put a question on the notice paper the figures would be examined.

Mr. WORTHINGTON EVANS asked whether it was not the fact that in some cases the chemists had only received 17*s.* or 18*s.* in the £ for work done and drugs supplied.—Mr. WEDGWOOD BENN replied that he could not say in reply to a general question of this kind. Perhaps the honourable Member would put down in a question the case he had in mind.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ALLEN, JOHN, M.B., Ch.B.,Vict., D.P.H., has been appointed Clinical Tuberculosis Officer under the Insurance Act and Assistant Medical Officer at Bury.

BROWNLEE, JOHN, M.D., C.M. Glasg., has been appointed Medical Statistician under the Government Medical Research Committee.

BROWNLIE, WILLIAM BARRIE, F.R.C.S. Edin., M.B., Ch.B. Glasg., has been appointed Honorary Assistant Ophthalmic Surgeon to the Blackburn and East Lancashire Royal Infirmary.

RANSFORD, W. R., L.D.S. Eng., has been appointed Dental Surgeon to the Civil General Hospital, Rangoon.

RENSHAW, ARNOLD, M.B., B.S. Lond., has been appointed Bacteriologist to the Manchester Royal Eye Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ASHTON-UNDER-LYNE UNION WORKHOUSE.—Resident Medical Officer and Resident Assistant Medical Officer. Salaries £350 and £150 per annum respectively, with rations, laundry, and residence.

BARNET, CLARE HALL SANATORIUM, South Mimms.—Assistant Resident Medical Officer. Salary £120 per annum, with board, lodging, and laundry.

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL.—House Surgeon. Salary £150 per annum, with residence, board, and laundry.

BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—House Surgeon for six months. Salary at rate of £75 per annum, with board, residence, and washing.

BETHLEM ROYAL HOSPITAL, Lambeth-road, S.E.—Second Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, and laundry.

BIRKENHEAD BOROUGH HOSPITAL.—Senior House Surgeon. Salary £120 per annum, with board and laundry.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant for afternoon attendance. Also Clinical Assistant to Electrical Department. Salary in each case at rate of 52 guineas per annum

BIRMINGHAM, CITY FEVER HOSPITAL, Little Bromwich.—Assistant Medical Officer. Salary £200 per annum, with board and residence.

BIRMINGHAM CITY HOSPITAL, Lodge-road.—Assistant Resident Medical Officer. Salary £200 per annum, with board, residence, &c.

BIRMINGHAM GENERAL DISPENSARY.—Resident Medical Officer, unmarried. Salary £240 per annum, with apartments, fire, lights, and attendance.

BIRMINGHAM GENERAL HOSPITAL.—Assistant Physician. Salary £50 per annum.

BIRMINGHAM, JAFFRAY BRANCH OF GENERAL HOSPITAL, Gravelly Hill.—Resident Medical and Surgical Officer. Salary £150 per annum, with board, residence, and washing.

BIRMINGHAM, SALTERLEY GRANGE SANATORIUM FOR CONSUMPTIVES, near Cheltenham.—Resident Medical Officer. Salary £300 per annum, with board, &c.

BIRMINGHAM UNION, DUDLEY-ROAD INFIRMARY.—Second Assistant Medical Officer and Fourth Assistant Medical Officer. Salary £160 and £140 per annum respectively, with apartments, rations, laundry, and attendance.

BOLTON INFIRMARY AND DISPENSARY.—Third House Surgeon. Salary £110 per annum, with apartments, board, and attendance.

BOOTLE BOROUGH HOSPITAL.—Senior and Junior House Surgeons. Salaries £120 and £100 respectively, with residence, board, and laundry.

BRADFORD ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing.

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN.—House Surgeon. Salary at rate of £100 per annum, with board, lodging, and washing.

BRISTOL EDUCATION COMMITTEE.—School Medical Officer. Salary £500 per annum.

BRISTOL ROYAL INFIRMARY.—House Surgeon for Throat, Nose, and Ear Department. Salary at rate of £100 per annum, with board, lodging, and laundry.

Burley-in-Wharfedale, West Riding Asylum, *Scalebor Park.*—Assistant Medical Officer. Salary £250 per annum, with board, residence, and laundry. Or *Locum Tenens to end of September.* Salary £5 5s. per week.

Burnley, Victoria Hospital.—House Surgeon. Salary £135 per annum, with residence, board, and washing.

Bury Infirmary.—Junior House Surgeon. Salary £150 per annum, with board, residence, and washing.

Bury St. Edmunds, West Suffolk General Hospital.—Resident Medical Officer, unmarried. Salary £120 per annum, with board, lodging, and laundry.

Canterbury, Kent and Canterbury Hospital.—House Surgeon and Junior House Surgeon, unmarried. Salaries £100 and £90 per annum respectively, with board, lodging, and washing. Also Honorary Surgeon.

Cardiff, King Edward VII.'s Hospital.—House Surgeon for the Ophthalmic and Ear, Nose and Throat Departments. Salary £100 per annum, with board, residence, and laundry. Also Two House Surgeons for six months. Salary at rate of £60 per annum, with board, residence, and laundry.

Chelsea Hospital for Women.—Anæsthetist. Salary £21 *per annum.*

Cheshire County Council.—Four District Tuberculosis Officers. Salaries £350 per annum.

Chesterfield and North Derbyshire Hospital.—Junior House Surgeon. Salary £90 per annum, with board, *apartments*, and laundry.

City of London Hospital for Diseases of the Chest, *Victoria Park, E.*—House Physician for six months. Salary at rate of £75 per annum, with board, *residence, and washing. Also* Clinical Assistant in Out-patient Department.

Clapham Maternity Hospital.—Assistant Medical Woman for Battersea District Maternity. Salary £50 per annum, with board *and residence.*

Colchester, Essex County Hospital.—House Surgeon. Salary £100 *per annum, with board*, washing, and *residence.*

Cumberland County Council.—Three Assistant County Medical Officers. Salary £350.

Darlington Hospital and Dispensary.—House Surgeon, unmarried. Salary £200 per annum, with board, lodging, and laundry.

Derby, Derbyshire Royal Infirmary.—House Physician and Assistant House Surgeon. Salaries £120 and £80 per annum respectively, with residence, board, and laundry.

Devonport, Royal Albert Hospital.—House Surgeon, unmarried. Salary £150 per annum, with board and laundry.

Dreadnought Hospital, Greenwich.—Assistant Surgeon.

Dundee Royal Infirmary.—House Surgeon. Also Out-door Maternity Assistant for three months. Salary each at rate of £40 per annum, with board, lodging, and laundry.

Durham County Sanatorium.—Medical Superintendent. Salary £400 per annum, with residence and personal board.

Epsom, London County Epileptic Colony.—Assistant Medical Officer. Salary £290 per annum, with board, lodging, and washing; if unmarried, or £90 a year in lieu if married and non-resident.

Evelina Hospital for Sick Children, Southwark, S.E.—House Surgeon and House Physician. Salary in each case at rate of £75 per annum, with board, residence, and washing. Also Surgeon to Out-patients. Also about Ten Clinical Assistants in Out-Patient Departments.

Great Northern Central Hospital, Holloway-road, N.—Anæsthetist. Salary 10 guineas per annum. Also Surgeon.

Halifax Royal Infirmary.—Second House Surgeon and Third House Surgeon, unmarried. Salary £120 and £100 per annum respectively, with residence, board, and washing.

Hammersmith Metropolitan Borough.—Medical Officer of Health. Salary at rate of £600 per annum.

Hampstead General and North-West London Hospital, Hampstead and Camden Town.—*Physician to Out-patients.*

Hertford County Hospital.—Resident House Surgeon, unmarried. Salary £100 per annum, with board, washing, and apartments.

Holborn Union.—Second Assistant Medical Officer at Infirmary, Archway-road, Upper Holloway, N. Salary £150 per annum, with board, apartments, and washing. Also Temporary Assistant Medical Officer at Infirmary, Cleveland-street, W. Salary at rate of £180 per annum, with residential allowances.

Hospital for Epilepsy and Paralysis and other Diseases of the Nervous System, Maida Vale, W.—Resident Medical Officer for six months. Salary at rate of £75 per annum, with board, lodging, and washing Also Assistant Physician.

Hospital for Sick Children, Great Ormond-street, London, W.C.—House Surgeons and House Physician, unmarried, for six months. Salary in each case £30, with board, residence &c.

Hospital for Women, Soho-square, W.—Resident Medical Officer for six months. Salary at rate of £80 per annum.

Huddersfield Royal Infirmary.—Assistant House Surgeon. Salary £80 per annum, with board, rooms, and washing.

Hull Royal Infirmary.—Casualty House Surgeon. Salary at rate of £80 per annum, with board and lodging.

Indian Medical Service.—Thirteen Commissions.

King Edward VII. Sanatorium, Midhurst, Sussex.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and attendance.

King's Lynn, West Norfolk and King's Lynn Hospital.—House Surgeon. Salary £150 per annum.

Lahore Municipal Committee, Punjab, India.—Health Officer. Salary £600 per annum.

Leeds General Infirmary.—Resident Ophthalmic Officer. Salary £100 per annum, with board, residence, and laundry.

Leicester Royal Infirmary.—House Physician for six months. Salary at rate of £100 per annum, with board, apartments, and washing.

Liverpool, Highfield Infirmary, Knotty Ash, near Liverpool.—Assistant Medical Officer. Salary £160 per annum, with apartments, &c.

London Lock Hospital.—House Surgeon to Female Hospital, Harrow-road, W. Salary £100 per annum, with board, residence, and washing.

Macclesfield General Infirmary.—House Surgeon. Salary £150 per annum, with residence, board, and laundry.

Maidstone, Kent County Asylum.—Fourth Assistant Medical Officer, unmarried. Salary £250 per annum, with quarters, board, attendance, washing, &c.

Manchester, Ancoats Hospital, *Mill-street.*—Assistant House Surgeon. Salary £70 per annum, with board and residence.

Manchester, Hulme Dispensary, Dale-street, Stretford-road.—House Surgeon. Salary £180 per annum, with apartments, attendance, &c.

Manchester Northern Hospital for Women and Children, Park-place, Cheetham Hill-road.—*House Surgeon.* Salary £120 per annum, with apartments and board.

Manchester Royal Infirmary.—*Surgical Registrar.* Salary £75 per annum. Also Medical Officer for Out-patients and Accidents and Assistant Director in *Clinical Laboratory for six months.* Salary at rate of £100 per annum, with board and residence. Also Assistant Director in *Clinical Laboratory.* Salary £75 per annum.

Manchester, St. Mary's Hospitals for Women and Children.—*House Surgeon.* Salary at rate of £50 per annum, with board and residence.

Newcastle-upon-Tyne, University of Durham College of Medicine.—Demonstrator of Anatomy. Salary £200 per annum.

New Hospital for Women, Euston-road.—Female Obstetric Assistant for six months. Also Resident Medical Officer at House of Recovery, *New Barnet, for six months.* Salary £60. Also Two Clinical Assistants in Out-patient Department. Also Anæsthetist.

Northampton General Hospital.—Senior Resident Medical Officer, unmarried. Salary £140 per annum. Also Two House Surgeons, *unmarried.* Salary *£120* per annum each. Apartments, board, washing, attendance, &c., in each case.

Northamptonshire County Council Education Committee.—Assistant School Medical Officer. Salary £275 per annum.

Norwich, City of.—Assistant School Medical Officer and Assistant Medical Officer of Health. Salary £300 per annum.

Norwich, Jenny Lind Hospital for Sick Children.—Female Resident Medical Officer for six months. Salary £50 per annum, with board, apartments, and laundry.

Nottingham, Bagthorpe Institution and Infirmary.—Resident Assistant Medical Officer, unmarried, for six months. Salary at rate of £165 per annum, with apartments, &c.

Nottingham General Hospital.—Assistant House *Physician* for six months. Salary at rate of £100 per annum, with board, residence, and laundry.

Paddington Green Children's Hospital, London, W.—House Surgeon for six months. Salary at rate of *£80* per annum, with board, residence, and washing.

Plymouth, South Devon and East Cornwall Hospital.—House Physician for six months. Salary £90 per annum, with board, residence, and washing.

Preston, County Asylum, Whittingham, Lancs.—Junior Assistant Medical Officer and Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, &c.

Putney Hospital, Putney Common, S.W.—*Resident Medical Officer.* Salary £100 per annum, with rooms, *board, and laundry.*

Queen's Hospital for Children, *Hackney-road*, Bethnal Green, E.—House Physician and House Surgeon for six months. Salary £80 per annum each, with board, residence, *and* washing.

Rochdale Infirmary and Dispensary.—Junior House Surgeon, unmarried. Salary £110 per annum, with board, residence, and laundry.

Rotherham Hospital.—Senior and Junior *House Surgeons.* Salaries £200 and £100 respectively, with board, lodging, and washing.

Royal Eye Hospital, Southwark, S.E.—Junior House Surgeon for six months. Salary £50 per annum, with board and residence.

Royal Hospital for Diseases of the Chest, City-road, E.C.—Resident Medical Officer for six months. Salary at rate of £120 per annum, with board, lodging, and washing.

Royal Institute of Public Health.—Director of Laboratories of State Medicine (Bacteriological and *Chemical*). Salary £400 per annum. Also Demonstrator in Bacteriological Laboratories. Salary £200 per annum.

Royal Naval Medical Service.—Twenty-five Appointments.

Royal Westminster Ophthalmic Hospital, King William-street, West Strand, W.C.—Physician.

St. Albans, Herts County Asylum, *Hill End.*—Second Assistant Medical Officer, unmarried. Salary £250 per annum, with board, lodging, and washing.

St. Mary's Hospital, Paddington, W.—Obstetric Surgeon in Charge of Out-patients.

St. Pancras Dispensary, 39, Oakley-square, *N.W.*—Resident Medical Officer, unmarried. Salary £105 per annum, with *residence* and attendance.

St. Paul's Hospital for Skin and Genito-Urinary Diseases, Red Lion-square, Holborn, W.C.—Clinical Assistant in Out-patient Department.

Salford Union Infirmary.—Senior Assistant Medical Officer and Resident Assistant *Medical Officer*, unmarried. Salaries £200 and £150 per annum respectively, with apartments, attendance, and rations.

Sheffield, East End Branch of the Children's Hospital (Out-patient *Department*).—House Surgeon. Salary £120 per annum, with board and residence.

Sheffield Royal Infirmary.—House Surgeon and Ophthalmic House Surgeon for six months. Salary £100 per *annum each*, *with board and residence.*

Sheffield Union Hospital, Firvale.—Resident Assistant Medical *Officer, unmarried.* Salary £160 per annum, with apartments, rations, &c.

Shrewsbury, Salop Infirmary.—House Physician. Salary at rate of £110 per annum, with board and apartments.

Stockport Infirmary.—Junior House Surgeon. Salary £100 per annum, with board, washing, and residence.

Stoke-on-Trent, North Staffordshire Infirmary, Hartshill.—House Physician. Also Casualty and Out-patient Officer, both unmarried, for six months. Salary at rate of £120 per annum each, with board, residence, and washing.

Sunderland Royal Infirmary.—Junior House Surgeon. Salary £100 per annum, with board, residence, and laundry.

Swansea General and Eye Hospital.—Two House Surgeons. Salary £125 per annum, with board, washing, and attendance.

WAKEFIELD, WEST RIDING ASYLUM.—Assistant Medical Officer. Salary £200 per annum, with apartments, board, washing, and attendance. Also Locum Tenens Assistant Medical Officer for summer months. Apartments, board, travelling expenses, and salary as arranged.

WALSALL AND DISTRICT HOSPITAL.—Assistant House Surgeon. Salary £110 per annum, with board, residence, and laundry.

WANDSWORTH UNION INFIRMARY, Ouseley-road, Balham, S.W.—Senior Assistant Medical Officer, unmarried. Salary at rate of £150 per annum, with board, lodging, and washing.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House Surgeon and Anæsthetist, unmarried. Salary £100 per annum, with board, residence, and washing.

WEST HAM AND EASTERN GENERAL HOSPITAL.—Junior House Physician and Junior House Surgeon. Salary at rate of £75 per annum, with board, residence, and washing.

WEST HARTLEPOOL, CAMERON HOSPITAL.—House Surgeon, unmarried. Salary £150 per annum, with board and rooms.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician. Also Resident Casualty Officer. Both for six months. Board, lodging, and laundry provided.

WEST LONDON DISTRICT SCHOOLS, Ashford, Middlesex.—Non-Resident Medical Officer. Salary at rate of £200 per annum, with extra fees.

WESTMINSTER HOSPITAL.—Assistant House Physician and Assistant House Surgeon. Board provided in each case.

WESTMINSTER UNION INFIRMARY, Fulham-road, S.W.—Third Assistant Medical Officer. Salary £140 per annum, with board, residence, and washing.

WEST SUSSEX COUNTY COUNCIL.—Temporary Assistant Medical Officer. Salary at rate of £6 6s. per week, with maintenance allowance and travelling expenses.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Senior House Surgeon. Salary £170 per annum, with board, apartments, and washing

WIMBLEDON BOROUGH, PUBLIC HEALTH DEPARTMENT.—Female Assistant Medical Officer of Health. Salary £300 per annum.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House Surgeon. Salary £120 per annum, with apartments, board, and laundry.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £160 per annum, with board, lodging, and attendance.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Cambuslang, in the county of Lanark; at Langholm, in the county of Dumfries; at Osmotherley, in the county of York; and at Whalley, in the county of Lancaster.

THE Secretary of State gives notice of a vacancy for a Medical Referee under the Workmen's Compensation Act, 1906, for the Sheriffdom of Fife and Kinross, attached more particularly to the Kirkcaldy District. Application should be made to the Scottish Office.

Births, Marriages, and Deaths.

BIRTHS.

DRUITT.—On June 7th, at Saffron Walden, Essex, the wife of Daniel Cuthbert Druitt, M.R.C.S., L.R.C.P., of a daughter.

GORDON.—On May 30th, at Westholme, Horncastle, Lincs, the wife of Dr. F. Jervis Gordon, of a son.

HUTCHINSON.—On June 8th, at 5, The Parade, Carmarthen, the wife of R. C. Hutchinson, M.B., Ch.B., D.P.H., of a daughter.

LOW.—On June 5th, at Harley-street, W., the wife of V. Warren Low, M.D., F.R.C.S., of a son.

MCNEILL.—On June 3rd, at Quay-road, Bridlington, Yorkshire, the wife of Duncan McNeill, M.B., C.M., of a daughter.

MILLIGAN.—On June 2nd, at Quarry-street, Guildford, the wife of J. Knowles Milligan, M.R.C.S., L.R.C.P., of a daughter.

ONSLOW-FORD.—On June 2nd, at Wendover, Bucks, the wife of Max Onslow-Ford, M.R.C.S., L.R.C.P., of a daughter.

SANGUINETTI.—On June 2nd, at Campden House-road, W., the wife of Harold H. Sanguinetti, M.B., B.Ch., of a daughter.

MARRIAGES.

LEE—NICHOLSON.—On June 3rd, at the Cathedral Church of St. Mary, Edinburgh, Robert Hammersley Lee, M.D., to Marjory, elder daughter of Professor J. Shield Nicholson and Mrs. Nicholson, Bedford Park, Edinburgh.

TROTTER—PIERCE.—On June 10th, at St. Mary's, Nottingham, by the Venerable the Archdeacon of Aston, assisted by the Rev. E. Huntley Gordon, Vicar of St. Catherine's, Leslie Batten Currie Trotter, M.A., M.D., B.C. Camb., of "Rossway," Ledbury, Herefordshire, son of Leslie B. Trotter, M.D., Malvern, to Hilda Mary, younger daughter of Mr. and Mrs. John Pierce, 3, Elm-avenue, Nottingham.

WALBRUGH—GRAY.—On April 14th, at St. James's Church, Highflats, Natal, A. A. Walbrugh, M.D., to Margaret Isabella, only daughter of the late Walter Gray and Mrs. Gray, of Helmsley.

DEATHS.

BRETON.—On June 5th, at Langrish, Petersfield, William Edward Breton, Inspector-General of Hospitals and Fleets, R.N. (retired), aged 64 years.

NOBLE.—On June 3rd, at Holywood Hall, Wolsingham, county Durham, Joseph William Noble, M.D. Cantab., L.R.C.P., aged 45 years.

WRIGHT.—On June 6th, George Augus Wright, M.B., of Uxbridge-road, London, W., aged 33 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

ROGER BACON.

THE seventh centenary of the birth of Roger Bacon was celebrated this week at Oxford. The "Admirable Doctor" was born at Ilchester in Somerset in 1214. Although he studied at Oxford he was ordered to Paris, but his too great proficiency in natural science exposed him there to severe treatment. His Opus Majus cost him an enormous amount of money to write. His part in discoveries in astronomy, chemistry, physics, geometry, mechanics, and optics is now better understood, although his own generation appears to have treated him largely as a wizard or pretender. Posterity seems to be quite willing to pay compensation for the persecutions which the famous Franciscan friar suffered from his contemporaries. The introduction to the Opus Majus by Dr. Bridges shows us that he was a famous forerunner of modern thought.

INCOME-TAX CLAIMS.

To the Editor of THE LANCET.

SIR,—Every year since the earned rate has been in force large numbers of taxpayers have been required to pay income-tax at the unearned or higher rate for the simple reason that they have neglected to make the return for assessment to income-tax which is now due to be made. In the case of persons whose incomes do not exceed £1000 the earned rate is 9*d.* in the £, but if they neglect to make a return and to claim the *earned* rate before Sept. 30th they will be charged at a higher rate, and the tax payable may be nearly double. Let your readers make their returns at once; the difference is worth saving.

I am, Sir, yours faithfully,
E. MONTAGUE,
Secretary, the Income-tax Adjustment Agency, Limited,
9/11, Poultry, London, E.C., June 8th, 1914.

LUXOR AS A HEALTH RESORT.

Dr. W. E. Nickolls Dunn and Dr. G. Vigers Worthington, superintendent medical officers to the Luxor Hospital for natives, have just issued the second edition of their little handbook to Luxor, which gives in small compass, and illustrated with good photographs and a sketch map, an account of this pleasant winter resort in Upper Egypt. Medical men thinking of sending patients to this part of Africa will find in it useful hints on the selection of cases, climatic conditions, and other matters. It is published by H. K. Lewis at 1*s.* 6*d.* net.

M. B. A.—(1) An account of Binet's method of testing mental development in children will be found in La Mesure du Développement de l'Intelligence chez les Jeunes Enfants. Bulletin de la Société Libre pour l'Étude Psychologique de l'Enfant. Paris: F. Alcan. Price Fr.1.50. Our correspondent is also referred to "Feeble-mindedness and the Measurement of the Intelligence by the Method of Binet and Simon," by Dr. W. C. Sullivan, in THE LANCET, March 23rd, 1912, p. 777, and annotation with the same title in the same issue, p. 810. (2) The Second International Congress on School Hygiene took place in the University of London from August 5th to 10th, 1907, under the presidency of Sir Lauder Brunton, Bart. The preceding congress was held at Nuremberg in 1904 under the presidency of H.R.H. Prince Louis Ferdinand of Bavaria. The third congress took place in Paris in 1910 under the patronage of the French Minister of Public Instruction. The fourth congress took place at Buffalo, New York, U.S.A., from August 25th to 30th, 1913

A. B. (*Wellingborough*) has omitted to enclose his name and full address.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced:—

May 1st–Nov. 1st (Lyons).—International Town Hygiene Exhibition.
„ 15th–Oct. 15th (Berne).—Swiss National Exhibition.
May–October (London, Shepherd's Bush).—Anglo-American Exposition.
June 15th (The Hague).—Third International Opium Convention.

June 15th–18th (*Portsmouth*).—*International Abolitionist Conference (Prostitution).*

" 18th–20th (Newcastle-upon-Tyne).—Fifth Annual Conference of the British Hospitals Association.

" 18th–24th (London, Church House, Westminster).—International Conference on the Blind.

" 22nd–26th (Atlantic City, N.J.).—American Medical Association.

June–July (Groningen).—University of Groningen 300th Anniversary Celebration.

July 2nd and 3rd (Liverpool).—National Conference on Infant Mortality.

" 6th–11th (Blackpool).—Twenty-ninth Congress of the Royal Sanitary Institute.

" 7th and 8th (Leeds).—Sixth Annual Conference of the National Association for the Prevention of Consumption, &c.

" *7th–10th (St. John, N.B.).—Canadian Medical Association.*

" 8th–10th (Oxford).—Ophthalmological Congress.

" 15th–20th (Edinburgh).—Congress of the Royal Institute of Public Health.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, *Burlington House, London, W.*

THURSDAY.—Surgeon-General Sir D. Bruce, Major A. E. Hamerton, Captain D. P. Watson, and Lady Bruce: (1) Trypanosome Diseases of Domestic Animals in Nyasaland. Trypanooma Caprae (Kleine)—Part III., Development in Glossina Morsitans. (2) Trypanosomes found in Wild Glossina Morsitans and Wild Game in the "Fly-belt" of the Upper Shiré Valley. (3) The Food of Glossina Morsitans. (4) Infectivity of Glossina Morsitans in Nyasaland during 1912 and 1913.—Mr. E. T. Halnan and Mr. F. H. A. Marshall: On the Relation Between the Thymus and the Generative Organs, and on the Influence of these Organs upon Growth. With a Note by Mr. G. U. Yule (communicated by Prof. J. N. Langley).—Mr. H. E. Roaf: The Vapour Pressure Hypothesis of Contraction of Striated Muscle (communicated by Prof. C. S. Sherrington).—Mr. A. N. Drury: The Validity of the Microchemical Test for the Oxygen Place in Tissues (communicated by Mr. W. B. Hardy).—Prof. J. S. Macdonald: Man's Mechanical Efficiency (communicated by Prof. C. S. Sherrington).—Dr. A. Holt: The Colouring Matters in the Compound Ascidian Diazona Violacea, Savigny (communicated by Prof. W. A. Herdman).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY.

GENERAL MEETING OF FELLOWS at 5 P.M.

Ballot for Candidates for Fellowship.

THURSDAY.

SECTION OF DERMATOLOGY (Hon. Secretaries—J. M. H. MacLeod, S. E. Dore): at 4.30 P.M.

Cases:

Dr. Graham Little: (1) Pellagra with Skin Symptoms; (2) Trophoedema; (3) *Favus in a Mouse.*

Dr. Pernet: (1) Two Cases of Favus; (2) Bullous Ichthyosis.

Dr. Bunch: *Paget's Disease of the Nipple.*

Dr. Knowsley Sibley: (1) Urticaria Pigmentosa; (2) Adenoma Sebaceum.

Dr. I. J. Davies: Two Cases of Erythema Due to Carbon Monoxide Poisoning.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Grosvenor-road, S.W.

MONDAY.—4 P.M., Annual General Meeting.

LONDON DERMATOLOGICAL SOCIETY, St. John's Hospital, 49, Leicester-square, W.C.

TUESDAY.—4.30 P.M., Annual Meeting. *Clinical Meeting.* Cases will be shown by Dr. Dockrell, Dr. Bunch, Dr. Sibley, Dr. Griffith, Dr. Phibbs, and Dr. Gooding. 5.15 P.M., Discussion on Some Points in the Treatment of Syphilis (opened by Mr. C. H. Mills).

ROYAL METEOROLOGICAL SOCIETY, 70, Victoria-street, Westminster, S.W.

WEDNESDAY.—4.30 P.M., Papers:—Mr. B. C. Wallis: The Rainfall of the Southern Pennines.—Mr. H. J. Bartlett: The Relation between Wind Direction and Rainfall.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

THURSDAY.—9 P.M., Lettsomian Lectures:—Dr. F. M. Sandwith: Dysentery. (Lecture III., *illustrated by pictures and pathological specimens.*)

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, Kensington Town Hall.

FRIDAY.—8.15 P.M., Cavendish Lecture:—Dr. F. W. Mott: The Causes of Insanity. Followed by Annual Conversazione.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos-street, Cavendish-square, W.

FRIDAY.—8.30 P.M., Paper:—Major S. P. James, I.M.S.: Mosquito Work in Ceylon.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

THURSDAY.—5 P.M., Croonian Lecture:—Dr. E. Goodall: On Some Modern Aspects of Certain Problems in the Pathology of Mental Diseases.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. G. N. Meachen: Clinique (Skin). 5.15 P.M., Lecture:—Dr. O. Grünbaum: Modern Methods of Examination of the Stomach.

TUESDAY.—4 P.M., Dr. J. Parkinson: Clinique (Medical). 5.15 P.M., Lecture:—Dr. D. Forsyth: The Diagnosis of Intracranial Tumours.

WEDNESDAY.—4 P.M., Mr. G. E. Waugh: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. L. B. *Rawling: Decompression of the Brain in* Relation to Injury and Disease (lantern demonstration).

THURSDAY.—4 P.M., Mr. C. W. *Rowntree: Clinique* (Surgical). 5.15 P.M., Lecture:—Dr. F. G. Crookshank: Croup.

FRIDAY.—4 P.M., Mr. R. R. *James: Clinique* (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. Mr. B. Harman and Mr. Gibb: Eye Department. 5 P.M., Lecture:—Dr. Pernet: Congenital Syphilis.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. Dr. Owen: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., *Lecture:—Dr. Pernet: Lupus* Vulgaris.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of *Minor Operations.* 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Dr. Simson: Diseases of Women. Mr. Gibb: Diseases of the Eye. 5 P.M., Lecture:—Dr. Pernet: Lupus Erythematosus.

THURSDAY.—9 A.M., Dr. Bernstein: Bacterial Therapy Department. 10 A.M., Dr. Simson: Gynæcological Demonstration. 12 noon, Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Mr. B. Harman: Diseases of the Eye. 5 P.M., Lecture:—Mr. Ll. Williams: Dental Disease in Children and its Treatment.

FRIDAY.—10 A.M., *Dr. Robinson: Gynæcological* Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12.15 P.M., Lecture:—Dr. Bernstein: Applied Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. *Dr. Davis: Diseases of the* Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Pernet: Psoriasis.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. *Mr. B. Harman: Operations of the Eye.* 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical *Clinics. X Rays. Mr. Pardoe: Operations.*

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. H. B. Carlill: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Throat, Nose, and Ear.

TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. C. B. Zundel: Medical. Mr. Cole: Surgical. 12 noon, *Dr. H. MacCormac*: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine. 4.15 P.M., Sir Malcolm Morris: Skin. 4.30 P.M., Special Lecture:—Mr. I. Back: Hæmorrhoids.

WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. H. B. Carlill: Medical. *Mr. Cecil Rowntree: Surgical.* 11 A.M., Mr. R. R. Bickerton: Eye.——2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. C. C. Choyce: Mr. Cargill: Eye Clinique. 4.30 P.M., Surgery.

THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. H. R. Prentice: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. *Dr. A. Davies:* Pathological *Demonstration.* 3.15 P.M., Dr. R. Wells: Medicine. *4.30 P.M.*, Special Lecture:—Mr. H. Curtis: *Modern Operations for the Radical* Cure of Carcinoma of the Face and Lips.

FRIDAY.—Out-patient *Demonstrations:*—10 A.M., Dr. C. B. Zundel: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: *Operations.* 2.15 P.M., Sir John Rose Bradford: Medicine. 3.15 P.M., Mr. L. McGavin: Surgery.

SATURDAY.—Out-patient *Demonstrations:* 10 A.M., Dr. H. R. Prentice: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M. Mr. R. R. Bickerton: Eye.——10 A.M., Col. Barry: Radiography.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. E. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Gynæcological (Dr. Banister). 3 P.M., Medical In-patients (Dr. R. M. Leslie).

TUESDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Nose, Throat, and Ear (Mr. H. D. Gillies). X Ray and Electrical Methods (Dr. Metcalfe). 3.30 P.M., *Medical* In-patient (Dr. A. J. Whiting).

WEDNESDAY.—Clinics:—2 P.M., *Throat* Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. Dorell).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson); X Rays and Electrical Methods (Dr. Metcalfe).

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. E. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. G. P. Chappel).

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL (UNIVERSITY OF LONDON), University-street, Gower-street, W.C.
MONDAY.—5 P.M., Sydney Ringer Memorial Lecture:—Dr. T. R. Elliott: The Adrenal Glands.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, Medical School, City-road, E.C.
MONDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Cardiac Department, Dr. Stott; Out-patient Department, Dr. Phear, Dr. S. Thompson. 3 P.M., Wards, Dr. Phear.
TUESDAY.—9 A.M., Laryngological Department, Mr. Mant. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department, Dr. M. Leslie, Dr. B. King; Operations, Mr. A. Evans. 3 P.M., Wards, Dr. White. 4 P.M., Wards, Dr. M. Leslie.
WEDNESDAY.—2 P.M., Wards, Dr. A. Davies; Out-patient Department, Dr. Drysdale, Dr. Kellie. 4 P.M., Wards, Dr. Drysdale. 4.30 P.M., Roentgen Ray Department, Dr. Jordan.
THURSDAY.—9.30 A.M., Dental Department, Mr. G. Thomson. 10 A.M., Cardiac Department, Dr. Stott. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department, Dr. Phear, Dr. S. Thompson. 4.30 P.M. Laryngological Department, Mr. Mant.
FRIDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Wards, Dr. Calvert; Out-patient Department, Dr. M. Leslie, Dr. B. King. 5 P.M., Lecture-Demonstration:—Dr. S. Thompson: Clinical Demonstration on Pulmonary Osteo-Arthropathy (illustrated by the epidiascope).
SATURDAY.—10 A.M., Out-patient Department, Dr. Drysdale, Dr. Kellie. 11.30 A.M., Roentgen Ray Department, Dr. Jordan.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.
MONDAY.—Excursion to Frimley, leaving Waterloo at 1.5 P.M., conducted by Dr. Wethered.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.
Course of Demonstrations for Post-Graduates:—
TUESDAY.—4 P.M., Dr. W. J. Hadley: The Prognosis of Heart Disease.
FRIDAY.—4 P.M., Mr. M. Davies: Review of Thoracic Surgery.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.
TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. F. Batten: Cerebellar Disease.
FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. P. Saunders: Use of Electrical Currents.

THE THROAT HOSPITAL, Golden-square, W.
MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.
THURSDAY.—5.15 P.M., Clinical Lecture.

LONDON LOCK HOSPITAL, 91, Dean-street, Soho, W.
Special Course of Instruction in Venereal Diseases, for Post-Graduates and Students, with Practical Demonstrations of the Various Methods of Treatment:—
MONDAY.—Clinics:—1 P.M., Mr. Ryall; 6 P.M., Mr. Gibbs. 2 P.M., Lecture:—Mr. Ryall: Tertiary Lesions of the Tongue
TUESDAY.—Clinics:—2 P.M., Mr. Lane; 6 P.M., Mr. Paterson.
WEDNESDAY.—Clinic:—6 P.M., Mr. Shillitoe.
SATURDAY.—Clinic:—2 P.M., Mr. McDonagh.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS.
TUESDAY.—MANCHESTER AND SALFORD HOSPITAL FOR SKIN DISEASES, Quay-street.—4.30 P.M., Mr. Savatard: Syphilis of the Skin.
THURSDAY.—ANCOATS HOSPITAL—4.30 P.M., Dr. D. E. Core: The Clinical Examination of the Sensory Nervous System.

ROTUNDA HOSPITAL POST-GRADUATE COURSES, Dublin.
MONDAY.—10 A.M., Obstetrical Lecture: Cæsarean Section and its Modifications. 11 A.M., Examination of Patients and Minor Operations.
TUESDAY.—10 A.M., Major Operations.
WEDNESDAY.—10 A.M., Obstetrical Lecture: Pubiotomy and Symphysiotomy. 11 A.M., Examination of Patients and Minor Operations.
THURSDAY.—10 A.M., Major Operations.
FRIDAY.—10 A.M., Gynæcological Lecture: Tumours of the Ovary and their Complications. 11 A.M., Examination of Patients and Minor Operations.

For further particulars of the above Lectures, &c., see Advertisement Pages.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 10th, 1914.

Date.	Barometer reduced to Sea Level and 32°F.	Direction of Wind.	Rain-fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
June 4	30·09	N.E.	...	119	72	52	55	60	Fine
" 5	30·01	N.E.	0·01	102	60	52	50	54	Cloudy
" 6	30·02	N.E.	0·11	79	58	50	51	53	Overcast
" 7	29·79	N.W.	0·18	93	60	49	50	54	Cloudy
" 8	29·62	N.E.	0·07	107	58	45	47	51	Cloudy
" 9	29·59	S.	0·09	101	61	43	50	53	Cloudy
" 10	29·80	S.	...	122	67	51	55	59	Cloudy

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ABSTRACTS OF

The Milroy Lectures

ON THE

HYGIENIC ASPECT OF THE COAL-MINING INDUSTRY IN THE UNITED KINGDOM.

Delivered before the Royal College of Physicians of London

By FRANK SHUFFLEBOTHAM, M.A., M.D. CANTAB., J.P.,

MEDICAL REFEREE UNDER THE WORKMEN'S COMPENSATION ACT FOR THE NORTH STAFFORDSHIRE DISTRICT.

LECTURE IV.[1]

MINERS' NYSTAGMUS.

MR. PRESIDENT AND GENTLEMEN,—Miners' nystagmus must be regarded as the commonest of all occupational diseases. This disease was first recognised by Gillett, of Sheffield, about 1854, although no case was mentioned in medical literature until 1861, when the symptoms were first described by De Conde. In 1907 it was felt necessary to schedule miners' nystagmus as an occupational disease under the Workmen's Compensation Act, in order to entitle sufferers to compensation when disabled by it. Dr. J. Court has stated as a result of examination of several thousands of workmen that 35 per cent. of coal getters are subject to this disease to some extent.

Symptoms of nystagmus are most commonly found among miners engaged in holing, a process which consists of cutting the coal seam so as to get out the coal in pieces as large as possible, the holer being on his side with his knees drawn up and his head thrown backwards, and he strikes the coal with a horizontal swing, the lamp being placed near his feet. He may undercut the seam or "top cut" it, but in either case the muscles of the eyeballs are in a continually strained position, and as a result the elevator muscles suffer from strain and cramp. The hewers and the loaders who are working at the face come next in liability to the disease. All observers agree that the workmen who work hardest and who earn the best wages are more likely to be affected than those whose weekly output of coal is smaller.

Miners' nystagmus seldom occurs before the age of 25, and not usually before a miner has worked for ten years underground.

McMurray found that of 120 consecutive cases of miners' nystagmus, 39, or practically one-third, were between 40 and 50 years of age, and 33 between 30 and 40. Between 50 and 60 there were 22 cases. There were two patients under the age of 20, one of whom was suffering from congenital nystagmus, and the symptoms in the second case came on after a severe injury to the head; between the ages of 60 and 70 he had six cases.

Libert, in an analysis of 262 cases, found that 37 per cent. occurred between the ages of 30 and 40, and 31 per cent. between the ages of 40 and 50; 22 per cent. occurred between 20 and 30.

Llewellyn analysed 600 cases, and found that 33 per cent. occurred between the ages of 30 and 40, 29 per cent. between 40 and 50, and 16 per cent. between 20 and 30. The same observer recorded that only 7 per cent. of his cases had worked underground less than ten years, while 33 per cent. had worked between 20 and 30 years.

It would seem that the longer a man has worked in the pit the more likely is he to develop nystagmus. This may be regarded as a general rule which may be applied to all workers up to the time when they have worked 30 years in the pit, after which they do not appear to be so susceptible. The youngest case that has come under Llewellyn's notice was a boy aged 15, and 47 of his cases developed the disease before the age of 25. In McMurray's series of 120 cases 9 of the patients were 25 years and under. The shortest time in which the disease has been known to develop after underground work is five months.

Symptoms.

We must realise at the outset that we are not dealing with a disease localised to the eyes, but with a general disease, one symptom of which is oscillation of the eyeballs. The term "miners' nystagmus" is an unfortunate one, as it simply relates to one symptom, and the nomenclature of this disease has certainly given rise to a great deal of confusion, even among medical men who practise in colliery districts, and who are constantly coming in contact with patients suffering from it. Nystagmus is a symptom which is common to a large number of diseases, among which may be mentioned Friedreich's ataxia, disseminated sclerosis, and some congenital diseases of the eye, and the term was first used by physicians who noticed symptoms of nystagmus commonly associated with children who had nodding heads, hence the derivation of the word from νυστάζω, meaning "I nod." The symptoms of this disease, however, are not confined to oscillation of the eyeballs and any effects which may result from this phenomenon. There may be, and generally are, symptoms such as headache, nausea, attacks of giddiness, muscular tremors, twitching of the muscles in different parts of the body, especially the muscles of the eyelids and the face and neck; neurasthenia may be a prominent symptom, with its associated conditions, such as a quickened pulse, exaggerated reflexes, increased vasomotor irritability, sleeplessness, and nervous depression. All these symptoms may be present in any given case of miners' nystagmus, but in many cases some only of the symptoms are present, and at given times the prominent symptom, the oscillation of the eyeballs, may actually be absent, although the patient is undoubtedly suffering from the disease which we know as miners' nystagmus.

The commonest complaint associated with miners' nystagmus is the jumping about or flickering of the lights in the pit or the gas lights on the surface. Those who know what a St. Catharine's wheel is generally compare the sensation to the lights moving round like those wheels. Photophobia is a common symptom of miners' nystagmus, and a large majority of the cases complain that they cannot see at night, and others that the symptoms are worse at twilight. The symptom of night blindness is one of the earliest to be perceived by the sufferer. This is undoubtedly one of the most characteristic symptoms of miners' nystagmus, and it is regarded by Court and Llewellyn as being present in about 75 per cent. of all cases. Among the rarer subjective symptoms are double vision and photopsia. Patients suffering from miners' nystagmus very often complain of nervousness, sleeplessness, and of mental depression. There may be a general facial expression which is common to the neurasthenic, and the patient may also complain of vague shifting aches and pains in different parts of the body. In some cases mental symptoms of a very serious nature occur, and the nervous depression is so great occasionally that the patients have suicidal tendencies.

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[1] Abstracts of the previous lectures were published in THE LANCET of June 20th (p. 1731) and 27th (p. 1795), 1914.

Physical Signs.

The most prominent and the most important physical sign is oscillation of the eyeballs. In a typical case the movement of the eyeball is rotatory, rhythmic, and involuntary, but may vary in different patients in direction of movement as well as in frequency; in exceptional cases to-and-fro movements are found as well. All observers are agreed that vertical nystagmus is very rare. While the disease usually affects both eyes, unilateral nystagmus has been observed. I have seen nystagmic movements of the muscular stump after the eye has been removed, and rhythmic oscillations of a shrunken and blind eye. The movements may be different in direction in each eye, and the rate may vary in different patients and in the same patient at different times. In the majority of cases both eyes move at the same rate.

The frequency in ordinary cases is from 100 to 300 oscillations per minute, but occasionally the movements are so rapid that it is impossible to count them. The range of movement varies from 1 millimetre to 1 centimetre, and sometimes the movements are so rapid and the excursion so short that it is impossible to detect the oscillation of the eyeball without the use of an ophthalmoscope. Llewellyn has pointed out that the fine rapid movements are much more constant in rhythm than the coarser movements, which are slower and more irregular. The oscillations are increased by exertion, by excitement, by looking upwards, by rapid movements of the head, by bending the head and raising it quickly, or during the fixation of some distant object; and in cases in which no oscillations are obvious at first on medical examination they may be induced by the same means. Where the miner has been absent from work for a considerable time this procedure may not be sufficient to induce the oscillations, and they can only be made evident by placing the miner in a position similar to that in which he works in the mine, and by asking him to go through the same movements of his arms in a darkened room as he would perform in the pit while at work. The oscillations may be arrested by looking down and resting the eyes, and entirely stopped on strong convergence of the eyes, and they cease during sleep.

Clonic spasm of the eyelids is a common, and in some cases the main prominent, objective symptom. Sometimes it is an early, sometimes a late symptom, and very often it may remain after the oscillation of the eyeball has ceased. Llewellyn has pointed out that the movements of the eyelids associated with nystagmus are of two kinds—the coarse blinking movement and the fine tremor or clonic spasm; and in the former, although the movements may be quick, they are tonic and not clonic. These movements may be exaggerated and made more obvious by adopting the means I have described in discussing oscillation of the eyeballs. The frequency of the clonic spasm and the oscillation of the eyeballs are independent of each other.

In addition to the above two signs we may often find tremors of the facial muscles, of the eyebrows and even of the whole head. Llewellyn found tremor of the head in 27 per cent. of his cases, McMurray found it after exertion to be an almost invariable symptom, and my own experience coincides with that of the latter observer. The muscles of the neck and shoulder may also be affected, and in some cases the spasm of the muscles of the neck may be so pronounced that the head is held backwards and wry-neck produced.

The gait in a typical case of miners' nystagmus is characteristic. The patient endeavours to compensate for his visual defect by throwing the head backwards and keeping the eyes down and walking stiffly. In severe cases the gait may be ataxic and Romberg's sign may be observed.

Vision.

Many observers are of the opinion that some optic defect is one of the principal factors in the production of miners' nystagmus. We may find evidence of old injury to the eye, but a large percentage of cases show errors of refraction. Brown and Mackenzie found such errors present in 90 per cent., astigmatism accounting for 48 per cent., hypermetropia for 27 per cent., and myopia for 15 per cent. From McMurray's series of cases of miners' nystagmus it appears that two-thirds of them have some refractive error, and Folker found 75 per cent. and Llewellyn 83 per cent. in the cases which have come under their observation. Astigmatism of various kinds is the commonest form of refractive error, and hypermetropic cases are more frequent than myopic ones.

Visual acuity is nearly always diminished, even in convalescent cases where there is no oscillation of the eyeballs. Cridland has investigated the field of vision in a series of cases of miners' nystagmus, in nearly all of which the men had been compelled to give up their work on account of the severity of the symptoms. The result of his examination of these cases showed:—

1. That contraction existed for blue, white, and red in practically all the cases examined. 2. The contraction was of the concentric type and symmetrical in shape, although not always in depth. 3. In the majority of cases the colours were in their correct order, but occasionally interlacing of the red and blue occurred, the correct order being recovered as the case improved. 4. The contractions for red and blue were generally greater than those for white, and rather greater for red than blue. 5. By grouping the cases into mild, moderate, and severe types the fields broadly showed corresponding contractions. 6. Speaking generally, as the disease improved the fields of vision improved, but contraction persisted as long as any subjective symptoms were present, and although oscillatory movements could not be elicited by any test. 7. Most of the cases showed more or less marked signs of such symptoms as clonic spasm of the eyelid, twitching of the neck, &c., but there seems to be no direct relationship between the presence and degree of these signs.

Cridland points out that there is a great similarity between the fields in miners' nystagmus and in traumatic neurasthenia, and throws out the suggestion that the alteration in the field of vision in nystagmus cases is of the same nature as that found in traumatic neurasthenia. If we keep in mind the possibility of miners' nystagmus being a neurosis of the same nature as neurasthenia, and that neurasthenia and miners' nystagmus are so often associated in the same subject, and that each may be induced by an injury in many cases, I think we may infer that nystagmus itself should be regarded as a local symptom of neurasthenia.

I have noticed in many cases of miners' nystagmus that when the patient is sitting down and has put his head between his legs for a short time, say a minute or so, on raising his head the eyes not only have the oscillations and clonic spasm, the oscillations being more marked, but there has been a prominent bulging of the eyes, almost bordering on exophthalmos, accompanied by marked injection. I have found this symptom sometimes of the greatest value in doubtful cases.

Onset of the Disease.

In some cases the onset is gradual, and on the average we may say that 12 months may elapse between the appearance of the first symptoms and the time when the patient consults his doctor. On the other hand, in some cases the onset is strikingly sudden, and when it is so it is generally the result of some debilitating illness, such as influenza, or the result of an accident either to the eye or to other parts of the body. The disease may develop in a few months after a miner has worked regularly for 20 or 30 years in the mine without any apparent trouble. When the patient first consults his doctor he may be unconscious of the oscillation of the eyeballs, and he may have no suspicion that he is suffering from miners' nystagmus. He may complain of some of the objective symptoms already described. In another group of cases we may find that the symptoms complained of are purely nervous; the man may tell his doctor that he is simply run down or fearing a nervous breakdown, and symptoms of neurasthenia preponderate to such an extent that miners' nystagmus may be overlooked.

The progress of the disease may depend upon many conditions. Just as illness or an accident may be the cause of the sudden onset of the disease, we find that they may aggravate any form of miners' nystagmus and convert a mild or a latent case into a serious one. If the accident sets up a neurasthenic condition which previously did not exist, the symptoms associated with nystagmus will be still more serious. Excessive drinking or smoking may intensify the condition.

If a miner suffering from this complaint continues in the occupation at which he contracted it the symptoms will in the course of time increase and assume a more serious form. On the other hand, for the disease to be arrested the sufferer must entirely give up work in the pit. The period of recovery will depend largely upon the severity of the symptoms and upon the manner in which the treatment is carried out. Even after recovery relapse is very common, and sometimes under conditions favourable to the aggravation of the disease the patient may have several relapses.

Diagnosis.

It is first of all necessary to decide whether the prominent objective symptoms are due to the nature of the man's employment or not. Nystagmus, or oscillation of the eyeballs, is associated with several diseases of the brain and spinal cord, such as Friedreich's ataxia, syringomyelia, disseminated sclerosis, and tumour of the cerebellum, as well as some congenital diseases of the eye, but the history of the case and the presence of other symptoms should be sufficient to make a differential diagnosis from miners' nystagmus. In all these conditions the movements of the eyeballs or the actual nystagmus are different from those found in miners' nystagmus, in which the movements are much more forcible and rapid, and can be exaggerated much more easily by the methods described.

Clonic spasm of the eyelid is found in many other conditions besides miners' nystagmus; but by systematic examination it is easy, if the other symptoms are considered, to decide in the case of a miner whether the twitching of the eyelids is due to nystagmus. If associated with nystagmus and clonic spasm of the eyelids there are some of the other symptoms to which I have referred, there should be no difficulty in making a diagnosis of miners' nystagmus. It is both important and interesting to know that although nystagmus may be found in the diseases of the brain and spinal cord to which I have referred—Friedreich's ataxia, &c.—in these conditions clonic spasm of the eyelids is never found. In a miner, therefore, who shows the two objective symptoms of nystagmus and clonic spasm one can be certain of the diagnosis of miners' nystagmus.

If no oscillation of the eyeball is observed care is necessary in order to come to a reliable conclusion. Not only may the oscillations be present at some times and not at others, but undoubtedly in some cases of miners' nystagmus no oscillation of the eyeballs is observed at all. In such cases clonic spasm of the eyelids may be the most prominent objective symptom, and if with it headaches, giddiness, muscular tremors, and neurasthenia are found, unaccompanied by any of those conditions which may produce clonic spasm by itself, I think that, apart from the subjective symptoms, the diagnosis of miners' nystagmus is justifiable. Llewellyn points out that it is necessary to exclude cases of high myopia, of which he has seen two examples, as well as such congenital conditions as hereditary nystagmus or albinism.

Causation.

The four most important factors which we have to consider are: (1) defective illumination in the mine caused by the low candle power of the safety lamp; (2) the peculiar cramped position in which miners work, especially the holers and other workers employed at the coal face; (3) the refractive errors found among the miners themselves; and (4) the frequent injuries which miners sustain during their employment, and more especially injuries to the eye itself; but it cannot be said in any case that miners' nystagmus can be caused by any one of these conditions alone, and the real truth probably lies in the fact that the onset of the disease is due to a combination of circumstances. Except at the pit bottom we always find defective illumination in the coal mines of this country; further, in perhaps the majority of cases the men work in a cramped position; refractive errors are at least as common among miners as among other sections of the community, and there is no doubt that miners are by the nature of their employment specially liable to small injuries to the eye, such as abrasions of the cornea. On the surface a worker can see when danger is coming and protect his eyes by means of his eyelids, but in the defectively lighted pit this is impossible. The general feeling at the present time, however, is that the principal factor in the disease is the deficient illumination of the mine, and at the Ophthalmological Congress at Oxford in 1912 it was the unanimous opinion of the members that the principal cause of miners' nystagmus was the poor lighting of the pit.

In the collieries in the Forest of Dean where open lights are entirely used, according to the experience of Sir Frank Brain, only one case of nystagmus has come within the scope of the Workmen's Compensation Act since it became a scheduled disease seven years ago, and in the Black Country where open lights are used to a large extent miners' nystagmus is comparatively rare. In Scotland again, where candles are used to a very large extent instead of safety lamps, nystagmus is much less frequent than in England and Wales. In the metalliferous mines of this country (not including ironstone mines) where naked lights are universally used miners' nystagmus is an unknown disease, and in the ironstone mines it is very rare.

The candle power of a tallow candle will vary according to the number of candles to the pound, but, roughly speaking, we may say that the candle power of an ordinary naked light varies from 0·75 to 1·5. The candle power of a new Davy safety lamp is 0·2 and of a Clanny 0·68, but these figures are materially reduced when the lamp is in use in the pit. The illuminating power begins to be reduced as soon as the miner commences to work, and slowly and progressively diminishes on account of the dusty atmosphere, and also from the fact that no attention can be paid to the condition of the wick and the inside of the glasses. The candle power of the safety lamp may be materially diminished on account of defective ventilation in the workings, and the difference of candle power between the readings measured in the main intake and the main return may vary to the extent of from 25 to 35 per cent.

The second factor in the production of this disease—the cramped position of the miner while at work—is one to which the late Simeon Snell paid special importance. He believed that nystagmus in miners was a myopathy dependent on the peculiar position assumed by a certain class of men in the mine, and that the position of the miner at his work was the prime and essential cause of miners' nystagmus irrespective of the deficient illumination in the pit. He was under the impression that the disease was practically confined to holers and deputies, and to workers who might be subjected to the strain of the elevator muscles, but observations from every coalfield in England now go to prove that the disease is found to a large extent among other workers in the pit—timberers and datallers, roadmen, as well as those employed in other occupations. In the Forest of Dean and in Somerset, owing to the thin seams of coal, the collier is obliged to assume a more or less reclining position, and if Snell's theory be correct one would imagine nystagmus to be very common in these coalfields, but, as I have already stated, it practically does not exist. On the other hand, according to Elworthy the great majority of the colliers in Ebbw Vale work in the upright position, and nystagmus exists in a considerable percentage of the men employed in this district.

There is no doubt that errors of refraction play a most important part in the causation of miners' nystagmus, and injuries to the eye or general injuries to other parts of the body may be the determining factor in the onset of the symptoms. The personal factor in this as well as in all other industrial diseases must be taken into consideration. Certain workers seem to be specially prone to the complaint, and in some instances an undoubted hereditary tendency to the disease has prevailed.

Prognosis.

Speaking generally, if treatment is conscientiously carried out the outlook is quite favourable. Mild cases recover in the course of a few months if the patient be removed from his work underground, but the symptoms in severe cases may not abate for many years, even when the miner has been properly treated and has not worked under adverse conditions. If the symptoms result from an injury to the eye, or if they are associated with an error of refraction or such a condition as cataract or glaucoma, the prognosis is not favourable, and while the correction of refractive errors does a great deal to shorten the course of the disease, still, when the refractive error is of a high degree, even the correction for this defect may not cause speedy recovery.

When neurasthenia is present to any extent the prognosis is less favourable than under any other conditions. There is a great tendency for patients suffering from this neurasthenic type to look on their future in the gloomiest way, and many believe their working days are over. This frame of mind not only keeps alight the general nervous symptoms, but retards the cure of the eye trouble. Marked interference with the visual acuity, the presence of nystagmus in a plane below the horizontal, muscular tremors of the neck and shoulders, ataxic gait, and Romberg's sign must all be regarded as most serious symptoms, and just as a drinking bout or excessive smoking may hasten the onset of symptoms which will prevent the man from working, so over-indulgence will in these respects cause exacerbation of the severity of the complaint.

When a young miner contracts this disease it may be taken that there is some predisposition to it, and a tendency to relapse should he return to work in the mine; in the case of old men the difficulty lies in the slowness of the recovery on account of age and lessened powers of resistance. In all uncomplicated cases, by which I mean those in which there is no permanent injury to the eye such as a corneal opacity or traumatic cataract, the chances of recovery are greater the sooner the man gives up underground work, and some of the worst cases in Llewellyn's experience have occurred in men who have struggled on with their work in spite of the disease.

Mild cases which have apparently recovered may frequently be followed by a relapse if the patients return to their old employment underground, especially when they are employed at the coal face. Even in miners suffering from this disease who do not go back to their work, and when apparently their symptoms have cleared up under treatment, there may be a relapse after influenza or an injury, or, as has already been indicated, after excessive drinking, and in one case I have known a relapse has occurred after going to a kinematograph performance.

Treatment.

The treatment of miners' nystagmus must be considered under two headings: (1) the treatment to be applied to the sufferer, and (2) the preventive measures which may be employed for the purpose of either diminishing the number of cases or eliminating the disease altogether.

With regard to the personal treatment, this will depend entirely upon the severity of the case. In severe cases it is necessary for the man to give up work entirely and to have complete rest. If the examination of the eye shows any refractive error this should be corrected by means of glasses, and in many cases after the patient has become accustomed to the altered conditions under which the muscles of the eye work he obtains some relief, at all events from such subjective symptoms as headaches, giddiness, and nausea, while in some cases these symptoms disappear altogether. Ernest Clarke has pointed out that in neurasthenic cases the correction of small ocular defects is of the greatest importance, and he believes that in many cases the greatest amount of eyestrain results from the smallest error of refraction.

Neurasthenic symptoms must be treated in the ordinary way, and if the patient be suffering from neurasthenia of a marked degree Weir Mitchell treatment should be advised for a period of from four to six weeks. Sufficient attention has not been paid to the application of Weir Mitchell treatment in cases of nystagmus, and the association of miners' nystagmus with neurasthenia has not been sufficiently recognised. As far as I know Weir Mitchell treatment is only properly carried out in England in nursing institutions, or in perhaps one or two hospitals in London devoted exclusively to the treatment of nervous diseases; but in view of the fact that there are many hundreds of coal miners in the different colliery districts of this country incapacitated for work on account of miners' nystagmus associated with neurasthenia, from an economic point of view it is most desirable that arrangements should be made in the hospital centres of colliery districts to provide the best possible treatment in order to bring about speedy recovery. Convalescent cases derive great benefit from change of air, especially at bracing seaside resorts.

In mild cases and in cases which are convalescent a change of employment on the surface may result in great benefit, because the mind is occupied and the patient is not worrying about himself, and, further, the exercise which ordinary manual work necessitates will do a great deal towards improving the nervous condition. Some writers consider that on recovery the miner may be allowed to work in the pit again, and this practice is prevalent to a large extent in all mining districts, but I think to reduce the risk of recurrence it is advisable to place the man at such work that he is less liable to contract the disease than at his previous employment, but if there be any recurrence after this return to different work then the man should never be allowed to work in the pit again.

During illness it is important that the man should lead a well-regulated life. He should keep good hours and should be abstemious with regard to alcohol and tobacco. With regard to medicinal treatment in cases where the nervous symptoms are pronounced, where the appetite is poor and there is sleeplessness, glycerophosphates and bromides may be given with good results, and among the other drugs which have been found to be successful are strychnine and quinine. Romiée has advised the local application to the eye of eserine drops in a 3 per cent. solution three times a day. Atropine has been tried without success. Operative treatment in the form of tenotomy has been recommended in cases of miners' nystagmus, but in every case, as far as I know, in which an operation has been performed, disappointing results have ensued.

Preventive Measures.

Preventive measures may be considered under three headings: (1) Improvement in illumination of the mine; (2) the extension of the use of coal-cutting machines; and (3) efficient ventilation of the workings.

It has been most conclusively proved that defective illumination of the mine is the most important factor in the production of miners' nystagmus, and if the number of cases of this, the most frequently found of all the industrial diseases, is to be reduced we must look to improved illumination and increased candle power of the miners' safety lamp. Every man on his way to and from the face should be compelled to use a shade at the back of his lamp. In many districts where this has been the custom any man omitting the precaution is at once assailed by his fellow workmen. The dancing of the lamps in front is very trying to all, but it is most serious to a man with nystagmus. The number of coal-cutting machines extends considerably every year, and it is to be hoped that this will have its effect in reducing the number of cases of this disease. It is the general opinion of working miners themselves that bad air in the mine is the exciting cause of this disease; whether this be so or not, there is no doubt that bad air has a deleterious effect upon the general condition of the miner, and as we have seen that impaired general health is a predisposing cause of the onset of the disease, efficient ventilation in the mine is an important factor in its prevention.

McMurray has suggested that all miners should be subjected to a systematic examination of the eyes, so that cases with any refractive error or with any other ocular defect can be prevented from commencing or continuing this kind of work. Undoubtedly such a procedure would greatly diminish the incidence of nystagmic cases, but I question whether the Miners' Federation would consent to the institution of such an examination, as it would mean at the present time dismissal of thousands of miners who have worked in the pit all their lives, and who are continuing to do regular and efficient work, and further, it would mean the constant elimination at each periodic examination of numbers of workers who would be deprived of their means of livelihood, and with little chance of gaining employment elsewhere unless it were in the ranks of the casual labourer. If, however, a periodic examination were made, and the power of dismissal were prohibited in case of any ocular defects other than miners' nystagmus being discovered, then it has been suggested that the workers be induced to wear spectacles when on the surface in the hope that by the correction of the refractive error the symptoms of the disease will be decreased in severity.

Incapacity for Work.

Miners' nystagmus is essentially an industrial disease. In spite of the various theories for the explanation of the symptoms it cannot be denied that the complaint is one which is a direct result of the conditions under which the miner works, and in view of the fact that it is a disease to which the Workmen's Compensation Act applies, it is important to consider to what extent incapacity for work may result from it.

In the first place, I would point out that there is no necessary relation between the objective and subjective symptoms. Cases where the movements are very slight may be accompanied by distressing headaches, attacks of giddiness, and other subjective symptoms, while well-marked oscillations sometimes may cause no trouble. It is difficult to tell whether a miner suffering from nystagmus is incapacitated from work or not, and Dr. A. R. Moody, of Stoke-on-Trent, when giving evidence before the Departmental Committee on Industrial Diseases in 1907 said that it was almost impossible to distinguish between a coal miner who had oscillation of the eyeballs, but who was able to work, and the miner who had the same symptoms and was incapacitated by it, and the only way that he was able to judge was by the past history of the man; and Professor Murray, in his evidence before the same committee, admitted that it was very difficult to disprove the assertions of a coal miner with the characteristic nystagmic movements of the eyeballs who stated that he was unable to work.

The objective symptoms by themselves may not cause any discomfort or incapacity for work, but when associated with subjective symptoms we may have a case of total incapacity for work. A great deal, however, depends upon the subjective symptoms, for the existence and severity of which we are compelled to trust to the patient's honesty. Meighan has classified the degrees of incapacity for work under three headings:—

1. Those slightly affected—men who suffer to a slight extent from the characteristic oscillations of the eyeballs—especially when they assume positions that strain the muscles of the eye. These men continue work and never become incapacitated. He believes that 5 per cent. of all miners are affected slightly. 2. Those who suffer from the oscillations and feel giddy at times. These should be obliged to leave off the work in which they are engaged. They may require a rest for six months, but should not return to their old employment. 3. Those who suffer badly from oscillations, headaches, giddiness, and other symptoms mentioned previously. These should give up underground work entirely and never return to it.

When the large proportion of underground workers in whom nystagmic movements of the eye can be observed is remembered it cannot be doubted that the disease may cause little inconvenience, but cases of a severe and distressing nature cause total incapacity for work for a considerable period of time. In some instances patients have been unable to do any kind of work, even light work on the surface of the mine, for several years.

It is most important that firemen and deputies who have suffered from this disease should be able to detect the warning blue cap over the flame of the safety lamp before they are allowed to return to their own employment, and it has been suggested that, considering the great responsibility that rests upon them for the safety of the pit, if they have once had the disease and been incapacitated on account of it, they should have their eyes tested once in every three months.

Complete incapacity for work undoubtedly may occur in cases in which nystagmus is absent or has disappeared, but in which clonic spasm and other subjective symptoms of miners' nystagmus are complained of. Giddiness is the most troublesome subjective symptom from the point of view of capacity for work, and even when the other symptoms, whether they be subjective or objective, are only slight, if attacks of giddiness are at all frequent, and come on without any warning, then the patient must be regarded as totally incapable of work, and it is not safe to give him light work, even on the surface of the mine. The capacity for work after a proper course of treatment will undoubtedly depend upon the actual condition of the eye, and one-eyed men who suffer to any pronounced extent from this disease must be regarded as totally and permanently incapacitated for work underground.

Cases of miners' nystagmus in which neurasthenia is a prominent symptom must be regarded as of a severe type, and although the eye symptoms may be not of a pronounced character the nervous symptoms are such as to cause total disability for work. Like all other neurasthenic conditions, this may last for years, unless the patient undergoes a suitable course of treatment, such as prescribed by Weir Mitchell.

Malingering.

All observers are agreed that it is impossible to imitate the nystagmic movements of the eye, so that there can be no malingering with regard to this, the most prominent objective symptom. There is a difference of opinion as to whether clonic spasm of the eyelids can be simulated or not, but careful observation in any given case will easily detect malingering, as it is impossible for the patient to sustain, but for a minute or so, the twitching of the eyelids, and further, the voluntary movements which are induced by a malingerer are altogether different from those which are seen in true cases of clonic spasm of the eyelids. Dr. Moody has pointed out that the movements in the latter case are quicker and finer, and if a miner attempts voluntarily to blink his eyelids quickly he must bring other muscles into play apart from those which actually blink the eyes, and in Dr. Moody's opinion the man will be easily found out. It should be clearly and widely known among all miners who may imagine that the simulation of this symptom is an easy matter that they are entirely mistaken, and that if they try it on before a skilled observer they will be almost immediately found out. We may therefore say that the two principal objective symptoms cannot be simulated, and if a man be known to have attacks of giddiness and to fall about, to be suffering from night-blindness, and, when tested by Cridland's method, from a diminished field of vision, there can be no question as to the genuineness of the case.

The only difficulty may arise in mild cases, where patients are capable of following some kind of employment, such as light work on the surface or in an occupation independent of coal-mining. In many cases miners with a definite oscillation of the eyeballs are able to do their work without any complaint for years in the absence of headache, dizziness, and other subjective symptoms; but if a miner suffering from such a mild degree of the disease suddenly becomes aware of the presence of nystagmus should he, for the purpose of claiming compensation under the Workmen's Compensation Act, desire to make complaints of headache, giddiness, feelings of sickness, and other symptoms for the existence of which they had to trust to his honesty, it would be most difficult to disprove the statements. The examining doctor would have to take into consideration the man's record for work and his demeanour while under observation, and assistance might be given by friends and neighbours who could testify one way or another as to the man's general state of health. In dealing with such cases it is absolutely necessary to make a complete examination of the man and a special examination of his eyes. I believe that a great deal of help can be obtained by paying special attention to the extent to which the field of vision is limited.

There are undoubtedly many cases of miners who know that they are suffering from miners' nystagmus, but who go on working in spite of the complaint, and it is only when they give up work, either on account of bad trade, or a strike, or because of some quarrel with an official or their employer, that they make a claim for compensation. During the coal strike of 1912 many such cases were recorded in different coal districts of this country. In all disputed cases I would suggest that the medical referee under the Workmen's Compensation Act should rely, not only upon his own examination and the reports submitted to him by the medical advisers of the workmen and the employers, but that he also take into consideration either verbal or written statements of workpeople or other persons who can speak as to the man's previous history and his general condition of health.

LECTURE V.

[The fifth and last Milroy lecture dealt particularly with the conditions found among miners, and known as beat hand, beat knee, beat elbow, and beat buttock, and with the relationship between these industrial affections and the Workmen's Compensation Act. After referring to tenosynovitis about the wrist and miners' itch or rash, the lecturer brought his task to a close with a survey of the effect upon the health of miners which has been produced by changes in the laws affecting their industry.]

THE INFLUENCE OF LEGISLATION UPON THE HEALTH OF MINERS.

From the time that coal-mining came to be recognised as an industry in this country laws were passed to regulate it, but they had special reference to the possession of mining property and for the protection of owners against the violence of their workpeople, and it was not until the year 1842 that any legislation was passed that had a direct bearing upon the health of those employed. In this year the employment of female labour underground was forbidden, and regulations were made to improve the conditions of the boys who were engaged in underground workings. From this time onwards many Acts of Parliament have been passed with the object of improving the conditions of labour and in this way bettering the health of the workers. In 1850 the law provided for the inspection of coal mines; inspectors were appointed by the Home Secretary, and were given power to enter and inspect the works of any colliery, both above and below ground, and to inquire into all matters relating to the safety of the persons employed. For the first time it was made necessary that notices of accident causing loss of life should be sent within 24 hours to the Home Office, and it was made incumbent upon the owners of pits to provide proper plans of the workings and to maintain them in an accurate condition. Subsequent legislation provided for improved ventilation of the workings and that all pits should have two exits.

The laws with regard to the regulation of coal mines were revised and consolidated in the Coal Mines Regulation Act, 1911, which makes special provisions for increased protection for the workmen by a more systematic method of timbering, by regulations which control the use of electricity in the mines, the use of explosives and the methods of firing shots, and mitigate the risk of haulage and shaft accidents. Provision is also made for improved ventilation in the mine; working places where firedamp is present to a greater extent than 2·5 per cent. are deemed to be dangerous, and it is not permissible for men to be employed in an atmosphere charged with firedamp to this extent. Steps have to be taken for the prevention of coal dust. It is now necessary for all colliery owners to provide a sufficient supply of ambulance requisites at convenient places in the mine, and the organisation of rescue brigades is compulsory in all the colliery districts, not only for the purpose of saving life in cases of explosions, but in recovering the bodies and helping to put into proper order working places that have been destroyed by the explosion. Facilities have been increased for investigating a mine after an explosion owing to the fact that it is now incumbent upon colliery proprietors to be able to reverse the ventilating current by means of their machinery on the surface. It is now also necessary for coal-owners to provide proper sanitary conveniences for the use of the men near the pit bottom and at central places along the roadways, and a clause in the Act enables the workpeople to be provided with baths and washing accommodation on the surface, the cost being defrayed jointly by the employers and the workmen.

The time has yet been too short to appraise the benefits of this Act of Parliament, but as far as legislation goes it is certainly a great step in the right direction. But the occurrence of accidents and the prevalence of disease peculiar to the coal miner do not depend altogether on conditions legislation can effect. The long death roll year by year and the tremendous number of non-fatal accidents are in some instances, perhaps a large number, due to the fact that the human factor enters into these occurrences. Just as it is impossible to free a nation from drunkenness by Act of Parliament, so it is, and will be, impossible to free the collier's life from risk of injury. Carelessness or callousness on the part of either the workman or his employer may result in the greatest disasters, and it is a significant fact that if the number of deaths and non-fatal accidents be estimated, not as a percentage of the total number employed, but in relation to each million tons of coal brought to the surface, we find that in the last 10 or 12 years no improvement has taken place in this respect.

Suggested Measures.

Time will show what effect the Act will have upon the health of the miners, but even if the results are as disappointing in the future as they have been in the past, we should not regard ourselves as at the end of our resources. Something must still be done to reduce the yearly death roll and the large number of non-fatal injuries. It might be necessary to have a more thorough and systematic inspection of mines in order that all the provisions which have been made with the object of diminishing these accidents should be strictly observed so as to reduce the number of falls of roof, haulage accidents, and the various other accidents which at the present time are regarded as incidental to the miner's daily work, and to see that the law is carried out to the very letter.

It may be necessary to consider whether the modern mining engineer, who has the sole management and control of any given pit, is sufficiently trained in modern scientific methods to deal with all the problems with which he may be brought into daily contact. Medical men are inclined to believe that their own profession covers as much ground in the realms of knowledge as any of the other learned professions, if not more; but the mining engineer is daily brought in contact with problems of geology, of chemistry, of physics, of engineering, of electricity, as well as of the commercial side of his business. Perhaps the time has come for the heads of the mining profession to realise that specialisation in mining may be the means, not only of working the pits to a greater financial benefit, but also of diminishing to a very large extent the number of injuries which daily take place. Greater advantages should be taken of the facilities for special training given at such Universities as Birmingham and Sheffield, and it seems incredible that, in view of the importance of the profession of mining engineering, comparatively so few students pass through these institutions for the purposes of graduation, although I am happy to say that the numbers now increase year by year.

We have seen that the only hope of diminishing the number of cases of miners' nystagmus is by improving the illumination of the mines, and in my opinion it should be obligatory on colliery owners to supply better illumination along the roadways and at the working face so that the incidence of this disease in the future shall be materially diminished. Expense will be undoubtedly incurred by the inauguration, say, of electrical lamps in addition to the ordinary safety lamp, but I am confident that the owner will be well repaid for his money, not only by the improved health conditions of the workers, but also because the men will be able to see what they are doing, and it is obvious that they can do their work very much better in a good light than in the wretched light to which they are subject at the present time.

Great Britain is the only European country in which there is no legislation to regulate the temperature at which men work in coal mines, and I think that this country should be brought into line with the other principal European countries, and employment forbidden in workings where the wet-bulb thermometer reading is so high as to be injurious to health. I am not going to lay down what the limit shall be. That should be a matter for full consideration, but when we realise that the Lancashire weaver, the Staffordshire potter, and the colliers in France, Germany, and Belgium are protected against working in temperatures recognised to be injurious to the health, I do not think it is unreasonable to suggest that legislation should do at least as much for the coal miner in this country.

I believe that the law should provide for a compulsory medical examination of all applicants for work in mines who have been in the tropics or in the colonies, or who have worked in European mines, or even in the tin mines of Cornwall, where ankylostomiasis may prevail. It is only from such sources that the coal mines of this country can be infected, and every means should be taken to prevent any infection ever occurring.

CONCLUSION.

So much for legislation. Something further can be done, and that by the medical profession. It seems strange that industrial diseases should have been neglected in the medical schools of this country and by the vast majority of the leaders of the profession, and that the researches in this branch of medical science have been left to individual effort. There are thousands of medical men working in the industrial districts of England who have never received any training in the medical schools on the diseases which they may be called upon at a moment's notice to diagnose and to treat. Young medical men who go straight from the hospitals to practise in these districts undoubtedly fail in many instances to realise what these industrial diseases are, and their experience, the experience of all medical men in those districts, is gained at the expense of the patient. I think that a great deal could be done to improve the health conditions of coal miners, and other workers too, if instruction were given at the universities and medical schools in this important branch of medical science. When we think of the tens of thousands of pounds that have been expended in this country upon tropical diseases (with very good results) we cannot but realise how industrial diseases have been neglected, and feel how imperative it is that this matter should have greater attention, and that young men who know that they are going to practise in these industrial districts should have opportunities of making themselves conversant with those diseases and conditions with which they will be brought into daily contact.

MEDITATIONS ON 1000 CONSECUTIVE ABDOMINAL OPERATIONS AT THE PRINCE OF WALES'S GENERAL HOSPITAL, TOTTENHAM.[1]

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IN October, 1913, I did my 1000th abdominal operation at the Prince of Wales's General Hospital; and it has seemed to me that some useful and interesting information might be derived from a study of these cases. To present an exhaustive report upon them would carry me far beyond the limits suitable for this paper, and I have therefore chosen to offer you some reflections or meditations on certain practical matters and to place before you a few figures derived from an analysis of the cases. The following is an analytical table showing the nature and number of the various operations:—

TABLE I.

Nature of operation.	1st 500.			2nd 500.			Total.		
	Number of cases.	Number of deaths.	Per cent. mortality.	Number of cases.	Number of deaths.	Per cent. mortality.	Number of cases.	Number of deaths.	Per cent. mortality.
Ovariotomy	82	3	3·6	83	3	3·6	165	6	3·6
Salpingo-oöphorectomy for tubal disease	94	6	6·4	60	6	10·0	154	12	7·3
Salpingo-oöphorectomy for extra-uterine pregnancy ...	39	1	2·5	26	0	0	65	1	1·5
Hysterectomy for fibroids ...	92	4	4·3	116	3	2·5	208	7	3·3
" " carcinoma	11	1	9·1	26	0	0	37	1	2·7
Myomectomy	18	0	0	12	0	0	30	0	0
Hysteropexy for displacements	99	2	2·0	123	1	0·8	222	3	1·3
Total gynæcological operations	435	17	3·9	446	13	2·9	881	32	3·6
Exploratory cœliotomy (carcinoma)	16	2	12·5	10	1	10·0	26	3	11·5
Exploratory cœliotomy (inflammatory)	15	3	20·0	9	0	0	24	3	12·5
Bowel operations	15	1	6·6	9	1	11·1	24	2	8·3
Kidney operations	2	0	0	0	0	0	2	0	0
Radical cure of scar hernia ...	14	0	0	19	0	0	33	0	0
Miscellaneous operations ...	3	3	100	7	2	28·5	10	5	50·0
Total non-gynæcological operations	65	9	13·8	54	4	7·4	119	13	10·9
Total operations	500	26	5·2	500	17	3·4	1000	43	4·3

To show the way in which the work has steadily increased and the results have steadily improved I will give the figures for successive two-yearly periods from the time when the department was founded to the end of 1913.

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[1] A paper read at the North-East London Clinical Society on March 5th, 1914.

	Cases.	Deaths.	Percentage mortality.
1900–1	38	2	5·2
1902–3	100	8	8·0
1904–5	122	9	7·3
1906–7	107	3	2·8
1908–9	207	8	3·8
1910–11	232	9	3·8
1912–13	219	4	1·8

Chart I. shows these figures in a graphic fashion. In the first seven years there were 305 cases with 20 deaths, a mortality of 6·5 per cent. In the last seven years there were 720 cases with 23 deaths, a mortality of 3·2 per cent.

Mortality of Abdominal Operations.

Our first meditation may very well be on this important subject. The table of cases shows that there was a marked drop in the mortality of the last 500 as compared with the first 500, the percentage being 3·4 in the later series and 5·2 in the earlier. The improvement may be attributed to three principal causes:—

1. The personal factor of experience. It is not necessary to emphasise this because it is self-evident; nor can any credit be claimed for it because the irreducible minimum required of a man is that his work should improve with increasing experience.

2. A higher standard of asepsis. With succeeding years we have come nearer to the ideal standard; and when I say "we" I include not only the operator and assistant but also the nursing staff in the theatre and in the wards. I venture to say that the better results of late years are in some measure due to the scrupulous care exercised by the theatre sister in carrying out the sterilising work of the hospital and to the devoted care of the sisters of my ward. Another factor in the improvement of asepsis has undoubtedly been the building of the present operating theatre with its more adequate sterilising equipment. Some of you may remember the old theatre with its dust-collecting rafters and its unhygienic walls. The first operation in the new theatre was performed by Dr. Hooper May on June 1st, 1906. If we divide the operations under consideration into two groups, the first from 1900 to June, 1906, and the second from the latter date to the end of 1913, we have these rather significant figures. Before June 1st, 1906, 282 cases, 20 deaths; mortality, 7·1 per cent. After June 1st, 1906, 743 cases, 23 deaths; mortality, 3·1 per cent. I do not claim, of course, that the new theatre alone brought about a saving of 4 per cent. in the mortality, but I feel certain that it contributed to this good result.

3. Improved technique. Year by year sees some improvement in this direction, and the sum of small improvements would make a striking total if it could be appraised. I will mention only two, which have, in my opinion, had a very beneficial effect. The first is the systematic use of gloves during operations. There is no doubt that formerly the presence of a septic case, either in the course of a day's operating or even in the wards, was a source of grave danger to other cases; infection was probably carried by the hands in spite of careful washing and disinfecting. Even now I should put off an operation of election following a case that had unexpectedly proved septic; but an operation of urgency could be undertaken in these circumstances with little fear of bad results. The second point of technique is the introduction of the iodine method for the preparation of the skin in the area of the operation. If this has not directly affected the mortality I feel sure that it has lessened the tendency to post-operative febrile conditions. I may add that the expense of gloves has been amply justified, not only from the point of view of humanity but also from that of economy, because cases do not suppurate as they did formerly, and therefore there has been a great saving in the cost of dressings.

A few words as to the mortality of individual groups of cases. In the table I have divided the operations into two main classes, the gynæcological and the non-gynæcological, the latter coming partly into the domain of general surgery. Here one cannot expect such good results, because the cases include dangerous acute conditions and inoperable carcinoma, and it will be seen that the mortality of this class is 10·9 per cent. for 119 cases. In the gynæcological class the mortality is 3·4 per cent. for 881 cases, and here it will be observed that the group of cases with the highest mortality is that of tubal disease, where it is 7·8 per cent. Many of these cases are, of course, septic to start with. Ovariotomy and hysterectomy for fibroids both show a mortality of something over 3 per cent.; 20 years ago hysterectomy had a much higher mortality than ovariotomy; now its mortality is rather less, and in the later series of 116 cases it was 2·5 per cent. We may expect the mortality of hysterectomy to improve still further, and in support of this view I may mention that there has been only one death in the last 100 cases at the hospital. It is likely that the mortality of ovariotomy will not diminish to the same extent, because the complications of ovarian tumours are liable to be even more inherently dangerous than those of fibroids; moreover, the group of ovariotomy includes some cases of ovarian carcinoma where the operation proves to be of a desperate character, and is only carried through because the removal of the growth offers at least a small chance of life, whilst the alternative to removal means certain death. Extra-uterine pregnancy shows one fatal case out of 65, a result that is very gratifying when we reflect that without operation a large number of these unfortunate women would be doomed to speedy and certain death. Hysterectomy for carcinoma shows a mortality which is perhaps as low as one can expect in view of the formidable character of some of these operations. All the cases of Wertheim's operation of carcinoma of the cervix recovered. Myomectomy had, happily, no mortality. With hysteropexy the mortality should certainly be *nil;* two cases succumbed to pneumonia, and one to an acute oral sepsis. I shall refer to the mortality again in speaking of individual groups.

Age-Incidence.

A study of the ages of patients in different groups brings out some points of interest. I have analysed the ages in 847 cases where the data were available, and the results are shown in Table II.

The graphic method of expressing figures is always more striking and convincing than the tabular method, and I have constructed Chart II. to bring out the facts in the above table. In each group the cases were divided into five equal sections according to their age, and the average age in each

TABLE II.—*Showing the Ages of Patients in Different Operation Groups.*

—	Ovariotomy.		Tubal disease.		Tubal pregnancy.		Myomectomy.		Hysterectomy, fibroids.		Carcinoma cervix.		Carcinoma body.		Hysteropexy, retroversion		Hysteropexy, procidentia.	
	Cases.	Per cent.	Cases.	Per cent.	Cases.	Per cent.	Cases.	Per cent.	Cases.	Per cent.	Cases.	Per cent.	Cases.	Per cent.	Cases.	Per cent.	Cases.	Per cent.
Under 20	5	3·0	5	3·9	—	—	—	—	—	—	—	—	—	—	2	2·0	1	[illegible]
20–29	32	19·4	46	36·0	33	50·8	2	6·7	2	1·0	1	6·0	—	—	42	42·0	12	[illegible]
30–39	60	36·3	58	45·3	28	43·1	13	43·3	48	24·0	4	23·5	—	—	42	42·0	44	36·1
40–49	38	23·0	19	14·8	4	6·1	12	40	113	56·5	4	23·5	5	25·0	14	14·0	34	[illegible]
50–59	21	12·8	—	—	—	—	1	3·3	32	16·0	5	29·4	8	40·0	—	—	18	[illegible]
60 and over	9	5·5	—	—	—	—	2	6·7	5	2·5	3	17·6	7	35·0	—	—	13	[illegible]
Total	165	100·0	128	100·0	65	100·0	30	100·0	200	100·0	17	100·0	20	100·0	100	100·0	122	100·0
Average age	39		32		30		40		44		48		55		32		42	

section was ascertained. Thus in the *ovariotomy* group, with 165 cases, the average age of the 35 youngest is given in Section 1; the average age of the next 35 youngest is given in Section 2; and so for each section. In the group of hysterectomy for fibroids each section has 40 cases; in the group of carcinoma of the body of the uterus each section has only 4 cases.

It will be seen that there is a good deal of variation in the range of ages; thus ovariotomy and hysteropexy for procidentia show a difference of 31 years between the youngest average and the oldest. The actual range of ovariotomy was from 9 years, the youngest, to 68 the oldest—that is, a range of 59 years. That of hysteropexy for procidentia was from 19 to 69, a range of 50 years. The range of carcinoma of the cervix is 31 years on the averages; actually it was 53 years, the youngest being 28 and the oldest 81. Carcinoma of the body has a definitely smaller range than carcinoma of the cervix, and the age rules higher. It is a striking fact that carcinoma of the uterus commencing after the menopause is much more likely to attack the body of the uterus; but when it commences in the child-bearing period it is much more likely to attack the cervix. Incidentally I may remark that the younger the patient the worse the prognosis; and this for two reasons. The first is the fact just brought out, that cervical carcinoma occurs on the average in younger women than body carcinoma; and the chance of recurrence is much less in the latter group. The second reason is that carcinoma of the cervix is apt to run a more rapid course in younger women, and recurrence is more liable to occur in their case.

Extra-uterine pregnancy shows the youngest age-line, its incidence being necessarily within the child-bearing period. Only 4 cases out of 65 were over 40, and 60 per cent. of the cases ranged from 23 to 27. Tubal inflammatory disease is another group with a low age-incidence; this group also coincides with the child-bearing period, and 40 per cent. of the cases were under 30. This point has more than an academic interest; the significance of it is that gonorrhœa, which is responsible for about 95 per cent. of cases of tubal disease, attacks young women usually either before or just after marriage; many cases no doubt clear up, and the patient is able to become pregnant subsequently, but in many others, as shown by the 154 cases of tubal disease operated upon, the disease spreads up to the tubes and the woman's chances of child-bearing are irretrievably destroyed. Some of these women die from septic infection, and, as we have seen, this group is attended by a heavier operative mortality than any other. Nevertheless, operation restores many of them to health, but it does not bring about the fulfilment of their dreams of happy motherhood; it does not restore that married happiness which the presence of children in the home alone can bring; it does not prevent the declining birth-rate, of which gonorrhœa is so important a factor, and the consequent loss of citizens to the State. These considerations are well worthy of the careful attention of those who are earnestly endeavouring to wage an effectual fight against venereal disease; and whilst the common sense of the British race will probably save us from fantastic legislation on eugenic marriages, we may yet hope that an enlightened public opinion will bring about two important measures for the prevention of the spread of disease. The first is the proper control of those great disseminators of disease, the public prostitutes; and the second is the development of such a sense of honour that no man who has contracted any disease will contemplate marriage until he can be assured by a competent medical authority that it is safe for him to do so. Further, if the parents or guardians of girls who are about to marry were to take such a serious view of their responsibilities that they exacted from the prospective bridegroom a satisfactory assurance, backed up if necessary by authoritative medical opinion, of his freedom from venereal disease, such a precaution could not be regarded as quixotic.

The age-incidence of fibroid tumours is fairly wide, though not so wide as that of ovarian tumours. The youngest section averaged 33 years of age; the oldest averaged 56. The youngest patient in this series was 28, and the oldest 65. Retroversion of the uterus has much the same age-range as tubal disease; and unless complicated by prolapse or procidentia it does not occur after the menopause, or at least does not cause symptoms calling for operative treatment.

Observations on Individual Groups.

Ovariotomy.—165 cases, 6 deaths, mortality 3·6 per cent. Every kind of ovarian tumour was met with in these cases: multilocular cystic adenoma; papilloma; dermoid, unilateral and bilateral, and including some of the relatively rare cases of *dermoid contents in multilocular tumours*; parovarian cyst; blood cyst (lutein hæmatoma);

CHART I.

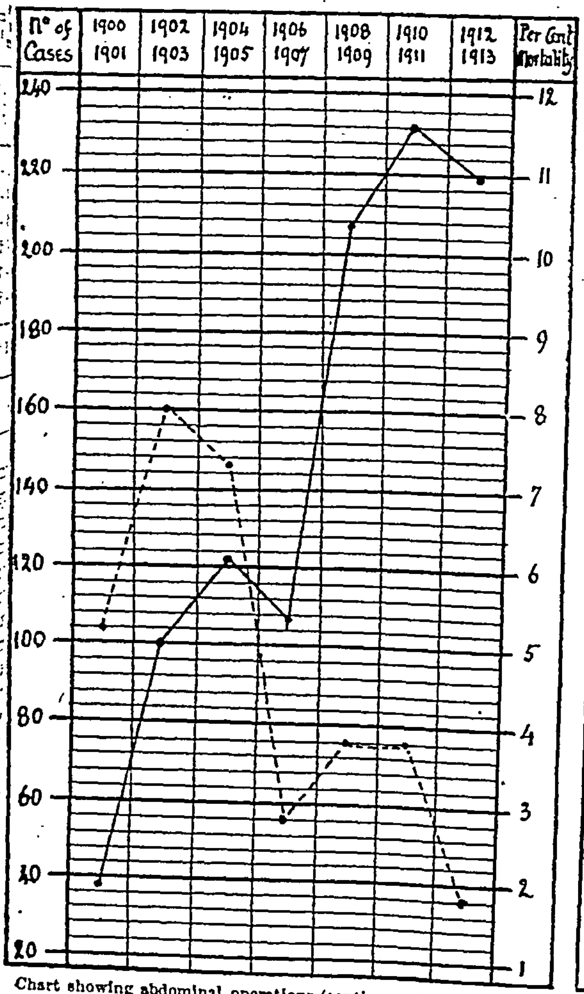


Chart showing abdominal operations (continuous line) and mortality (interrupted line) for 14 years at the Prince of Wales's Hospital, Tottenham. Cases presented in two-yearly periods.

CHART II.

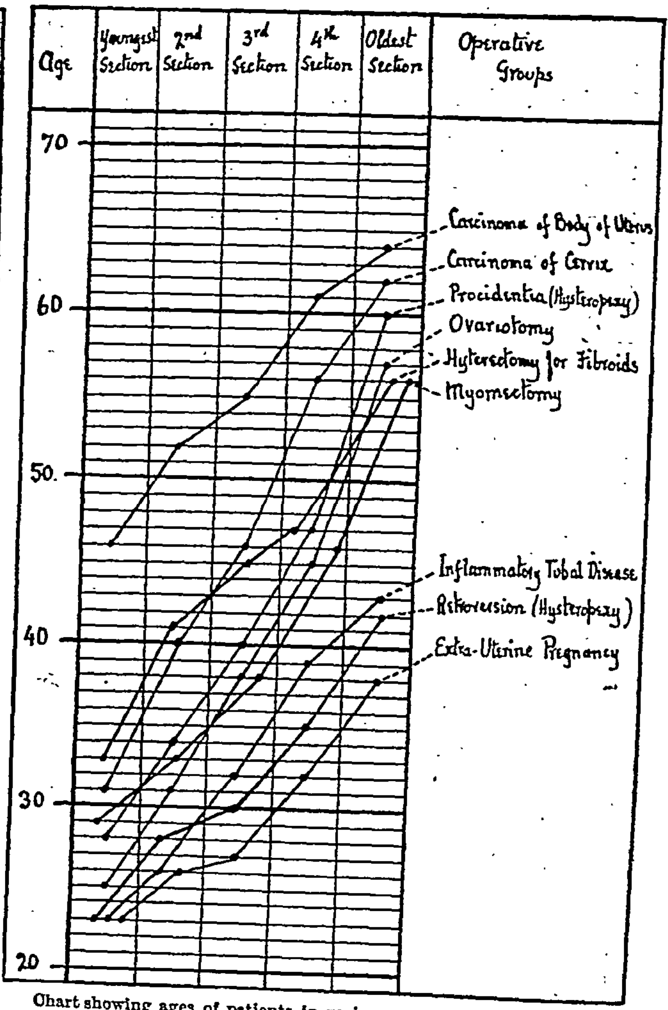
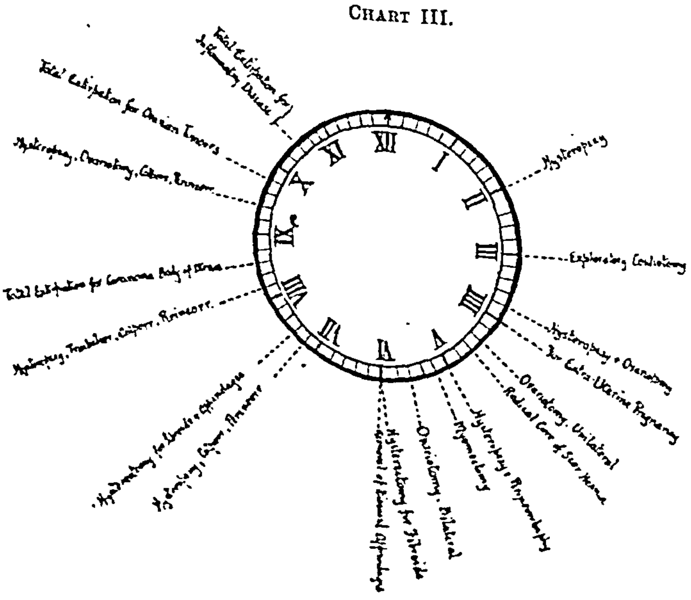


Chart showing ages of patients in various groups of operations. In each group cases are divided into five sections by age, average age in each section being shown.

CHART III.



An "operation clock" constructed on a graphic representation of the figures given in Table III. Wertheim's operation, hysterectomy for carcinoma of the cervix, is off the clock, the average time occupied being over an hour and a quarter. The two operations coming next in length are, as might be expected, total extirpation for inflammatory disease (52 minutes) and total extirpation for ovarian tumours (49 minutes). At the other end of the scale a simple hysteropexy averages 10 minutes, and exploratory cœliotomy (which often includes the swabbing out of quantities of fluid) 15 minutes. Other operations occupy an intermediate position.

fibroma; carcinoma; and sarcoma. There were a good many cases with acute symptoms due to twisted pedicle, and several with rupture of the cyst. Many large tumours were met with varying from 10 to 15 lb. and some even larger, in patients of widely varying ages; thus a woman, aged 57 years, had a tumour of 20 lb.; two women, aged 37 and 38, had tumours of 19 lb.; a girl, aged 19, had one of 16 lb.; a girl, aged 17, had a tumour of 15 lb; and another of the same age had the largest tumour of all, weighing 31 lb. Without exception, these large tumours have been removed entire. My reason is the danger entailed by puncture, either from the presence of irritating fluid in the peritoneal cavity, or from the possible dissemination of papillomatous or malignant growths. I have a melancholy recollection of a case at the Chelsea Hospital for Women where a tumour, apparently an innocent multilocular cyst, ruptured during removal, and the patient succumbed within a few months to a rapidly growing malignant papilloma in the abdomen. I do not consider that the long incision required is a serious drawback; it certainly does not predispose to hernia, for although I have had a number of cases of scar hernia, not one of them has occurred with a long incision. In 8 cases ovariotomy was undertaken during pregnancy, without disturbance of the pregnancy in any of them.

The deaths after ovariotomy were as follows: A single woman aged 41. Came in with ruptured ovarian cyst; 18 pints of viscid fluid in the peritoneal cavity. Death from peritonitis, which was already present at the time of the operation. A married woman aged 34; double ovarian dermoid. On the tenth day, which was a visiting day, she was talking to her husband, in good spirits, when she was suddenly seized with pulmonary embolism and died in half an hour. A little girl aged 9; double ovarian sarcoma. The operation was an extensive and formidable one; death from shock. A married woman aged 52; suppurating and infected dermoid; death from sepsis. A married woman aged 27, and another aged 42; both cases of extensive ovarian adeno-carcinoma; both succumbed to shock.

Tubal inflammatory disease.—These cases varied from simple salpingo-oöphoritis with occlusion of the tubal ostium, and hydrosalpinx to pyosalpinx of the most acute type. Several were cases of tuberculous pyosalpinx; one of them, who had also tuberculous disease of the spine, succumbed to a rapidly active tuberculosis. Another left the hospital apparently fairly well, but she died from rapid miliary tuberculosis shortly after. I have been led to give a guarded prognosis in cases of tuberculous pyosalpinx, because although most of them do very well and get quite cured, now and then the operation seems to light up a relatively dormant systemic tuberculosis, and the patient may die quickly. In several cases a pyosalpinx that had evidently been present during pregnancy became active as the result of anatomical disturbances during labour, and simulated puerperal septicæmia; one remarkable case of this type came in with an acute left pyosalpinx two weeks after delivery, and on opening the abdomen I found a septic thrombosis of the left ovarian vein, which I dissected up for about 4 inches. She died from sepsis some days later. Altogether, of the 12 deaths in this group of cases, eight were from sepsis; one was the case of tubercle above-mentioned, one died from syncope from a fatty heart, one died on the table at the end of a very severe operation, and one developed maniacal symptoms after the operation, and while she was swallowing a dose of paraldehyde on the eleventh day she died suddenly from getting some of it down her trachea.

Extra-uterine pregnancy.—This group is a specially satisfactory one because many of them were cases of great urgency, where free intra-peritoneal hæmorrhage was diagnosed by the *patient's medical attendant*, and they were sent into the hospital without delay and operated upon with all possible speed. But for prompt recognition many of these patients would have died, and I take this opportunity of paying a well-deserved tribute to the practitioners concerned. In one such case Mr. Reginald Brown took me away from the annual garden party of this society on July 4th, 1912, to see a patient at Stamford Hill. We carried her down into my car and brought her to the hospital and took her straight up to the theatre, and the operation was finished in a little over an hour from the time of our seeing her together. The one fatal case in this group was one that made a great impression upon me, because I had diagnosed it in the out-patient department as a retroversion of the gravid uterus. I could not replace it, and as I was not satisfied about her I kept her in the hospital. Four days later she had clear signs of internal hæmorrhage and I operated; but she had already bled a great deal, and though she rallied twice after the operation she died from syncope 36 hours after. This was over 10 years ago, and I have always felt since that an early diagnosis might have saved her life.

Hysterectomy for fibroids.—In this group I have included for convenience cases of hysterectomy for fibrosis.

1. Waiting for the menopause is an exploded fallacy; it assumes, first, that hæmorrhage is the only grave symptom of fibroids, overlooking the important symptoms of pain, visceral pressure effects, disablement, and general weakness; and, secondly, that most fibroids shrink or cease to give trouble after the menopause, which is far from being the case. As a matter of fact, out of 575 abdominal operations for fibroids, up to last July, no fewer than 104, or 18 per cent., required operation after the age of 50; and as fibroids may occur in young women some of them would have to wait 10 to 30 years for the menopause.

2. Early operation in young women *will often* allow of a conservative myomectomy, when *delay* necessitates hysterectomy.

3. Fibroids are attended by many pelvic complications. No fewer than 70 per cent. had *complications* of some kind, and there were *dangerous* complications in 30 per cent.

4. Diagnosis is *not* infallible, and *I have* met with many cases where fibroids were diagnosed, and at the time of operation some *serious* condition such as ovarian tumours or carcinoma was discovered, either by itself or in *addition* to fibroids.

5. The argument for delay *based on the* danger of operation, which had great weight *when the* operative mortality was very high, *falls* to the ground now that the mortality has *fallen to 2 or 3* per cent., and it is now permissible and even, as I think, advisable to recommend operation for the relief of suffering and disablement, whereas *formerly* operation was only justifiable for the saving of life.

Fibroids in certain positions, *such as* cervix and broad ligament fibroids, used to cause us great difficulty and anxiety; although *such* operations are still difficult ones they have become much simpler since we have understood the plan of incising the peritoneum over the tumour and shelling this out more or less completely. This procedure allows us to lift the tumour out of the pelvis and to reach the uterine vessels with comparative ease.

Fibrosis is a condition that was very little understood until recent years, and even now its pathology is not quite clear. It is a condition in which the normal musculature of the uterus is largely replaced by fibrous tissue; consequently the contractile power of the uterus, which is such a potent factor in arresting hæmorrhage, is practically lost, and drugs cease to have any influence in promoting such contraction. At the same time the mucosa of the uterus becomes atrophic. The typical fibrotic uterus is usually small; on section its walls are hard and fibrous and hardly any mucosa is seen. Curetting, of course, has no effect, as practically nothing comes away with the curette; and, indeed, the failure of this operation is sometimes the feature of the case that leads to a correct diagnosis. Such a uterus is quite useless, and hysterectomy gives brilliant results in the restoration of these patients to health.

Of the 7 fatal cases 2 died from sepsis, one in 1901 and 1 in 1906. I need hardly say that at the present day we should regard these as preventable deaths. Two died from heart failure, one 15 hours after operation, the other on the seventh day. This will always remain a source of anxiety with patients who have lost a great deal of blood, because with many of them one cannot delay the operation to allow them to recuperate because of the danger of a return of perhaps even severer hæmorrhage. One died from broncho-pneumonia on the fourth day. From time to time I have lost several patients from this cause; and meditation thereon has led me to a much greater caution in operating on patients with chest symptoms. When there is any tendency to bronchial trouble I always postpone the operation, even at the risk of causing the patient great disappointment; but, as I tell them, it is much better to disappoint them than to expose them to an unnecessary danger. One case died from pulmonary embolism on the twelfth day; this is one of the dangers of which at present we have no forewarning, and therefore we are not able to guard against it. Fortunately it is not very common, but I had two deaths from this cause among my 1000 cases. The last death was from secondary hæmorrhage, in a very remarkable case. At the time of operation the large fibroid uterus had an attachment, an inch in diameter, to what appeared to be an enormously enlarged liver; the secondary hæmorrhage was from this site, and at the necropsy the large mass proved to be a huge pedunculated fibroid, with intimate vascular attachments to the transverse colon.

Hysterectomy for carcinoma.—The experience of these cases has led me to the conclusion that the most favourable position in the body in which carcinoma can occur is the body of the uterus, because recurrence after hysterectomy for such a condition is exceedingly rare. On the other hand, recurrence is rather distressingly frequent in cases of carcinoma of the cervix, even when the removal is effected by the most radical means at present known—namely, the procedure called "Wertheim's operation." There are two distinct types of carcinoma of the cervix: one is the so-called epithelioma which arises on the vaginal aspect of the cervix in the squamous epithelium, and when extensive gives the appearance described as a "cauliflower growth." If the growth has not invaded the vaginal walls to any great extent, complete removal is relatively easy and the prognosis is correspondingly good. The other type is the glandular carcinoma, which arises in the cervical glands; it is a treacherous condition, because it is apt to grow extensively within the cervix before it makes its presence known, either by symptoms or by physical signs; and it is specially prone to invade the base of the bladder and the broad ligaments. Some of these cases lead to great anxiety and responsibility in deciding whether or not one should attempt the radical operation; and the difficulty is accentuated by the fact that one cannot always determine how far the bladder is involved until one opens the abdomen and attempts to strip the bladder down from the cervix. My present view is that in bad cases it is not worth while to attempt a radical operation; the operative risk is greatly increased by the danger of injuring bladder or ureters, and the chances of recurrence within a year are very great. On the other hand, thorough scraping away of the growth, followed by the packing of the cavity with gauze soaked in a saturated solution of chloride of zinc, will often lead to the prolonging of life, in relative comfort, for a year or longer. In all I have done 23 cases of Wertheim's operation, and the fact that they have all recovered[2] does not blind me to the possibility that one may at any time have a death after the operation. The one fatal case in this group was a carcinoma of the body of the uterus; the patient died 48 hours after the operation, and the cause of death, as determined by necropsy, was syncope from fatty heart.

Myomectomy.—This operation is to be regarded as the alternative to hysterectomy in certain cases. Meditation on these cases has led me to formulate the indications for myomectomy briefly as follows.

1. It depends on the position of the tumour. Pedunculated subperitoneal fibroids can usually be dealt with in this way, and some cases of pedunculated intra-uterine fibroids. An intramural fibroid can often be enucleated if desired.

2. It depends on the number of the tumours. When only one is present, and sometimes with only two or three, it may be advisable to do a myomectomy. With multiple fibroids myomectomy only leaves a maimed and useless uterus.

3. It depends on the age of the patient. In a young woman, particularly if she is married and anxious to have children, one may make very special efforts to save the uterus by doing a myomectomy; in older women, and when child-bearing is practically out of the question, hysterectomy is nearly always a better operation. There were no deaths in this group.

Hysteropexy.—The best comment that I can make on this group is in the words of Scripture, "By their fruits ye shall know them." From time to time my attitude with regard to these operations has been criticised, and the main criticism has been that I operate too often. I must admit that I am unrepentant, and shall continue to be so as long as the results continue as satisfactory as they have been up to the present time. If patients can be cured of their displacements, whether retroversion, prolapse, or procidentia, by operation; if they can be saved the discomforts and drawbacks of prolonged pessary treatment; if the uterus remains permanently in good position in the vast majority of cases; if the operation in no way interferes with subsequent pregnancy and confinement (and I have now records of 66 confinements to prove this point); if the satisfactory results of operation cannot be obtained by other means; and if I continue to receive from patients and their medical attendants assurances that the patients have experienced the greatest benefit from the operation; and if, finally, I continue to be convinced, as I am at present, that all these suppositions are borne out by experience and by careful study of after-results, so long shall I continue to advocate and to practise the treatment of displacement by operative measures in suitable cases.

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[2] The last case operated upon died from pneumonia five days after the reading of this paper.

Non-gynæcological operations.—Lengthy comment on these cases is unnecessary. Twenty-six of them—namely, the operations on bowel and kidneys—belong to the domain of general surgery; some of these were operated upon with the expectation of finding other conditions; the rest were special cases in which I was interested, and in which I was allowed, by the courtesy of my surgical collegues, to overstep the usual limits of my "sphere of influence." The cases of scar hernia fell naturally to my lot, as having been responsible in most cases for the primary operation. I have already stated that the most important predisposing cause of this troublesome occurrence is long continued drainage; but in many of these cases one is glad enough to save the patient's life at the cost of such a complication. Another predisposing factor is the condition of flabby abdominal walls in very fat women. The cases of exploratory cœliotomy have caused me to meditate sufficiently to supply material for a separate paper; therefore, as I have still several points to refer to, I will not embark on the subject here.

Duration of Operations.

The duration of operations is a matter of some interest. Dr. C. F. Hadfield, who has given anæsthetics on my operation days since Nov. 26th, 1908, has kept a record, for his own use, of the time that patients have been under anæsthetic; and he has kindly allowed me to make an analysis of his notes. The figures are of special value because they represent the results, not of operating against the clock in particular cases, but of ordinary operative work. Dr. Hadfield tells me that the time from the commencement of anæsthesia to the time of the first incision averages about ten minutes; this includes placing the patient in the Trendelenburg position, painting with iodine, and arranging mackintoshes and towels. From Dr. Hadfield's data I have drawn up Table III.

TABLE III.

Nature of operation.	Number of cases.	Average duration of anæsthesia.	Average duration of operation.	Shortest anæsthesia.	Longest anæsthesia.
		min.	min.	min.	min.
Ovariotomy, single	39	32	22	15	60
" double	21	38	28	25	90
" " with hysterectomy	4	59	49	45	80
Salpingo-oöphorectomy for tubal inflammation	36	40	30	25	65
Salpingo-oöphorectomy for tubal inflammation with hysterectomy ...	12	62	52	40	90
Salpingo-oöphorectomy for extra-uterine pregnancy...	24	30	20	20	55
Hysterectomy for fibroids	33	40	30	30	55
" with salpingo-oöphorectomy	71	47	37	30	100
" for carcinoma of the body of the uterus	17	53	43	30	75
Hysterectomy for carcinoma of the cervix (Wertheim)	8	86	76	60	100
Myomectomy	4	36	26	25	50
Hysteropexy...	28	20	10	15	25
" with either ovariotomy or myomectomy	22	29	19	20	65
Hysteropexy with either curetting or perineorrhaphy	14	35	25	25	70
Hysteropexy with anterior colporrhaphy and perineorrhaphy	48	46	36	30	70
Hysteropexy with trachelorrhaphy, colporrhaphy, and perineorrhaphy	13	51	41	35	75
Hysteropexy with ovariotomy or myomectomy, colporrhaphy and perineorrhaphy	4	57	47	55	60
Radical cure of scar hernia	17	33	23	20	50
Exploratory cœliotomy for malignant disease or tuberculous peritonitis ...	12	25	15	15	30
Abdominal operations in general... ...	427	40	30	15	100

This table can be represented graphically in the form of an "operative clock," which shows at a glance the average time occupied by the various operations. (Chart III.) Wertheim's operation stands out conspicuously as taking, on the average, about 25 minutes longer than any other operation; the next longest operations are total extirpation for inflammatory disease, with an average of 52 minutes, and total extirpation for ovarian tumours, with an average of 49 minutes. Compound operations such as hysteropexy, with ovariotomy or myomectomy, trachelorrhaphy, colporrhaphy, and perineorrhaphy, average from 41 to 47 minutes. Total extirpation for carcinoma of the body of the uterus averages 43 minutes. Hysterectomy for fibroids, with appendage disease, takes 37 minutes, and the ordinary "round trip" of anterior colporrhaphy, perineorrhaphy, and hysteropexy for procidentia takes 36 minutes. All the other operations range from a quarter to half an hour.

To conclude this part of the subject I give the figures for what I regard as the quickest afternoon's work that we have done at Tottenham; I need hardly say that it could not have been done without excellent system and organisation on the part of the nursing staff and highly skilled administration of anæsthetics by Dr. Hadfield. The figures are taken from his notes. April 4th, 1912: 1. Ovariotomy complicating pregnancy; total anæsthesia, 20 minutes. 2. Hysterectomy and double ovariotomy, for fibroid, left ovarian dermoid and right ovarian cyst, 30 minutes. 3. Hysterectomy and double ovariotomy, for cervix fibroid and double hydrosalpinx, 37 minutes. 4. Hysterectomy for fibroid, 30 minutes. 5. Appendicectomy; resection of cyst in ovary, 23 minutes. 6. Hysteropexy, 20 minutes. 7. For extra-uterine pregnancy, 20 minutes. Total of time occupied, 180 minutes. If we take Dr. Hadfield's estimate of an average of 10 minutes for induction of anæsthesia and preparation in each case, it leaves under two hours actual operating for seven abdominal operations.

Drainage in Abdominal Operations.

"To drain or not to drain," that is the question that often exercises the mind. My meditations on this subject, based on the experience which these cases have taught me, may be expressed as follows. It is certain that there are drawbacks in drainage: the patient has the disturbing factor of painful dressings in the early days; convalescence is often delayed by one or more weeks; when the drainage is prolonged there is a marked tendency to the development of scar hernia; last, and in this case least, from the hospital point of view, drainage means a materially increased expenditure on dressings. But there are also drawbacks in not draining in certain cases; thus, in a case with a tendency to oozing or hæmorrhage from adhesion sites there may be a considerable effusion into the peritoneal cavity which may suppurate later; or the effusion may be so great as to cause alarming signs of internal hæmorrhage; in cases of damage to bowel or bladder where there is a possibility of leakage with consequent infection, and in cases already infected at the time of operation, alarming and even rapidly fatal septic poisoning may supervene. Undoubtedly the risks entailed by *not* draining, when drainage is indicated, are much greater than those incurred by *draining* when it is not really necessary. Therefore, I would say generally of drainage that it should always be avoided if possible, but in certain cases it is essential, and because the danger in this respect of leaving undone the things that ought to be done is greater than that of doing the things that ought not to be done I would say, "When in doubt, drain." The cases in which I drain are those with a considerable tendency to oozing from adhesion sites; cases in which the peritoneal cavity has been soiled with pus from the rupture of pus-tubes or the presence of an appendix or other abscess in the peritoneal cavity; cases of peritonitis without actual pus formation, when I am doubtful about the degree of virulence of the infection; and cases in which the bowel walls have been much damaged in the process of separating adhesions.

Drainage material.—I feel sure that in some cases a fæcal fistula has resulted from the pressure of a hard drain-tube on damaged bowel; I have therefore quite discarded glass drainage-tubes, and even rubber tubing I use very rarely. I prefer to use gauze; sometimes a narrow wick, when the object is to have a warning of hæmorrhage; sometimes a thicker strip when I want to provide a definite drainage channel. It is true that gauze is not a quite efficient drain; but neither is a tube, which is apt to get blocked up. The important thing, however, is to provide a channel leading to the outside, along which pus would pass as the line of least resistance. To facilitate removal of the gauze I use a piece of split rubber tubing, through which the gauze passes in the abdominal wall. When the drain is used merely as an indicator of oozing, or as a precaution in case of infection, and is not likely to be required longer than a couple of days, I commonly pass a suture which is left long and can be tied if necessary, so as to occlude the drain-track when the gauze is left out.

Improvements in After-treatment.

This is a subject of much practical importance, and I will therefore devote it to my concluding meditations. Formerly patients who had undergone an abdominal operation were not allowed anything to drink for 24 hours; the best they could hope for was the tantalising concession of being allowed to wash out the mouth with a little hot water, some of which they would gladly have swallowed, but they might not. The practice now is to give them as much water as they want as often as they like. There is no doubt that the restriction was quite uncalled for; and though it was well enough intentioned, in effect it was inhumane, adding a superfluous torture which was often more trying than any other effect of the operation. After all, if a patient is sick, it is generally because there are some irritating contents in the stomach; and a good drink of water, even if returned, washes out such contents. Moreover, it is notoriously more distressing to retch with an empty stomach than to bring up fluid. The second improvement is that which relates to position. Formerly patients were kept flat on the back and immobile for as long as a week; now they are propped up quite early, and allowed to have their position changed with reasonable and even, if necessary, with unreasonable frequency. Which of us even in health could endure lying on the back without moving for several consecutive hours? Clearly, for patients who are weak and feeling miserable and in pain, the ordeal is much more severe; it aggravates their pain, it brings about muscular stiffness and aching, and it increases the difficulty of contending with the tendency to flatulence which is so marked after operations, and is specially incidental to the recumbent position. The improvement in the general well-being of patients who have been raised up into a sitting position and moved gently from time to time is most striking.

"Fowler's position," as it is called, means sitting a patient upright, with a bed-rest and a knee-pillow and an arrangement of straps to prevent slipping. It was introduced primarily for the treatment of peritonitis, when it was combined with drainage of the pelvis and with the more or less continuous administration of saline solution by the rectal method. I feel sure that this improvement in treatment has been the direct means of saving many lives, not only in cases of suppurative pelvic conditions in women, but also in the domain of general surgery. It is a matter of great interest to note that it was the introduction of this position for septic cases that led to its adoption after abdominal operations in general. We said: "If septic cases are so much more comfortable sitting up, why should ordinary cases not feel better also?" Ordinary cases are, of course, allowed to lie down from time to time, especially when they are settled for the night; septic cases can be kept sitting up for days together, and they sleep quite comfortably in that position. In fact, if one had to choose between persistently sitting up and persistently lying down, the sitting up entails the less discomfort.

Early attention to the bowels is another improvement. I do not say that this is a modern innovation, because 15 or even 20 years ago there were enlightened surgeons who recognised that the greatest safeguard against sepsis and obstruction was to secure early action of the bowels. But the general recognition of this truth is of more recent date. In cases of threatened sepsis or ileus, one of the most satisfactory plans is the administration of small repeated doses of calomel. A half-grain dose hourly until six doses have been given is usually sufficient; and years ago the gynæcologists of the Birmingham school used to give even smaller doses, such as 1/6th grain hourly. Few cases are apt to give one so much anxiety after abdominal operation as those of threatened obstruction, especially when it comes to the point that one has to consider seriously the question of re-opening the abdomen. There are, of course, cases of definite obstruction, where nothing short of operation will avail, and it behoves one to recognise these cases. But there are others, more on the borderland, that can be treated successfully by other means. Some years ago, in the presence of such a case, I was debating operation; my experience of re-opening for obstruction had not been encouraging, and I decided to try the effect of hot fomentations on the abdomen, gentle abdominal massage, and repeated doses of ergotinine hypodermically, the object being to get the paretic bowel to contract. The effect was most satisfactory. Since that time research has given us even more valuable agents than ergot and its derivatives; first we had adrenalin, and more lately the priceless pituitary extract. When the abdomen is blown up and the patient is suffering intense discomfort and pain, when little or no flatus is being passed and we are getting anxious, pituitary extract given hypodermically and repeated if necessary four-hourly, combined with small repeated doses of calomel and a turpentine enema will nearly always relieve both the patient's distress and our anxieties in quite a short time.

At one time no abdominal operation was considered complete unless it was followed by the wearing of a cumbersome and unwieldy surgical belt. Encased in these atrocities patients eked out a prolonged convalescence for a year, and sometimes for years. Their abdominal muscles remained flabby from disuse, and the only persons who derived a solid advantage from these belts were the makers. A parallel may be found in the ancient practice of keeping fractured limbs encased for months in plaster-of-Paris. Now we recognise that in both cases the essential thing is to get the muscles restored to their proper tone by early use and if necessary by massage. For abdominal cases, especially when the three-layer method is used for sewing up, no kind of belt is really required, particularly since the introduction of the long straight-fronted corset, which gives all the protection that is necessary; but many patients derive comfort from a woven binder, of the type of the so-called "cholera belt," which can be worn for a few months. The final improvement is in encouraging patients to a quick convalescence, instead of keeping them invalids, as can be done only too easily by an injudicious form of suggestion. I recognise, of course, the variability of the personal factor; some patients receive a much more profound mental and physical shock from even a slight abdominal operation than others do after a severe operation; but very much can be done by encouragement and by gentle stimulus along the path of convalescence.

I feel that I shall only be rendering a just tribute if, in concluding this summary of my work at the hospital, I acknowledge with sincere gratitude my indebtedness to my fellow workers who have contributed in so important a degree to such success as has attended that work. The governors of the hospital have always given the most sympathetic help to me and to my colleagues in readily granting our requests for whatever tended to facility in our work, and the benefit of our patients. I am indebted to a succession of excellent resident medical officers for help in my operations and for zealous care of the patients afterwards. Several anæsthetists have collaborated with me, and I must express my special thanks to Dr. Hadfield for his most valuable help during the last five and a half years. To Miss Fox and the nurses whom she has trained much more than a formal acknowledgment is due, for I cannot but appreciate the all-important part that good nursing has had in obtaining satisfactory results. To the two sisters who have had charge of my ward since November, 1907, I offer, in all gratitude, this simple statistical tribute: From 1900 to October, 1907, 347 cases, 22 deaths; mortality, 6·3 per cent. November, 1907, to May, 1911, under Miss Ada Simmonds, 387 cases, 14 deaths; mortality, 3·6 per cent. June, 1911, to February, 1914, under Miss Bessie Allen, 314 cases, 9 deaths; mortality, 2·8 per cent.

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DISEASES OF THE PITUITARY GLAND AND THEIR EFFECT ON THE SHAPE OF THE SELLA TURCICA.[1]

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ANATOMICALLY the pituitary body or hypophysis cerebri consists of two great portions, a glandular anterior lobe and a nervous posterior lobe. Embryologically these two lobes have different origins, the anterior being derived from the epiblast of Rathke's pouch and the posterior from a downgrowth of neuroblast from the region of the third ventricle. Physiologically the anterior and posterior lobes appear to serve different functions, the anterior being related to the general growth of the body and especially of the skeleton, whilst the posterior lobe and its glandular envelope, the pars intermedia, seem to promote the contractility and increase the tone of the plain muscle generally, as well as of the heart, and to excite the activity of certain glands—viz., the kidney and mammary gland (Schäfer). Extracts obtained from the posterior lobe when injected into animals produce changes in the blood pressure, changes in the secretion of the urine and of the mammary gland, and cause contractions of all involuntary muscle, whilst extracts made from the anterior lobe are relatively inactive. By the methods of extirpation of portions of the gland in animals it has been shown that removal of the anterior lobe produces adiposity, accompanied by secondary hypoplasia of the organs of generation in the adult, or by a persistence of sexual infantilism in case the primary hypophyseal deficiency antedates adolescence, and occasionally by polyuria, alterations in the skin and its appendages (such as œdemas and hypotrichosis), and by a tendency to the development of a subnormal temperature and psychic disturbances (Crowe, Cushing, and Homans); whilst the posterior lobe plays a significant rôle in the metabolism of carbohydrates.

The pituitary body lies in the most protected portion of the skull, encased in the bony sella turcica, and in the anterior angle of the optic chiasma. It is separated from the general cranial cavity by a firm fibrous connective-tissue layer, the diaphragma sellæ, a part of the dura mater, which is perforated in its middle to allow of the passage of the infundibular stalk. The most common and most important disorders of the pituitary body are caused by tumour growths arising either in the gland itself or from one of the neighbouring "rests" of the cranio-pharyngeal duct which frequently persists into adult life as an evidence of the double nature of the body itself.

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[1] A paper read before the Electrotherapeutical Section of the Royal Society of Medicine.

Clinically the disorders which arise in consequence of changes in the pituitary body are extremely complex. For disease processes may originate in either lobe without the involvement of the other, or one lobe may be the seat of an adenomatous change and physiologically overactive, and by pressure upon the other lobe may impair its function and cause an underactivity of this part, or the body may be involved secondarily owing to changes elsewhere inside the cranial cavity, or in some one or other of the interrelated organs of internal secretion—e.g., the thyroid or the ovaries.

In practice patients showing features similar to those obtained experimentally in animals are not uncommon. In the course of the last seven months at the London Hospital I have seen some dozen examples of such cases. In these examples the clinical features appear to have been an expression *either* of a deficiency *or* an excess, *or* an alteration in the activities of one or other or both lobes of the body.

Comparing the disorders due to the pituitary body with those met with in the case of the thyroid gland the custom has grown up to speak of *hyper (super) pituitarism* when the clinical features are believed to be an expression of excessive activity on the part of the gland, of *hypo (sub) pituitarism* when they are assumed to be due to a deficient secretion of the gland, and of *dyspituitarism* when due to more or less complex alterations affecting the secretion of the two lobes together. Acromegaly is believed to be the clinical expression of hyperpituitarism. Dystrophia adiposo-genitalis (Fröhlich syndrome) and some forms of infantilism and of glycosuria are supposed on good grounds to be expressions of hypopituitarism.

In the majority of patients showing hyperthyroidism the thyroid gland shows considerable enlargement. The pituitary body, as we have already seen, lies encased in the bony sella turcica. If an enlargement of the gland takes place either the diaphragma sellæ must be freed from its attachments to the clinoid processes or the bony walls of the fossa must be eroded. In either case the outline of the base of the sella turcica will be altered by disease of the contained pituitary body, and a skiagram will give us definite evidence of these changes.

In acromegaly, in my experience, there is always some definite evidence of an increase in size of the pituitary fossa. In hypo(sub)thyroidism (myxœdema), on the other hand, a small thyroid is the rule; by analogy, therefore, we should expect that in hypo(sub)pituitarism little or no change in the configuration of the pituitary fossa would appear in skiagrams of this region, and this I believe to be a common finding. Like certain cases of Graves's disease, which later take on features of myxœdema, certain cases of acromegaly later take on features similar to those found in hypo(sub)pituitarism; in radiograms of the skull of these patients we should expect to find changes in the sella turcica, and Cushing has shown that this does actually happen.

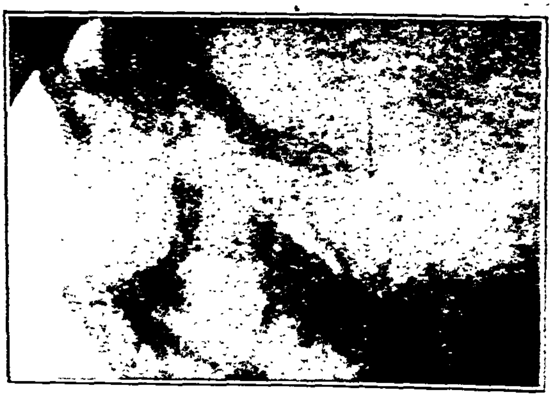
Cushing has divided the enlargements of the sella turcica occurring with primary growths arising from the pituitary body itself into three types: (1) those associated with thickening of the clinoid processes and dorsum sellæ; (2) those showing thinning from pressure absorption of these parts; and (3) those showing more or less destruction of all the outlines of this region; and he states that tumours arising from the pituitary stalk in the interpeduncular region and situated above the sella—the so-called superimposed tumours—give rise to changes in the sella turcica only after they have reached a considerable size (Goetsch). In the skeleton the measurements of the normal pituitary fossa, as given by Keith, average antero-posteriorly (interclinoid distance) 10 to 12 mm., 14 to 15 mm. transversely, and 8 mm. in depth. In profile radiograms measurements exceeding 15 mm. antero-posteriorly and 10 mm. in depth may be looked upon as indicating an enlargement (Cushing). With an undistended sella the floor of the fossa in the skiagram should show a single clear basal outline.

Clinically the 12 cases, which I wish at present to bring under notice (see table) can be divided into—

Examples of Acromegaly	3
,, Dystrophia adiposo-genitalis	3
,, Infantilism and optic atrophy	1
,, Primary optic atrophy and glycosuria ...	1
,, Optic atrophy without any signs of disturbance in general metabolism... ...	1
,, Hydrocephalus, spastic paraplegia, and ataxia of the legs with sub pituitarism	1
,, The "pudding-face" type of dyspituitarism	2

Clinically the three examples showing acromegaly differed widely. In Case 1, a man aged 46, the condition was completely stationary; the skeletal overgrowth had appeared between the ages of 24 and 30, and for 15 years before the patient came under observation for the radical cure of a large inguinal hernia had been completely stationary. Cases 2 and 3, on the other hand, came under observation complaining of the recent increase in size of the extremities and head. In Case 2, a woman aged 40, the overgrowth commenced when the patient was 37 years of age, whilst in Case 3, a man aged 46, changes in the size of the bones began to appear at the age of 44.

FIG. 1



CASE 1.—Acromegaly (stationary). The clinoid processes are displaced upwards. The interclinoid distance measures 15 mm. The floor of the pituitary fossa shows an anterior and a posterior bulge.

The radiological findings in Cases 1 and 2 (see Fig. 1) are similar: in each the clinoid processes are displaced upwards and the floor of the fossa is depressed with the formation of anterior and posterior bulges and the interclinoid distance in each measures 15 mm. In Case 3, on the other hand, the floor of the fossa in the skiagram appears natural, but there is some displacement upwards of the clinoid processes without much alteration in the interclinoid distance, which measures 10 mm.

TABLE GIVING PARTICULARS OF 12 C

Onset of condition and history.	Sex and age.	Sella turcica.	Visual disturbances.	Skeletal signs.	Cutaneous and sub-cutaneous.	Sexual glands.	Tolerance of carbo-hydrates.	Thyroid.	Voice.
CASE 1. *Acromegaly, stationary.* Onset of condition between ages 24 and 30. Eight healthy children ranging from 22 to 8 years of age. Stationary for many years.	M., 45	The clinoid processes are displaced upwards. The interclinoid distance measures 15 mm. The floor of the pituitary fossa shows an anterior and a posterior bulge. (Fig. 1.)	Discs and fundi healthy. Visual fields normal.	Classical signs of acromegaly with enormous hands and feet and great overgrowth of inferior maxillæ. Punchinello chest.	Distribution of fat normal. Cyanosis of hands and feet.	Normal.	200 grammes of glucose given by mouth were not followed by the excretion of sugar in the urine.	Of average size.	Natural.
CASE 2. *Acromegaly, progressive.* Married. Onset of condition at age of 37. Right breast removed for chronic mastitis at age of 33.	F., 40	The clinoid processes are displaced upwards. The interclinoid distance measures 15 mm. The floor of the pituitary fossa shows an anterior and a posterior bulge.	Discs and fundi healthy. Visual fields show some contraction down and out on each side. Central vision for form and colour good.	Classical signs of acromegaly; large hands and feet; great overgrowth of lower jaw. No kyphoscoliosis.	Dry skin and harsh hair suggesting myxœdema.	Catamenia regular.	(Not tested.)	Small, not palpable.	"
CASE 3. *Acromegaly, progressive.* Onset of condition at age of 44.	M., 46	The clinoid processes are slightly displaced upwards. The floor of the pituitary fossa appears natural. The interclinoid distance measures 10 mm.	Old iridectomy R. (at age of 44). Fundi and discs healthy. Left visual field small, right extremely small. Central vision good.	Classical signs of acromegaly; feet and hands large; large lower jaw; head enlarging (larger hat), circumference 22¾ inches.	Distribution of fat normal. Skin dry and harsh.	Normal.	300 grammes of glucose administered by mouth were not followed by the excretion of sugar in the urine.	Of average size.	Natural. Speaks English badly.
CASE 4. *Dystrophia adiposo-genitalis.* History of cranial injury at 10 years of age. Onset of symptoms at age of 17.	M., 20	Shape of sella turcica normal. The interclinoid distance measures 10 mm. and the depth is 10 mm.	Discs and fundi healthy. ? Some limitation of visual fields (not very definite.)	Epiphyses of fingers and toes not joined. Swelling of left fourth toe. Swelling, chiefly peri-articular, of left second and third fingers and of right third and fourth fingers.	Skin soft and feminine. General excess of fat of typus femininus. No excess of pigmentation. No pubic or axillary hair.	Testes and external genitalia small and infantile.	No sugar detected in the urine after the ingestion of 200 grammes of glucose.	Small.	Treble and infantile.
CASE 5. *Dystrophia adiposo-genitalis.* Onset of symptoms at age of 12½.	M., 15	Enlargement of sella turcica chiefly downwards, but there are no bulges on the lower outline. The posterior clinoid processes appear shortened and displaced upwards. The interclinoid distance *measures* 15 mm.	Discs pale with softening of the *edges, no lamina* cribrosa seen. Much limitation of upper and lower visual fields.	Delayed union of all epiphyses.	Skin soft and feminine. General excess of fat of typus femininus. No excess of pigmentation. No pubic or axillary hair.	Testes and external genitalia small and infantile.	No sugar detected in the urine after 200 grammes glucose had been taken by mouth.	"	"
CASE 6. *Dystrophia adiposo-genitalis.* Onset of symptoms at age of 10½ years.	F., 11	Sella turcica shallow and ill-defined. The interclinoid distance measures 5 mm. (at age of 11) and the depth of the fossa is *4 mm.*	August, 1913: No changes in discs. January, 1914: Optic discs pale and atrophic, edges softened, lamina cribrosa present.	Nil.	Some excess of fat. Skin extremely soft and downy. No growth of axillary or pubic hair.	—	No sugar detected in urine after the administration of 200 grammes of glucose.	"	Squeaky.
CASE 7. *Lorain type with optic atrophy.*	M., 19	Extensive, irregular enlargement of the sella turcica. The enlargement has taken place chiefly in a forward direction. There is a very definite *shadow* of a long posterior clinoid process. The interclinoid distance measures 32 mm.	Bilateral primary optic atrophy; onset with left temporal hemianopsia followed by right temporal hemianopsia; then progressive loss of nasal vision to complete blindness 2½ years after onset of *symptoms.*	Delayed union of epiphyses.	Sparsely covered boy. No growth of pubic or axillary hair.	Testes and external genitalia infantile.	No sugar appeared in the urine after 300 grammes of glucose had been taken by mouth.	Of average size.	Treble and infantile.

OF DISEASES OF THE PITUITARY GLAND.

	Blood pressure.	Torpidity and drowsiness.	Psychic disturbances.	Oculomotor nerves.	Other cranial nerves.	Reflexes, &c.	Sphincters.	Urine.	Wassermann reaction.	Weight.	Temperature.	Pulse.
1	—	Nil.	Nil.	Unaffected.	Unaffected.	Reflexes, motion, and sensation unaffected.	Controlled.	Natural.*	Negative.	—	Normal.	60–70
2	125 mm.	Drowsy.	Slow in speech and in movement.	"	"	"	"	Natural.	"	—	"	72
3	—	Attacks of giddiness followed by somnolence and accompanied by intense general headaches and at times by vomiting.	"	"	"	"	"	"	"	—	"	70–
4	60 mm., rising to 120 mm. on treatment with posterior lobe pituitary extract.	Somnolence noteworthy.	Unconscious of changes in himself; dull, intelligent, good tempered; no initiative.	Occasional diplopia. Pupils reacted normally.	Smell unaffected. Weakness of right sixth. Permanent squint. Right nerve deafness.	Knee-jerks exaggerated. No ankle clonus. Bilateral extensor plantar responses.	Attacks of incontinence of urine and fæces usually by night.	"	"	7 st. 10 lb.	Subnormal (96–97° F. morning, 98° evening).	100
5	—	Extremely drowsy.	Dull, good tempered; simple, intelligent; no initiative.	Ptosis, left. No diplopia. Pupils irregular, reacted sluggishly to light.	Smell unaffected. Facial movements irregular. No facial palsy. No deafness.	Spastic gait; adductor spasm; knee-jerks exaggerated; bilateral ankle clonus; bilateral extensor plantar responses.	Controlled.	"	"	7 st. 12 lb.	Subnormal.	90
6	88 mm.	Not noteworthy.	Dull, stupid, slow at learning; intelligent.	Pupils normal; slight ptosis, left; no diplopia.	Smell unaffected, sixth, seventh, and eighth nerves unaffected.	Spastic gait and adductor spasm developed between August, 1913, and January, 1914. Knee-jerks exaggerated, left more than right. Ankle clonus, left. Extensor plantar responses, right and left.	"	"	"	6 st. 4 lb.	"	80
7	100 mm.	Very noticeable; some general headache.	Mental changes developed two years after onset of left temporal hemianopsia.	Some exophthalmos, right and left. Slight ptosis, left. External squint, left. Pupils, no reaction to light (blind).	Weakness upper and lower right half of face. Paresis of right halves of palate and tongue.	Right hemiplegic weakness. Knee-jerks exaggerated. No ankle clonus. Right plantar response extensor.	"	"	"	—	"	80

TABLE GIVING PARTICULARS OF 12 CASES

Onset of condition and history.	Sex and age.	Sella turcica.	Visual disturbances.	Skeletal signs.	Cutaneous and sub-cutaneous.	Sexual glands.	Tolerance of carbo-hydrates.	Thyroid.	Voice.
CASE 8. *Pituitary cyst; primary optic atrophy; glycosuria, with cholelithiasis.* Married; six living children. Menopause at 48 years. Onset of blindness at age of 46.	F., 54	There is much general disturbance of the outlines of the pituitary fossa. No shadow of the clinoid processes can be distinguished: an estimate of interclinoid distance cannot be made. Above the sellar region is a less dense shadow, evidently due to a pituitary cyst. (Fig. 2.)	Complete bilateral primary optic atrophy, with total inability to appreciate light and darkness.	Nil.	Well covered; the fat has a normal distribution.	Menopause at age of 46.	3 per cent. glucose with no acetoacetic acid in urine. The sugar disappeared from the urine on dieting. After operation no change in sugar tolerance.	Of average size.	Natural.
CASE 9. *Optic atrophy; bitemporal hemianopsia: sellar changes.* Onset of hemianopsia, October, 1910. Under observation March, 1912.	F., 32	There is a slight uniform enlargement of the sella turcica, with commencing increase in the distance between the clinoid processes (15 mm.).	Bitemporal hemianopsia. Primary optic atrophy, right and left.	"	No gross abnormalities in fat discovered. At onset of visual changes got "fatter"; now normal again. Hair falling out, skin dry.	Catamenia regular.	Not tested.	Not palpable.	"
CASE 10. *Hydrocephalus; spasticity and ataxia of legs; dyspituitarism.*	M., 5.	The pituitary fossa is shallow. The interclinoid distance measures 10 mm., the depth is 7 mm.	Discs pale, fundus generally pigmented. Vision good.	"	Fat boy with olive complexion. Large head with frontal bossing.	Genital organs very undeveloped.	"	"	—
CASE 11. *Subpituitarism, pudding face type.* Onset of symptoms at age of 18½ years.	F., 21.	Sella turcica well defined. The interclinoid distance measures 10 mm., the depth is 12 mm. (Fig. 3.)	Discs and fundi healthy. Slight general limitation of the fields of vision in all directions.		Well covered; shoulder contours rounded. Fat, red, outstanding cheeks. Hair of scalp dry and curly, of pubes and axillæ harsh and scanty. Staphylococcal abscesses leading to ulcers on shoulders, abdomen, and back.	Amenorrhœa since age of 18½. Rectal examination negative. Mammæ small; nipples pigmented.	No sugar detected in urine after the administration of 180 grammes of sugar by mouth.	"	Harsh, squeaky. "Can no longer sing."
CASE 12. *Subpituitarism, pudding face type; ophthalmoplegia.* Normal till age of 7. At 8 eye movements were lost. Since then no change in vision or in eye movements. One brother, aged 17, and a sister, aged 8. (? congenital abnormality.	F., 15.	Pituitary fossa small and shallow. The interclinoid distance measures 5 mm., and the depth of the sella is 5 mm.	Discs and fundi healthy, no œdema and no atrophy. Visual fields natural.	"	Subcutaneous fat in excess. Fat, rounded, red cheeks. Skin coarse and dry.	Has never menstruated.	Not tested.	Definite goitrous enlargement of thyroid.	Speaks slowly; voice squeaky and childish.

* Admitted to hospital for radical cure of a large right inguinal hernia.

† Admitted to hospital with hepatic c

In Case 1 no changes in the fundus oculi or in the visual fields were present, and there were no signs of local nervous derangements. In Case 2, on the other hand, although the fundus oculi appeared natural, the visual fields showed some contraction downwards and outwards, and in Case 3 there was much contraction of both visual fields, the left being small and the right extremely small. In Case 2 no signs of local nervous involvement were present, but in Case 3 the patient complained of attacks of giddiness and of headache, although no evidence of gross nervous derangements was obtained.

The three examples of dystrophia adiposo-genitalis clinically resemble one another more closely. In Case 4, a boy aged 20, symptoms appeared at the age of 17. In this case there is a history of a fall followed by a period of shock

OF DISEASES OF THE PITUITARY GLAND—*(Continued).*

	Blood pressure.	Torpidity and drowsiness.	Psychic disturbances.	Oculometer nerves.	Other cranial nerves.	Reflexes, &c.	Sphincters.	Urine.	Wassermann reaction.	Weight.	Temperature	Pulse.
	—	Nil.	Nil.	Pupils do not react to light (blind).	Unaffected.	Reflexes, motion and sensation unaffected.	Controlled.	No albumin. 3 per cent. glucose. Bacillus coli in cultures.†	Negative in serum and in cerebro-spinal fluid, and 1 cell per c.mm. in cerebro-spinal fluid.	11 st. 9 lb.	Normal.	60-70
9	—	Intense headaches at the onset with somnolence; these had passed away before the patient came under observation.	—	Light shone into right eye yields no contraction of pupils; into left eye causes both pupils to contract.	"	"	"	Natural.	Negative.	9 st. 6 lb.	"	80-90
10	—	—	—	Unaffected.	"	Spastic and ataxic legs (? cerebellar ? posterior column ataxia). Knee-jerks exaggerated. Bilateral ankle clonus. Plantar responses extensor right and left. Sensation apparently unaffected.	Dribbling; incontinence of urine.	"	Negative in serum and in cerebro-spinal fluid. Pleocytosi in cerebro-spinal fluid	—	"	80-90
11	180 mm. falling to 120 mm. on administration of thyroid extract.	Not noteworthy.	No gross psychic disturbances; had become introspective because her face attracted attention.	"	"	Reflexes, &c., natural.	Unaffected.	"	Negative.	8 st. 4 lb. (5ft. 3in.)	Subnormal.	70-80
12	—	Not noticeable.	Standard VII. at age of 14. Inattentive until objects are seen, then attention is good.	Grave, but not total ophthalmoplegia externa, right and left. No power of convergence, but no diplopia. In good lights pupils at times unequal, but both reacted well to light. Considerable ptosis, right and left.	Smell unaffected. No deafness. Facial movements natural.	Knee-jerks natural. Plantars flexor.	"	"	"	5 st. 2 lb.	"	96-100

due to a gall-stone. Operation. Recovery. After removal of stone from cystic duct no alteration in sugar tolerance occurred.

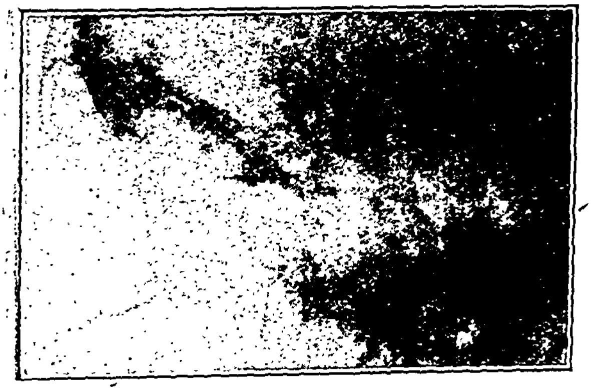
with loss of consciousness lasting some 24 hours, and the development of right-sided internal ear (nerve) deafness at the age of 10. Three years after the onset of symptoms this patient in addition to dystrophia adiposo-genitalis suffered from occasional attacks of diplopia, a permanent squint due to a paresis of the right external rectus, and right internal ear deafness; the visual fields were slightly contracted, but no changes in the fundus oculi were present; the knee-jerks on each side were exaggerated and both plantar responses were of the extensor type. The skiagram of the sellar region, however, showed no definable abnormalities.

In Case 5, a boy aged 15, symptoms appeared at the age of 12½. Two and a half years later he showed softening of the edges of the optic discs and much limitation of the upper and lower visual fields; on the left side ptosis was present; the pupils contracted sluggishly to light, but diplopia had never occurred. He was typically spastic with scissoring of the gait due to a severe degree of adductor spasm. The knee-jerks were exaggerated, ankle clonus could be obtained on each side, and the plantar responses were definitely extensor. The skiagram shows a general downward enlargement of the floor of the pituitary fossa and an apparent shortening of the posterior clinoid processes.

Case 6, a girl aged 11, came under observation in August, 1913. At that time she was fat and her mental condition closely resembled that observed in Cases 4 and 5; her visual fields were normal and the fundus oculi on each side appeared healthy. Under observation she has developed bilateral pyramidal interference with ankle clonus on the left side and both plantar responses are now extensor; the left leg has become extremely spastic and at the same time the optic discs have become pale and atrophic and their edges softened. In the skiagrams of this patient taken in August, 1913, and in January, 1914, the sella turcica appeared ill-defined and shallow.

Case 7 is an example of the Lorain type of dystrophy associated with disease of the pituitary body. At the age of 16 this patient developed a left-sided temporal hemianopsia, followed a few months later by a right-sided temporal hemianopsia and within the space of two and a half years he became totally blind. Shortly after this he developed slight exophthalmos on each side, left-sided ptosis, strabismus, and signs of pressure upon the left crus cerebri. The skiagram of this patient shows an extensive, irregular enlargement of the pituitary fossa; the enlargement has taken place chiefly in a forward direction and there is a shadow of a long posterior clinoid process.

FIG. 2.

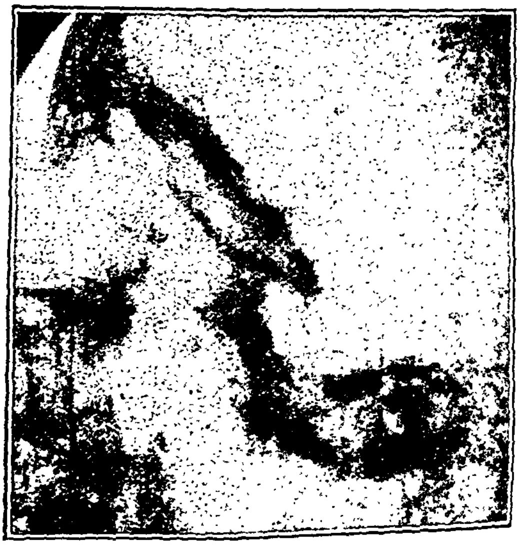


CASE. 8.—Pituitary cyst, primary optic atrophy, glycosuria. There is much general disturbance in the outlines of the pituitary fossa. *No shadow of the clinoid processes can be* distinguished and an estimate of the interclinoid distance cannot be made. Above the sellar region is a less dense shadow, evidently due to a pituitary cyst.

In Case 8, a married woman aged 54, primary optic atrophy developed at the age of 46. In 1908 this patient was under observation in hospital; the only sign of derangement discovered at this time was bilateral white optic atrophy and the urine contained no sugar. In 1913, when she was readmitted complaining of attacks of colic, glucose was found to be present in the urine. As an in-patient she suffered from typical attacks of hepatic colic and a diagnosis of gall-stones was made. This diagnosis explained the attacks of colic and suggested a cause for the glycosuria but not for the blindness. A radiogram of the skull was taken (Fig. 2); this showed a general disturbance in all the outlines of the pituitary fossa, no clinoid processes, but a less dense shadow, evidently due to a pituitary cyst, above the region of the sella turcica. At the operation a single gall-stone was found blocking the cystic duct; the pancreas appeared normal. The suggestion is that a cystic pituitary tumour encroached on the optic chiasma causing blindness, and on the posterior lobe of the pituitary gland giving rise to glycosuria. On the other hand, the glycosuria might be due to pancreatic disease.

In Case 9 the diagnosis of pituitary disease depends solely upon the X ray findings. In October, 1910, this patient developed bitemporal hemianopsia, and in March, 1912, this hemianopsia was the only discoverable manifestation of disease, but the skiagram shows a slight general enlargement with some increase of the antero-posterior diameter of the pituitary fossa.

FIG. 3.



CASE 11.—Subpituitarism ("pudding-face" type). Sella turcica well defined. The interclinoid distance measures 10 *mm.*, the depth is 12 mm.

Cushing has shown that many patients with cerebral tumours, although they vomit freely, do not waste, and that at necropsies on cases which in life have shown signs of increased intracranial pressure the pituitary body often shows signs of compression. From these observations he was led to collect evidence on the frequency of the appearance of manifestations of subpituitarism in clinical examples of increased intracranial pressure, and he states that this is not infrequent. Case 10 is an example of such an occurrence. The patient, a boy aged 5, has a large head and other manifestations of hydrocephalus; in addition he shows spasticity and ataxia of the legs; the knee-jerks are exaggerated, ankle clonus is readily elicited on each side, both plantar responses are of the extensor type, and he suffers from incontinence of urine. The radiogram of the skull of this patient shows an extremely shallow, small pituitary fossa.

Cases 11 and 12 are examples of another variety of dyspituitarism—the so-called "pudding-face" type. Case 11, a young woman aged 21, was perfectly normal until the age of 18½; then amenorrhœa set in, her hair fell out, and her voice changed; shortly after this her face grew fat and "pudding-like" and her hair grew thick and curly. Since this time she has not menstruated and no further changes in her appearance have occurred. The blood pressure in May, 1913, was 180 mm., but under the administration of thyroid extract it fell to 120 mm. No abnormal nervous signs have ever been discovered. The skiagram of the skull (Fig. 3) shows a rather deep sella turcica (12 mm.) with well-defined lower margins and no change in the antero-posterior diameter. In many ways this case resembles a case of myxœdema, but treatment with thyroid extract has not removed any of the disabilities. Case 12, a girl aged 15, is said to have been normal until the age of 7; then in the course of a few months an almost complete external ophthalmoplegia associated with bilateral ptosis developed. At the age of 15 she has never menstruated, and is an undeveloped girl showing no secondary sexual characters, a large "pudding-face," and extremely defective external eye movements, but no other nervous signs. Her thyroid shows considerable enlargement with the development of a goitre. The radiogram of the skull shows an extremely small and very shallow sella turcica, measuring antero-posteriorly 5 mm. and 5 mm. in depth. The suggested explanation of the clinical findings is that some change has occurred in the activities of the pituitary gland; the development of an enlargement of the thyroid gland is in accordance with this hypothesis.

In addition to the changes in general metabolism disease processes arising in the pituitary body owing to the anatomical relations of the gland to the optic tracts, to the third cranial nerves, and to the crura cerebri, early give rise to localising nervous signs. The appearance of these together with the changes known to occur when the activities of the pituitary body are deranged, or with radiographic changes in the conformation of the sella turcica, renders diagnosis of pituitary disorder more certain than in other intracranial conditions. In doubtful cases a change in the size or shape of the sella turcica as seen in the X ray plate is at present the most certain evidence of pituitary disorder.

My best thanks are due to Mr. F. S. Kidd, Dr. H. Head, Dr. R. Hutchison, Dr. R. C. B. Wall, Dr. Lewis A. Smith, and to Mr. A. B. Roxburgh for permission to publish the cases which have been under their care, and to Dr. Gilbert Scott who took the skiagrams.

Queen Anne-street, W.

A CASE OF TRIPLETS SUCCESSFULLY BREAST-FED.

BY JAMES MORRISON, M.D. LOND.

ON Nov. 3rd, 1913, I was called to see a woman, aged 37, who had been confined of triplets—two girls and a boy. The mother had previously had seven children. The babies were small and immature, though born at full time. They had been fed at the breast throughout, but were not thriving; there was marked absence of subcutaneous fat, and the skin was wrinkled and red. The respective weights at birth were: James, 5 lb.; Violet, 4¾ lb.; and Rose, 4¼ lb. On Nov. 3rd, when four weeks old, their weights were: James, 4 lb.; Violet, 3¾ lb.; and Rose, 4 lb. On Oct. 29th a sample of mother's milk was drawn off and reported upon as follows: Specific gravity, 1035; fat, 1·06 per cent.; carbohydrates, 7·91 per cent.; proteids, 0·63 per cent.; salts, 0·26 per cent.; and water, 90·11 per cent. The children were quite healthy, but weakly, crying, and fretful, and evidently not getting enough nourishment. The mother was given lactagol in order to improve the quantity and quality of the milk, which was very deficient in fat and proteid; she took on an average two teaspoonfuls three times a day.

On Nov. 10th, a week later, the boy was distinctly weaker and had got a bad cold. I therefore instructed the mother always to give him first feed, and for a time to draw off the milk and feed him with a spoon to be quite sure he got food. In a few days' time he picked up. On the 17th the mother had a bad influenza cold with herpes on the cheek and pains between the shoulders; she was feeling the wear of feeding the three children. The cold was treated with salicylate of soda, and later quassia and iron mixture; a small follicular abscess had to be opened on the left breast. She was now able to draw off from four to five teaspoonfuls of milk at a time with a breast pump to feed the boy. On the 18th another sample of milk was taken, the report being as follows: Specific gravity, 1035; fat, 1·65 per cent.; carbohydrates, 6·61 per cent.; proteids, 1·81 per cent.; salts, 0·274 per cent.; and water, 86·69 per cent. This showed a distinct improvement in the percentage of both fat and proteids.

On Nov. 28th the three children were all distinctly thriving and filling out; the mother's breasts were fuller and the children cried less. The mother had lost her aches and pains and was feeling well. From this date onwards the children made distinct improvement, the mother's milk being good in colour and consistency, the children sleeping better and crying less. The mother got a little distaste for the lactagol about this time, so the quantity given was lessened for a period, but eventually we were able to give increased amounts without any complaint.

On Dec. 19th a third report of the milk was obtained as follows: Specific gravity, 1035; fat, 1·90 per cent.; carbohydrates, 6·58 per cent.; proteids, 1·442 per cent.; salts, 0·270 per cent.; and water, 89·72 per cent. This report showed a further increase in the percentage of fat.

On Jan. 10th, 1914, the child Rose was found to have a slight left inguinal hernia and protrusion of the navel, but all three babies were gaining steadily in weight. On Feb. 9th the milk was again examined and the report was as follows: Specific gravity, 1036; fat, 1·3 per cent.; carbohydrates, 6·57 per cent.; proteids, 1·78 per cent.; salts, 0·195 per cent.; and water, 90·11 per cent. This showed a slightly lower percentage in fat and a distinct increase in the percentage of proteid. The mother could now easily feed the three children without feeling run down, and the latter have steadily been gaining weight up to the present time.

Weymouth-street, W.

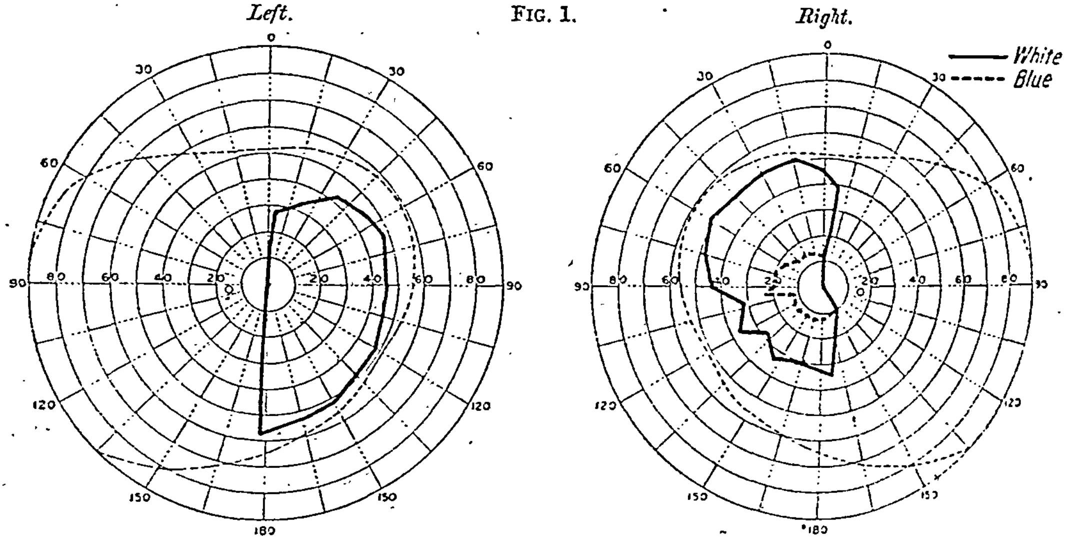
NATIONAL ASSOCIATION FOR THE PREVENTION OF INFANT MORTALITY AND FOR THE WELFARE OF INFANCY.—A deputation from this association interviewed Mr. Masterman at the offices of the National Insurance Commission on June 25th to urge that the administration of the maternity benefit and also any future extension of the care of maternity should be in the hands of the public health authorities. The deputation consisted of Mr. Benjamin Broadbent and Dr. S. G. Moore (Huddersfield), Dr. John Robertson (Birmingham), and Dr. Eric Pritchard and Dr. Amand Routh (London).

A PATHOLOGICAL INVESTIGATION OF FOUR CASES OF PITUITARY TUMOUR.

BY W. JOHNSON, M.D. LOND., M.R.C.P. LOND.,
GULL STUDENT, GUY'S HOSPITAL.
(*From the Pathological Department, Guy's Hospital.*)

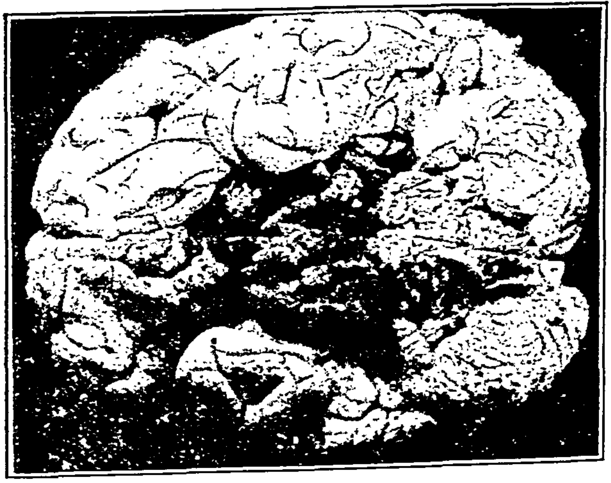
IN view of the comparative rarity of tumours of the pituitary body and of the interest recently aroused in them, the publication of the pathological investigation of four fatal cases from Guy's Hospital may prove of value. The first two descriptions are taken from cases which came to necropsy during the past year. The last two are from specimens in Guy's Hospital Museum which date back to 1883 and 1877 respectively. In the first case advantage has been taken of the fact that a complete examination of the eyes had been made by Mr. H. L. Eason to undertake an inquiry into the extent of the degenerative changes resulting in the visual system of nerve fibres and cells. In the second case, also, degeneration has been demonstrated in the optic tracts, but unfortunately in this instance it cannot be correlated with the state of the fields of vision.

FIG. 1.



Perimeter chart (Case 1).

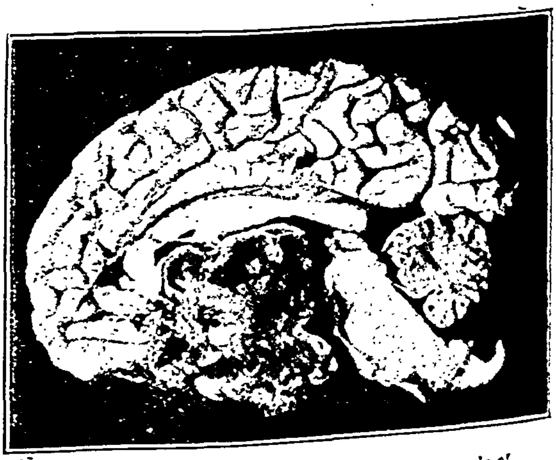
FIG. 2.



View of the tumour *in situ* (Case 1).

CASE 1.—The patient, a man aged 27, formed one of the cases of pituitary tumour which Mr. Eason showed before the Royal Society of Medicine in May, 1913, at a meeting of the combined Sections of Neurology and Ophthalmology.[1] A short summary of the clinical report is as follows: The patient was short and undeveloped, with a lack of hair about his face and pubes. The voice was half broken and high-pitched. He was extremely drowsy and slept most of his time. Weight 7 st. 10 lb. Looked much younger than his age, being almost boyish in appearance. Examination of his eyes showed complete bilateral temporal hemianopia. The fields of vision are given in Fig. 1. Vision: R., 6/36; L., 6/9. The reaction of the pupils to light on both sides was hemiopic. The Wassermann reaction was positive, but treatment with mercury, iodides, thyroid and pituitary extracts resulted in no improvement in vision or in any other way, except that the headache was diminished and the weight slightly increased. A skiagram showed some enlargement of the sella turcica. The blood pressure was found to be 100 mm. of mercury. Latterly he had suffered from severe enuresis. The skin was brownish in colour. A condition of semi-coma prevailed during the last three weeks.

FIG. 3.



Mesial section through brain and tumour. The capsule of the tumour lies close up against the corpus callosum. The hæmorrhagic cysts are well seen.

Pathological examination.—Emaciation was marked. There were no bony changes, either atrophy or enlargement, present. The heart weighed 190 grm. and showed an early condition of brown atrophy. The liver weighed 1090 grm. It was pale yellow in colour, and appeared to contain excess of fat. The pancreas (42 grm.), the thyroid (10 grm.), the spleen (102 grm.), the suprarenals (11 grm.), and the kidneys (294 grm.) all seemed perfectly normal macroscopically. The testes were normal in consistency, but were a little small (abstract from Dr. Herbert French's report).

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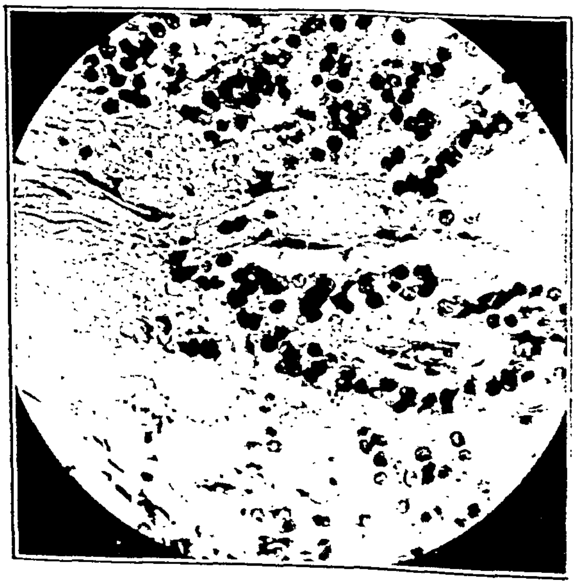
[1] Proceedings, vol. vi., No. 7, p. 7.

In the position of the pituitary body was found a bright red irregular tumour, contained in a definite tough capsule, and which had numerous white necrotic areas scattered through it, especially towards the centre. The substance of the growth was soft and hæmorrhagic, and contained several cysts filled with altered blood. The appearance of the tumour is shown in Figs. 2 and 3, reproduced from photographs. It completely occupied the interpeduncular space, extending forwards to reach the orbital portions of the frontal lobes, and spreading laterally over the surface of both temporal lobes. Posteriorly, it separated the crura cerebri widely from each other and then extended over them, covering the upper portion of the pons. A mesial section through the brain and tumour shows the basal ganglia and corpus callosum to be displaced upwards. The superior and inferior walls of the lateral ventricles were in close apposition, their cavities being practically obliterated. The pressure on the base of the skull had resulted in absorption of the original bone forming the sella turcica, and only a thin shell of bone still remained surrounding the greater portion of the tumour. The third, fourth, and sixth nerves on both sides were stretched by the growth. The optic chiasma was broken through in such a way that the right and left optic nerves appeared to be direct continuations of their respective tracts. The degenerative changes found in the optic tracts suggest, however, that this destruction of the chiasma was of comparatively recent date. The brain and meninges appeared perfectly normal macroscopically. It was possible to shell out the tumour quite easily from the bed which it had forced for itself in the base of the brain.

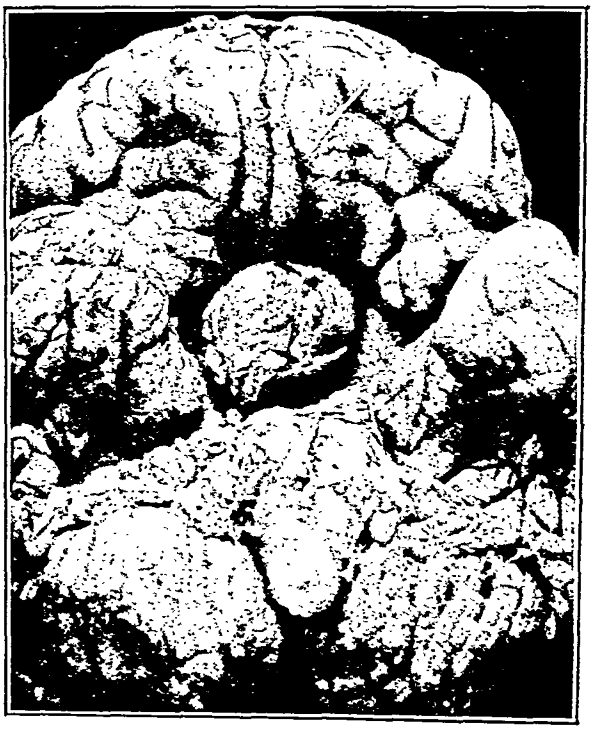
Microscopical examination.—Sections were examined of portions of the thyroid, pancreas, suprarenals, liver, and testis. Thyroid: The alveoli appeared well formed and contained the normal amount of colloid. There was no evidence of cell proliferation, and the interstitial tissues were normal in appearance. Pancreas and suprarenals: The structure of these organs was that of normal functioning glands. Liver: Extensive fatty change was present throughout the section, and was confined to the peripheral portions of each lobule. The cells in the centre of the lobule were normal in appearance and there was no cirrhotic change. Testis: The seminal tubules were normal in number and in character. There was a slight increase in the interstitial connective tissue, indicating a very early fibrotic change. Sections were examined with special reference to the condition of the interstitial testicular cells. These were markedly deficient in number. Several sections were examined from various parts of the testicle. Stained with Herxheimer's stain the few interstitial cells present were found to be in a somewhat atrophied state. The pituitary tumour itself under the microscope was seen to be made up of large polyhedral cells, the protoplasm of which stained a faint pink and the nuclei a dark blue with the ordinary hæmatoxylin and eosin method. The chromatin granules show up distinctly in these latter. The cells themselves are arranged in long columns, with occasionally a tendency to alveolar grouping, the whole appearance closely simulating the structure of the anterior glandular portion of the pituitary. No colloid material was discovered, and nothing corresponding to the posterior lobe was seen. The vascular spaces characteristic of this organ were well marked, and towards the centre of the tumour they became large hæmorrhagic cysts in which red blood cells were mixed with necrotic tumour cells. Towards the periphery, however, they became smaller and smaller, until when the capsule was reached they ceased to exist. The capsule was thick and consisted of dense fibrous tissue. In numerous places the cells of the growth were extending into the capsule along the lymph channels. (Fig. 4). Its appearance, therefore, was that of a malignant epithelial tumour of the pituitary gland. The entire absence of secondary deposits is noteworthy.

FIG. 4.



The upper portion of the field shows the edge of the growth. The lower portion shows up the capsule being invaded by groups of tumour cells. (Case 1.)

FIG. 5.



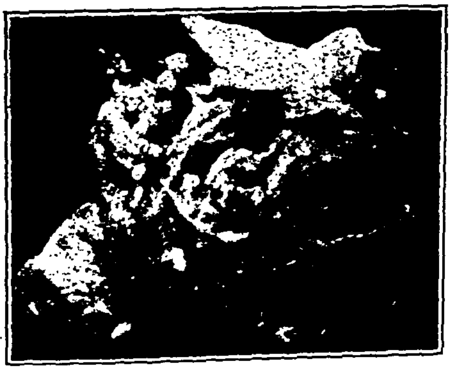
View of tumour in Case 2. The cyst has been distended with cotton wool to its normal size.

CASE 2.—The patient, an unmarried woman, aged 27, was admitted into Guy's Hospital under the care of Mr. L. A. Dunn. She had had continuous headache for the previous three weeks accompanied by vomiting. The left eye was completely blind, and the vision in the right eye was markedly defective. Both eyes reacted to light and accommodation, but the reaction of the left was very deficient. The patient was seriously ill and died shortly after admission, so that a detailed examination of the eye condition was impossible. She was extremely lethargic Pulse 55 and low tension. Temperature subnormal. The left eye showed a definite degree of exophthalmos as compared to the right. Further details have been kindly supplied by Dr. H. J. Henderson and Mr. L. C. D. Irvine, of Amersham, who attended the patient in private. They state that, in spite of her age, menstruation had never occurred. The breasts were undeveloped, and there was complete absence of pubic and axillary hair. Nothing is known of the sugar tolerance, but for some time past she had shown a great partiality for sweet things, and had been used to taking bread and butter thickly coated with brown sugar. A year ago Mr. Arnold Lawson had examined the eyes and found advanced optic atrophy in the left eye. This was confirmed on the examination of the patient here. There was no sugar or albumin in the urine.

Post-mortem examination.—With the exception of the tumour nothing abnormal was found in any of the organs (Dr. Herbert French's report).

The tumour: In the position of the pituitary body, filling up the interpeduncular space, there was a cystic tumour, the relations of which are shown in Fig. 5. It measured ¾ inch antero-porteriorly and 1¼ inches from side to side, and was almost exactly the size of a golf ball. On removal a deep hollowed-out depression was found at the base of the brain. The sella turcica, on which the tumour had rested, was flattened into a shallow concave surface. The vessels of the circle of Willis were present on the lateral walls, indicating that the original cyst had been small enough to be within the circle, and that as it enlarged the vessels became stretched on its outer walls. The optic chiasma lay stretched over the antero-inferior portion of the tumour, and had apparently given way through its centre. The right optic tract and nerve were not much damaged, but the portions of the left optic tract and nerve near the chiasma were pressed out into a wide thin band. The tumour was pressing them down on to the hard bone at the base of the skull. On the other hand, the third and fourth cranial nerves, lying between the tumour and the soft structures forming the base of the brain, showed little or no flattening. On being cut through the tumour was seen to consist of one large cyst composed of two loculi, which communicated freely with each other, and they contained a thin reddish fluid. The wall of the cyst was tough and fibrous, and scattered over its surface there were four or five small masses of a reddish glandular substance closely similar in appearance to the anterior pituitary lobe. The largest was of the size of a pea and the smallest about half this size. In addition there were still smaller masses of the same nature to be found scattered over the surface. The larger ones are shown in Fig. 6, which is about natural size. It also shows the division into two loculi—the large one which formed the main portion of the cyst, and the smaller one which occupied the right anterior angle of interpeduncular space.

FIG. 6.

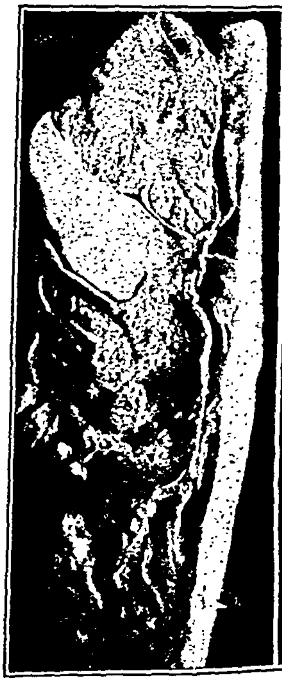


From a photograph (actual size) of the tumour in Case 2, showing the glandular masses in the capsule.

Macroscopically the brain was normal in every way, with the exception of a slight degree of dilatation of the lateral ventricles. Under the microscope the cyst wall was seen to consist mainly of laminated fibrous tissue. Everywhere between the laminæ were to be seen small collections of cells, which in places were aggregated to form the red glandular masses already referred to. The arrangement and character of these cells to all appearances were those of the anterior lobe of the pituitary. Large spaces packed with red blood corpuscles lay between the columns into which the cells were arranged, and in places large hæmorrhages were present. The cells themselves were polyhedral or oval in shape, and had large dark nuclei. The majority were chromatophobes, but several approximated to the chromatophilic type. More externally they showed the same tendency to infiltrate the layers of the cyst wall, as was seen in the first tumour. It can only be described, therefore, as of the same nature—viz., a malignant epithelial tumour of the pituitary gland, with complete absence of secondary deposits.

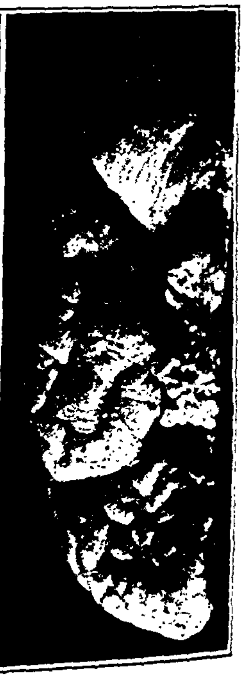
CASE 3 (Specimen No. 2876 in Guy's Hospital Museum).—The patient was a male, aged 23, who died in 1883. He had been under the care of the late Dr. F. W. Pavy and Dr. Frederick Taylor. There was a history of a head injury and concussion 15 years previously. Three years before admission he had had vertigo and frontal headache, and for the last 18 months the vision in the left eye had been failing. On admission the left eye was completely blind, and there was also partial loss of vision in the right eye. He was a dark muscular man, but no mention is made as to sexual development. Apart from headache, there were no other symptoms.

FIG. 7.



Mesial view of No. 2876 showing the capsule of the tumour lying just beneath the corpus callosum as in Case 1.

FIG. 8.

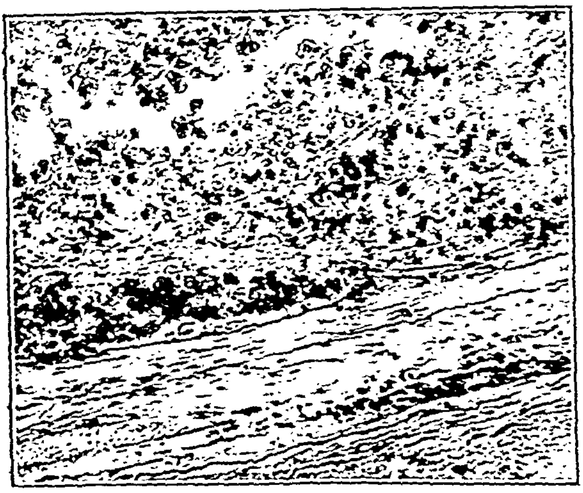


View of the left half of the brain, No. 2876, showing the position and appearance of the tumour.

Post-mortem examination (by Sir James F. Goodhart).—The pituitary fossa was enlarged to form a diamond-shaped space, in which lay a soft lobulated tumour. This occupied the position of the pituitary body and extended forwards over the ethmoid; laterally it overlapped the temporo-sphenoidal lobes, and posteriorly it covered over the upper part of the pons. On the left side the optic nerve and third, fourth, and fifth nerves were pressed into flattened bands. On the right side the optic nerve and third nerve were lost in the tumour, while the fourth and fifth nerves were stretched over it. The other cranial nerves were unaffected. (Figs. 7 and 8.) The tumour itself was more or less circular in outline and measured 2½ inches across. On section, thick cream-like material oozed away, leaving numerous cystic cavities with ragged walls.

Under the microscope the tumour was found to consist mainly of cellular elements, the cells being the chromatophilic type, though somewhat smaller than the cells in the two previous tumours. With the exception that there is much less stroma present, the general appearance, however, closely approximates to them. There is the same tendency for the cells to form columns and an alveolar arrangement, and also for those on the periphery to infiltrate the layers of the capsule. (Fig. 9.) With the other two, therefore, it must be classed as a malignant epithelial tumour of the pituitary gland, showing no tendency to form secondary deposits.

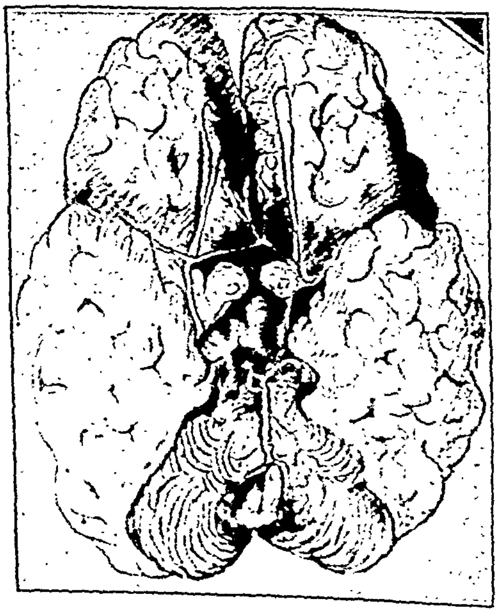
FIG. 9.



Reproduction of a photomicrograph of No. 2375 showing cells at the edge of the growth infiltrating the capsule.

CASE 4 (Specimen No. 2875 in Guy's Hospital Museum).—The patient was a male, aged 45, who died in Stephen Ward in 1877. He had been under the care of Dr. Samuel Wilks. He was a thin, wasted man. Three weeks before admission he was seized with fits which were followed by left hemiplegia. On admission there were loss of memory, occipital headache, and nausea, but no vomiting. The vision was dim, but no definite optic neuritis or optic atrophy was present. The left external rectus muscle was paralysed. The patient was often delirious.

FIG. 10.



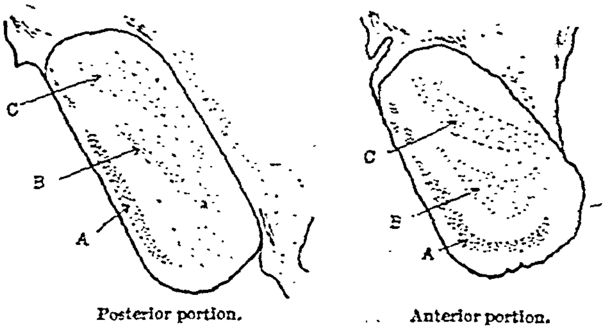
Reproduction of a drawing of the brain by Mr. Hamersley in the original post-mortem report (No. 2875). The tumour is largely hidden by the two swollen optic nerves.

Pathological examination.—The ventricles of the brain were slightly dilated and contained turbid fluid. At the base of the brain was a large gelatinous tumour which was in direct continuation with a somewhat enlarged pituitary body. The bone in the pituitary fossa is flattened out and partly absorbed. The tumour measured 1½ inches long by 1 inch broad and 1 inch thick. The optic commissure is stretched over it anteriorly, and the optic nerves, as seen in Fig. 10, are swollen up into two large swellings half an inch in diameter. Laterally and posteriorly the tumour is bounded by the crura cerebri. There was a patch of growth in the apex of the lower lobe of the left lung consisting of spindle cells arranged in loculi. Histologically the tumour showed a relatively large amount of fibrous stroma in which lay groups of cells, the majority of which were columnar in shape, a few being polyhedral. There was much mucinous material scattered through the section and several goblet cells were to be seen, which would suggest a possible origin from nasal mucous membrane. Its characters were those of a malignant columnar-celled growth. The secondary deposit present in the apex of the lower lobe of the left lung showed similar histological appearances.

The examination of the visual system of nerve fibres and cells.—The left side of the brain in Case 1 was sectioned and utilised for this purpose. A reference to Fig. 1 illustrating the fields of vision will show that the optic fibres destroyed by the tumour are confined to the nasal half of the retina—i.e., the temporal half of the field of vision. And, further, that a portion only of these fibres are affected. From this it might be expected that the degeneration present in the optic tracts would be extremely limited and circumscribed.

The optic tracts.—The accompanying drawings (Fig. 11) of the left optic tract, however, made from Weigert-Pal preparations, illustrate the condition actually found. A narrow band of fibres (A) occupying the outer portion of the tract alone stain normally. Two other bands of fibres (B) and (C) also stain, only less distinctly. The remainder of the tract is completely degenerated. The degenerated area can be described as occupying mainly the central and lower part of the tract. This agrees with Henschen's conclusions as to the position of the nasal fibres in the optic tract. The fibres which stain normally (A), however, which are from the temporal side of the retina, are found lying in the external and lower portion of the tract and not in the superior and external position which he describes.

FIG. 11.

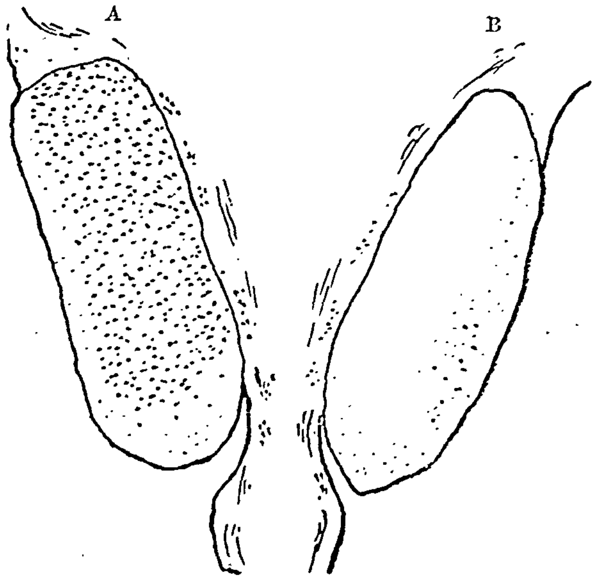


Posterior portion. Anterior portion.
Left optic tract, Case 1. Weigert-Pal preparation.

A comparison of the two drawings will further show that the relative position of the fibres remains approximately the same along the whole length of the tract. The first section is taken from the anterior part of the tract and the second from the region of the external geniculate body. Sections taken through the subthalamic region still showed the degeneration in the optic tract fibres as they entered the external geniculate body and the pulvinar. In this region no particular zone was degenerated; the affected fibres seemed to be scattered amongst those which stained normally. Preparations stained by Marchi's method show the presence of early degeneration amongst those fibres which stain normally with the Weigert-Pal method.

The cortical visual fibres.—Attention was next directed to the state of those fibres which after the relay of the optic tract fibres in the external geniculate body continue the visual impulses to the occipital cortex. No change could be demonstrated. The sections through the optic radiations, stained by Wiegert-Pal, were quite normal. Similarly, no change could be found in these fibres when traced to their termination in the cortex surrounding the calcarine fissure. Sections of this cortex were then stained by Nissl's method and the large stellate cells in the fourth layer—i.e., those concerned with the reception of the visual impulses—were examined. It cannot be said that there was any deficiency in the number of these cells or in their size. It was, however, found that a certain proportion of them exhibited chromatolytic changes, but this did not occur in any definite grouping.

FIG. 12.



Left (A) and right (B) optic tracts in Case 2. Weigert-Pal preparations.

The fibres concerned with the reaction of the pupils to light.—The presence of the hemiopic pupil suggested that this case might throw some light on the question of the course which these fibres take. Serial sections of the posterior thalamic region and the mid brain were accordingly cut and compared with normal preparations. The path described by Meynert—i.e., fibres running dorsally to the anterior corpora quadrigemina, relaying in these bodies and continuing by means of new fibres which end in the oculomotor nucleus—did not give any evidence of degeneration. Similarly, the investigation of the path described by Darkschiewitsch and Mendal—i.e., fibres running to the ganglia habenulæ and continuing by new fibres which reach the oculomotor nucleus *vid* the posterior commissure—also led to negative results. As, however, the majority of pupil fibres were unaffected in this case, and, further, that either theory states that the degenerated fibres end in cell relay stations in the neighbourhood of the primary optic ganglia, this result is not surprising.

In Case 2 the optic chiasma, although severely compressed, was not broken through as in Case I. Primary optic atrophy had been observed clinically in the left eye but not in the right. The condition of the optic tracts was as follows. The left optic tract was quite normal with the exception that a few degenerated fibres were found occupying its lower border. This area is indicated in Fig. 12. The right optic tract, on the other hand, was found to show marked degeneration very similar to that present in the other case. A band of fibres situated in the outer and lower part of the tract are seen to be unchanged, although even they do not take the stain as well as do perfectly normal fibres. The remainder of the tract is completely degenerated.

Conclusions.—The only change, therefore, which it has been possible to demonstrate in the visual fibres as a result of a lesion of the optic chiasma—which had caused eye symptoms in both cases for upwards of two years—is a degeneration in the optic tracts. This degeneration was not found extending further back than the primary optic ganglia. The amount of change present in one case was more than was indicated by the visual loss. The statement that certain optic fibres reach the occipital cortex without relaying in the cell stations in the primary optic ganglia would appear to be refuted by the fact that no degeneration was found in the optic radiations and the fibres entering the calcarine cortex. Finally, both cases show that the uncrossed visual fibres tend to occupy the outer and lower portion of the optic tracts.

REMOVAL OF A FOREIGN BODY FROM THE LARYNX BY SUSPENSION LARYNGOSCOPY.

BY DAN MCKENZIE, M.D. GLASG., F.R.C.S. EDIN.,
SURGEON, CENTRAL LONDON THROAT AND EAR HOSPITAL.

THE patient, a little girl aged 2 years, was sent to the Central London Throat and Ear Hospital on May 22nd, 1914, by Dr. A. G. Stewart, of Paddington Infirmary, on account of laryngeal obstruction. The history was that one day, four months previously, the child made a grab at a piece of rabbit on her mother's dinner-plate and tried to bolt it. The mass stuck and the child "choked." But a neighbour woman rushed to the rescue and promptly hooked the meat out of the child's throat with her finger and breathing was re-established. Not only so, but, according to the mother, the respiration was then quite free and unimpeded. Next morning, however, the mother noticed that the breathing had become loud and stertorous again and she thereupon took the child to a hospital where during the next three months she was treated as an out-patient for bronchitis. At about 10 o'clock one evening in the middle of April the patient had another severe attack of asphyxia and she was then taken to the Paddington Infirmary under Dr. Stewart's care. Here she did have genuine bronchitis, being laid up with it for about a month, and during this illness she was also for several days unable to swallow and had to be fed with a nasal tube. While in the infirmary a search was made for a foreign body in the larynx with X rays (screen examination), but nothing definite could be made out.

On May 22nd I saw the baby for the first time; the laryngeal stridor was audible several yards off, and each intake of breath was accompanied by considerable recession of the suprasternal and supraclavicular fossæ and of the lower sternal ribs. There was a complete absence of phonation but no cyanosis, and the baby seemed to be bearing her misfortunes with extraordinary calmness. That there must be a piece of rabbit bone in the larynx was abundantly evident from the history of the case and from the physical signs, and so the child was at once admitted to hospital, and next morning (May 23rd), Mr. Archer Ryland and Dr. H. Huff-Johnson assisting, tracheotomy was first of all performed, without any anæsthetic, and then recourse was had to the Killian suspension apparatus for the purpose of investigating the larynx. This procedure occupied about an hour, chiefly because of the difficulty of getting beyond a short pendent epiglottis which kept slipping away from the epiglottis retractors. And it was not until I abandoned these aids and used a long stout probe to hold up the epiglottis that I could get a view of the larynx beyond. Even then all that could be seen, as it happened, were two tiny arytenoid eminences and two puffy ventricular bands in almost constant apposition with each other. Once, indeed, I was able to catch a glimpse of a whitish substance in the larynx, but could not be sure that it was not simply mucus. Owing to the swelling of the interior of the larynx, and owing to the presence of the laryngeal reflex, the child not being under an anæsthetic, it was, in short, impossible to see whether a foreign body was present or not. However, fortified by the facts of the history, I determined to push my explorations. A pair of direct laryngeal forceps was passed open into the larynx and a cautious search made in the neighbourhood of the glottis. The first attempt drew blank, but on the second I had the satisfaction of feeling the jaws of the forceps close upon a hard substance which I rotated a little to loosen from its attachments and then successfully removed. It proved to be the piece of rabbit bone I had been looking for. The shape and dimensions of the foreign body are well shown in the accompanying illustration, and the impaction in the larynx is easily understood when one notes its sharply pointed shape.

The child did very well. The tracheotomy tube was removed a week later, after the laryngeal inflammatory obstruction had subsided, and the patient can now phonate after four months' silence.

The case is interesting for many reasons. First of all, the history showed that a foreign body had been left behind in the larynx after the plug of meat had been removed, and that it was causing recurrent attacks of laryngeal inflammation. Secondly, the case exemplifies the extraordinary tolerance of the air-passages to foreign bodies, as contrasted with the œsophagus. In this case the spicule of bone had been impacted in the larynx for four months. Lastly, we have here an instance of the successful application of suspension laryngoscopy. This, according to Professor Killian's remarks at the recent Semon lecture, makes only the fifth case so far recorded of a foreign body being removed with the aid of suspension laryngoscopy. The others were by E. D. Davis,[1] by Weingartner, by Seiffert, and by Iglauer.

With regard to the efficacy of the suspension method in this case the opinion formed by us at the operation was that by no other bloodless means could the larynx of so young a child have been exposed so fully. Indirect examination with the mirror in such cases is obviously *hors de concours*, and the only comparison to be made is with direct examination through the laryngeal tube spatula. Tubal examination would have revealed as much perhaps, but when it came to operation the manipulation of the direct forceps through the narrow infantile tube would have been very awkward and difficult, both because the space is restricted and because vision is necessarily monocular. By the suspension method, on the other hand, ample space was provided for the passage of instruments and that with the ease and confidence binocular vision always brings to the operator, for by this method not only can we work with both hands but we can see with both eyes. It is to be noted that the epiglottis elevators supplied with the apparatus proved, in this case, to be useless, and after the waste of much time and energy I had to give them up and to use instead a long stiff probe held in my left hand.

Another point worthy of attention is that, following Chevalier Jackson's practice, I operated on the child without an anæsthetic of any kind whatever, general or local, and the patient did not seem to object in the slightest. Even the tracheotomy evoked little or no protest, and during the greater part of the suspension period of the operation the patient slept quite peacefully.

Brook-street, W.

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[1] Journal of Laryngology, Rhinology, and Otology, April, 1914, p. 205.

Reviews and Notices of Books.

Plague and Pestilence in Literature and Art.

By RAYMOND CRAWFURD, M.A., D.M. Oxon., F.R.C.P. Lond. Oxford: At the Clarendon Press. 1914. Pp. 223. Price 12*s.* 6*d.* net.

IN his admirable "Latin Literature" Dr. J. W. Mackail, speaking of Celsus, says: "It seems most reasonable to suppose that Celsus was one of a class which is not after all very uncommon—doctors of eminent knowledge and skill in their own art, who at the same time are men of wide culture and far ranging practical interests"; and we can confidently assign Dr. Crawfurd to this category, even though his knowledge is not so encyclopædic as that of Celsus, who, besides being learned in medicine, was recognised as an authority on agriculture and military tactics.

The substance of the work before us represents the FitzPatrick lectures delivered by Dr. Crawfurd in the year 1912, and deals with a subject full of interest from many points of view. Epidemics bring out both the best and the worst side of human nature. If on the one side may be set the devotion of attendants on the sick, of whom Lucretius speaks so pathetically (vi. 1243)—

> Optimus hoc leti genus ergo quisque subibat,

the heroism of clerics such as Mompesson, the rector of Eyam, and of his flock in the seventeenth century in England, or of Belzunce, Bishop of Marseilles, in the eighteenth, of physicians such as Hodges, and apothecaries such as Boghurst, in 1665; on the other may be set the defection of Galen during the Antonine plague A.D. 165–180, and of Sydenham and Morgagni some 1500 years later, and the outbreaks of cruelty and superstition which led to massacres even as late as 1771. The great pestilences worked such appalling damage that men's minds failed them for fear, and even the medicine of the time, such as it was, stood aghast, to quote Lucretius again (vi. 1177)—

> Mussabat tacito medicina timore.

Dr. Crawfurd discourses learnedly on the many epidemics of pestilence, beginning with the Iliadic plague. This epidemic was probably true plague and not typhus fever, for it is expressly mentioned as affecting the mules and dogs of the camp first. On the other hand, Dr. Crawfurd takes the view, giving his arguments at length in an appendix, that the great plague of Athens, described by Thucydides and later by Lucretius, was typhus fever.

The origin of pestilence was naturally enough ascribed in early times to the anger of the gods for sins, general or particular; thus in Homer the sin was the ravishing of Chryseis, daughter of the priest of Apollo, and in much later times, although the idea of divine anger had not altogether passed away, pestilence was considered to arise from earthquakes which liberated poisonous vapours, or from the dust thrown up by volcanic eruptions. Lucretius ascribed diseases to noxious particles carried in the mists and winds, and Varro, whom Dr. Crawfurd quotes on p. 61, attributed disease in animals to the presence of "animalia quaedam minuta, quae non possunt oculi consequi."

The origin of the great Antonine plague, according to the story related by Julius Capitolinus,[1] was that it was brought to Rome by the soldiers returning from the expedition to the East commanded by the Emperor L. Verus. Some of the troops broke into a temple of Apollo and destroyed a golden chest found therein. From this chest, "spiritus pestilens evasit, atque inde Parthos orbemque complesse." Capitolinus goes on to say that this outrage was not the fault of Verus but of Cassius, who sacked the city of Seleucia in defiance of a treaty, so that here again we see the idea of pestilence as a punishment for wrongdoing.

Ammianus Marcellinus (the reference is xxiii. 6, not xxiii. 7, as given in Dr. Crawfurd's book) tells practically the same story, except that he says that the pestilential vapour escaped from a hidden chamber which the soldiers broke open in the search for treasure. Vapours escaping from chinks in the earth or from caves were always suspected of producing evil results, and Ammianus, a little earlier in the chapter just mentioned, tells of a chasm in the earth in Assyria, close to the lake called Sosingiten, from which a "halitus letalis" escaped having an offensive smell that destroyed any animal standing near it. He mentions another place near Hierapolis in Phrygia from which a "noxius spiritus" came out, which injured all except eunuchs who came near, and he makes the curious comment, "Quod qua causa eveniat, rationibus physicis permittatur." Is it possible that this tradition is due to some connexion with the sterilising effects of radio-activity? Another story about pestilence being spread by an exhalation from a cave is given by Servius in his commentary on Aen. xi. 785, which is interesting on account of the way in which the plague was stayed—namely, by the affected tribe imitating wolves, i.e., living by plunder and foray. Dr. Crawfurd takes his readers through the ages with pestilence stalking over the earth, the great Byzantine plague which lasted for 52 years, beginning in Antioch in A.D. 540 and reaching Strasbourg in 591. Its presence in Rome in 590 gave rise to the dramatic vision of Pope Gregory, who saw the angel sheathing his flaming sword while standing on Hadrian's Mole, now the Castle of St. Angelo. In 680 another severe pestilence affected Rome, and it was in this one that Sebastian became the plague saint, which he has ever since remained. The other important plague saint in the West was St. Roche, and in the East St. Pantelmon, who naturally enough from her commerce with the East was also a favourite in Venice.

We have not space to follow Dr. Crawfurd all through his researches into the art and literature of pestilence, but his work is extremely interesting and admirably done. In one point we beg leave to differ with him, and that is where he says that the "Dances of Death," most of which date from the fifteenth century, were the descendants of the Etruscan and other funeral dances. These latter were joyful dances, while the fifteenth century Dance of Death was emblematic of the universal power of death and took the gloomy view. We fancy that Ruskin is near the truth in his opinion that the Dance of Death was the outcome of the unsettling of men's minds and the break up of the old faith at the Reformation.[2]

We offer our cordial thanks to Dr. Crawfurd for a delightfully written book.

Abhandlungen aus dem Gebiete der Geburtshilfe und Gynaekologie.

Herausgegeben von Professor Dr. W. TAUFFER, Director der Frauenklinik der Königl. Ung. Universität zu Budapest. Band II., Heft 2. Berlin: S. Karger. 1913. Pp. 417.

THE major part of this publication consists of a monograph by Dr. Scipiades, in which he considers in great detail and in a most painstaking manner the various complications which can occur in a case of pregnancy complicated by a myoma of the uterus. The monograph extends over some 375 pages, and the author discusses the subject very fully. He considers in turn pregnancy with a myoma of the uterus, labour under the same conditions, and lastly the puerperium. The first part of the monograph, published in 1912, dealt with the relation between myomata of the uterus and sterility.

There is a vast amount of information contained in this work and the author has expended immense labour in collecting cases and histories. If we consider only the simple question of the presence of symptoms in these cases we shall get some idea of the completeness of the work. The author concludes that 82·8 per cent. of patients pregnant with a myomatous uterus complain of symptoms, and that in some 91 per cent. the symptoms are due to the presence of the tumour. The most frequent complaint, occurring in some 34 per cent., is that of pain. The questions as to the nature of the onset of the pain, its course, its degree, its character and localisation, are all discussed in turn. The next most common complaint after that of pain is some alteration in the abdominal girth. In 28·5 per cent. of the cases the symptoms are due to interference with the functions of the neighbouring viscera, and in 7·6 per cent. there are constitutional changes directly due to the presence of the tumour itself. Every other possible complication that may occur in connexion with a fibroid tumour associated with pregnancy is discussed in the same thorough way. The author has summarised not only his own experience, but also all the information contained in the literature of the subject, and the result is a piece of work of much value.

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[1] Vita Veri in Hist. August.

[2] Modern Painters, vol. v., cap. iv.

There is also an article by the same author on the operations of hebosteotomy and extraperitoneal Cæsarean section.

Leitfaden für das Embryologische Praktikum, und Grundriss der Entwicklungslehre des Menschen und der Wirbeltiere.

Von Professor Dr. ALBERT OPPEL. With 233 illustrations in the text. Jena: Gustav Fischer. 1914. Pp. 314. Price 9 marks.

THIS book forms a guide for the student and practitioner to the study of practical embryology. The first part deals with the general principles of the subject and the aim and methods of practical embryology. A consideration of evolution, epigenesis, development and growth, some factors influencing development, methods of obtaining embryological material, technique, and a description of various experiments which may influence development follow.

The second part of the book deals with the ovum and spermatozoon, fertilisation and segmentation, and the development of the three primary layers of ectoblast, mesoblast, and endoblast. There is also a very good account of the formation of the membranes and placenta. The third part forms a most interesting atlas of serial sections of the early stages of development in the embryo of the toad, frog, blind-worm, fowl, rabbit, pig, and man. The fourth part deals very clearly and well with the development of the various organs and tissues derived from the three primitive layers. A good index and glossary with a full bibliography complete a useful book.

Anæsthetics: Their Uses and Administration.

By DUDLEY W. BUXTON, M.D. Lond. Fifth edition, enlarged. London: H. K. Lewis. 1914. Pp. xiv.-477, with numerous illustrations. Price 10*s.* 6*d.* net.

THIS well-known text-book is brought thoroughly up to date in the present edition, and Dr. Dudley Buxton is to be congratulated on the production of a very complete and authoritative work. The references and footnotes show clearly how much labour has been expended in order that nothing might be overlooked which was worthy of note, and the author does not unduly press his own views as against those he quotes from other authorities. Thus his advocacy of the dosimetric administration of chloroform by the Vernon Harcourt inhaler, familiar to all students of anæsthetics, is not too prominently vaunted, and the simpler methods receive adequate consideration. Dr. Buxton still recommends, we notice, induction by gas and ether as a preliminary to chloroform and to open ether. Many anæsthetists hold that the use of a closed inhaler, even for a short time early in the administration, is detrimental to perfectly quiet respirations later on, at any rate in abdominal cases; but no doubt Dr. Buxton's experience leads him to prefer the quick induction, and his liking for giving oxygen with his anæsthetics probably enables him to counteract what might be the baneful influence of a "closed" induction.

The historical chapter in the book is very fully written, and includes an interesting account of the part that hypnotism has played in the evolution of anæsthetics, and in his medico-legal chapter the author discusses almost every conceivable question that could arise from the ethical or legal aspect of anæsthesia. The chapter on local analgesia of all kinds is particularly well illustrated with diagrammatic anatomical plates.

In a book of such high general excellence it is permissible to point the finger of criticism at any slight defect, and we would traverse the author's statement that "phthisical persons will take nitrous oxide and ether without detriment," even though it is qualified by the reservation "when the coexistent bronchitis is not severe." We believe that in such cases ether from a closed inhaler should be altogether avoided. Again, in the conduct of intranasal operations by means of nitrous oxide and ether when more than one application of ether is necessary, Dr. Buxton recommends waiting for return of consciousness before making the second application. We do not believe this to be the best practice, nor is it in accordance with the level continuity of anæsthesia that the author recommends elsewhere in his book.

Lectures on Dietetics.

By MAX EINHORN, M.D., Professor of Medicine at the New York Post-Graduate Medical School. London: H. K. Lewis. 1914. Pp. 156. Price 4*s.* net.

A GREAT physician, not long dead, used to say that the best book he knew on dietetics was the "Physiologie du Goût," and in these days of wordy conflict between food faddists and food theorists we might well be tempted to go back to Brillat-Savarin and learn the secrets of eighteenth century French gastronomy, derived largely from centuries of experience under the oldest civilisation in the world in the Far East.

The common sense of the old Gascon lawyer is reflected in these lectures. Addressed to graduates, they assume a sufficient knowledge of the chemistry and constituents of food and of the physiology of digestion. Plunging at once into the question of digestibility, Dr. Einhorn warns us that the time required for breaking up food in the stomach is no real guide, as in reality the main place for digestion is in the small intestine. We are no longer dependent on the observations of Beaumont on his case of gastric fistula, but have a far larger range of observation from lavage of the stomach after test meals, as practised by Leube and Penzoldt. Professor Einhorn would shock many by some of his dicta. In health he advises us not to be afraid of foods that are not easily digested, as the stomach and duodenum lose digestive capability if they are pampered too much. He considers it may be as disadvantageous to eat too slowly as to eat too fast, but this fault is rare. "Live sensibly, and have a good meal, and a little conversation with your meals," and have a wait between the courses; this is sound and pleasant advice.

In his chapter upon diet in acute disease the general advice given is interesting, for Professor Einhorn has the courage to discountenance low feeding, especially in enteric fever. But in his remarks on this disease he exhibits a deficient knowledge of its history and of Graves's position in the matter of "feeding fevers." When Graves propounded his aphorism he was not aware of the distinction between "typhoid" and "typhus," or that the former was an affection of the bowels; ulceration of Peyer's patches from the irritation of undigested masses of food was not known to the medical profession in 1843, when Graves's lectures were first published.

There are many excellent dietaries given, and an interesting chapter on the uses and methods of duodenal feeding concludes a volume which for sound judgment can be highly recommended.

Taschenbuch der Augenheilkunde für Ärzte und Studierende.

Von Dr. Curt Adam, Privat-docent für Augenheilkunde an der Universität, Berlin. Berlin und Wien: Urban und Schwarzenberg. 1914. Pp. 395. Price 8 marks.

The scope of this book is described in the introduction, where two "childishly easy methods of investigation of the greatest value" are described. These are the method of oblique illumination and that of transmitted light, or what is often called the distant direct method. It is expressly stated that only those diseases of the eye which can be diagnosed without the use of the ophthalmoscope are at all fully dealt with; there is, however, a short section on intraocular diseases.

The book is clearly intended primarily for general practitioners, but it will be found well worthy of study by ophthalmologists. Particularly useful for the latter are the 40 pages in which modern methods of general treatment are discussed. They give an excellent résumé of the diagnosis and treatment of syphilis and tuberculosis, and of the use of sera, radium, electricity, and so on. The "special" part on external diseases, iritis, glaucoma, and squint, though rather telegraphic in style, is characterised by the accuracy of its statements, the lucidity of the exposition, the emphasis of important diagnostic features, and the adequacy of its advice on treatment. Thirty pages are devoted to injuries of the eyes, and 20 pages to workmen's compensation. The regulations as to sight in the German and Austrian armies are given. Finally, there is a useful compendium of prescriptions. The book has been translated into English, French, Italian, Russian, and Spanish, and can be cordially recommended.

Medical and Sanatorium Benefit Regulations, &c.

Edited by J. Henry Lloyd for Charts, Limited. London: Sir Isaac Pitman and Sons, Limited. 1914. Pp. 232. Price 5s. net.

This is a volume containing the full text of the clauses in the Insurance Acts and in the Regulations made under them concerning medical and sanatorium benefits, together with the principal memoranda and circulars dealing with these subjects that have been issued by the Insurance Commissioners. A system of classification has been adopted which has for its object the rendering readily accessible of any information sought for by medical practitioners, druggists, members of Insurance Committees, and others, who in the course of their duties may have rapidly to look up some point in connexion with National Health Insurance. For this object four varieties of type are used, so that anyone who has once made himself familiar with the book may know at a glance whether the passage he is reading is part of a section of a statute, of a regulation or order of the Commissioners, of an explanatory memorandum, or of an editorial note.

The system of classification referred to above appears to fulfil its object adequately in keeping all the information likely to be required upon any subject within the group to which that subject naturally belongs. There are seven such groups, and on the page which contains a list of them each title is distinguished by a brightly coloured border, the colour being repeated on tabs so placed as to guide the reader to the commencement of each article. Such a method of arrangement has considerable merit. It is essentially a matter of charting, and familiarity with the chart is necessary before it can be made use of; but we have little doubt that anyone who has once learnt his way about in the volume under review will find it useful as a work of rapid reference. It will also be an advantage to him to have what there is concerning the subject which he wishes to study given in full without abbreviation or paraphrasing.

It is regrettable that the issue of regulations and memoranda relating to national insurance has been so rapid and constant that any collection of them, though complete when first issued, has been apt to become obsolete, necessitating continual noting up and additions. The early period of the working of the Insurance Acts is, however, now over, and the inconvenience referred to must necessarily be less in future than it has been hitherto.

The Science and Practice of Dental Surgery by Numerous Authors, with an Appendix on Dental Jurisprudence.

Edited by Norman G. Bennett, M.A., M.B. Camb., L.D.S. Eng. (Oxford Medical Publications.) London: Frowde and Hodder and Stoughton. 1914. Pp. 797, with 993 illustrations. Price £2 2s.

A treatise on any subject which is the combined work of many authors must necessarily have, as is admitted in the preface to this book, certain defects. The principal defect in this volume is that certain of the articles are contributed by authors showing a thorough grip of general pathology, while others are written by those who apparently do not possess that knowledge or, if they do, are unable to express it in their contributions. In certain of the articles the writing is clear and lucid; in others the meaning is often extremely ambiguous. Another defect is the unequal consideration given to the different subjects; for example, irregularities of the teeth are very fully treated, but the important questions of caries and chronic general periodontitis are not discussed in a manner commensurate with their great importance.

Recent advance in dental science has shown the relationship between dental sepsis and general disease, and the object of modern treatment in dentistry lies in the direction of avoiding methods likely to lead to sepsis. One is therefore surprised to find such a full account of crown and bridge work, and in the article dealing with the latter subject types of apparatus are illustrated which cannot fail to produce stagnation areas, forming foci of infection. We trust that the editor in the next edition will remedy this defect and allow the general scheme of the work to be in keeping with modern ideas. There is much, however, in the pages of this volume which is excellent, more particularly the section on the etiology of irregularities of the teeth, contributed by Mr. Norman Bennett, the various sections written by Mr. J. G. Turner, the article on odontomes by Mr. W. W. James, the chapter on the etiology of caries by Dr. J. Sim

Wallace, and the lucid exposition of oral sepsis and its effects by Dr. Stanley Colyer.

The printing and general "get-up" of the book are good, and a word of praise is due to Mr. Bennett for the able way in which he has carried out his task as editor. A useful bibliography is added to each chapter. The index is insufficient.

LIBRARY TABLE.

Plain Rules for the Use of Tuberculin. By R. ALLAN BENNETT, M.B. Lond., Physician in Charge, Devon County Council Tuberculosis Dispensary. Bristol: John Wright and Sons, Limited. 1914. Pp. 48. Price 2*s.* 6*d.*—The employment of tuberculin in the treatment of pulmonary tuberculosis still has many opponents, whilst other physicians are enthusiastic as to its benefits. We have no intention at the present time of discussing the various arguments which have been brought forward on either side, but the book now before us touches on some of the more important points, and for the most part we can endorse Dr. Bennett's views. We quite agree with him when he remarks that in estimating the value of any remedy it is first of all necessary to be sure that one is dealing with the particular disease against which the treatment is directed, and further we uphold his statement that the presence of tubercle bacilli is the only sure and certain sign of the existence of active tuberculosis in the patient. The deductions to be derived from the employment of tuberculin for diagnostic purposes are open to many serious fallacies; all that the "reactions" can prove is that the individual so tested has had at one time a tuberculous focus and that he possesses a certain acquired immunity to the disease. The series of cases described in this book illustrates the effect of tuberculin as it can be given to ordinary working-class out-patients. It thus illustrates what might be carried out in dispensaries under the National Insurance Act. The method adopted has been to give the tuberculin at intervals of from six to seven days, the doses being so graduated that focal reactions only are produced, general reactions being studiously avoided. This plan has commended itself to a large number of physicians. Details of technique are then given, which can be readily followed, the dosage being especially discussed. Dr. Bennett expresses himself in moderate terms, which commend themselves to the reader. We think, however, that some comments should have been made on rises of temperature due to auto-inoculation; unless recognised the occurrence of excessive auto-inoculation in a course of treatment with tuberculin may easily conduce to error. The author has succeeded in condensing a large amount of information into small space, without detracting from the directions necessary to the successful administration of tuberculin.

Communicable Diseases: an Analysis of the Laws and Regulations for the Control thereof in Force in the United States (Public Health Bulletin, No. 62). Prepared under the direction of the Surgeon-General, United States Public Health Service, by J. W. KERR, Assistant Surgeon-General, and A. A. MOLL, A.B. Washington: Government Printing Office. 1914. Pp. 699. Price, paper, 50 cents.—This Bulletin is intended as a sequel to Bulletin No. 54, which described the provisions governing health organisation in the United States. It is considered a conservative estimate that at least 25 per cent. of deaths occurring in the United States have communicable diseases as their direct or immediate cause. That implies over 3,000,000 cases of preventable diseases yearly, with 300,000 deaths. The history and present status of the Federal laws are first given, and are followed by a comparative account of the regulations in regard to infectious diseases in the various States under such heads as mode of investigation, quarantining, hospitals, disinfection, expenses, disease carriers, food, hotels and restaurants and so forth, travel, public assemblies, school inspection, jails and other public buildings, industries, penalties, &c. There is an appendix of court decisions on the subject. This occupies the first 261 pages. Pages 262 to 665 are taken up with the text of the Federal and State laws, while pp. 667 to the end (p. 699) are occupied by a very complete index. Those specially interested in infectious diseases, public health and school medical officers, and many others may find it a useful work of reference.

Principles of Property. By J. BOYD KINNEAR. London: Smith, Elder, and Co. 1914. Pp. 152. Price 1*s.* net.—At the present time it is good for all of us to understand the fundamental principles of the doctrine of private property whether as regards property in general or as regards property in land. The class which possesses property in land is an extraordinarily small one in comparison with the population of this country, but the possession of the land means so much to the country that all of us should know something about the rights of tenure in land, its values, and the payments entailed by its possession. On these things depends so much alike of our national income and of the potential wealth of our country. Mr. Boyd Kinnear, in a brief attempt to show the logical consequences of the principles as at present established, has managed to be extremely clear upon a very complicated and difficult subject, and the brevity with which he has been able to set out, for example, the arguments for and against the nationalisation of the land is wholly admirable. We recommend this little book to all our readers. It has nothing medical in it save that whatever concerns the *res publica* must deeply concern the medical profession, while we are certain that an acquaintance with the definitions of the nature of property and with the usual arguments as to its private and national ownership will be of value to medical men working at the political side of their calling, a number which has recently much increased.

Minimum Rates in the Chain-making Industry. By R. H. TAWNEY. London: G. Bell and Sons, Limited. 1914. Pp. 157. Price 1*s.* 6*d.* net.—This is the first volume of a series of books to be published under the Ratan Tata Charity Foundation in the University of London. It deals with the establishment of minimum rates in the chain-making industry under the Trade Board Act of 1909. The Ratan Tata Foundation was instituted in order to promote the study and further the knowledge of methods of preventing and relieving poverty and destitution. It conducts inquiries into wages and the cost of living, into methods of preventing and diminishing unemployment, and into measures affecting the health and well-being of workers and kindred matters. The results of its researches in connexion with the chain-making industry given in this small book are very interesting. From the experience categorised in the volume Mr. Tawney submits that the Chain Trade Board has proved that it is possible to fix and enforce minimum rates of payment for a highly technical industry, and to do so with the approval of public opinion and of all the main classes of persons concerned in the trade. We must not make too large deductions from a very special set of instances, but the conclusion is a highly significant one. The monograph is well done and will decide many readers to purchase both it and its promised sequels, the first of which, on the feeding of school children, has already appeared.

MISCELLANEOUS VOLUMES.

OUR miscellaneous volumes this week are so miscellaneous as hardly to admit of any grouping.

Geology, apart from its scientific interest, has much to commend it as a means of recreation, inasmuch as it is for the most part an "open-air" science; and while its serious study is hardly to be thought of by the majority of busy medical men, still a desultory interest in it has advantages. An important division of geology is that of fossils. Those of the northern hemisphere are already well represented in many excellent text-books, but those of the southern hemisphere have perhaps not received in any one text-book the attention which they certainly deserve, the literature concerning them being widely scattered in various scientific publications, as is pointed out by Professor E. W. Skeats, of the Melbourne University, in an introduction to *Australasian Fossils: A Student's Manual of Palæontology*, by FREDERICK CHAPMAN, Palæontologist to the National Museum of Melbourne (Melbourne, Sydney, Adelaide, Brisbane, and London: George Robertson and Co. 1914. Pp. 341). This deficiency the author has now remedied. Part I. of the book deals with general principles, while in Part II. we have a systematic arrangement according to geological epochs of the fossils of Australasia in a series of chapters, each of which is followed by a list of the characteristic fossils described therein and a bibliography of the literature of the division dealt with. The many well-produced illustrations make the volume an admirable guide to the identification of specimens, while an appendix contains some useful notes on collecting and preserving fossils. A good index completes an excellent manual for students and others who desire a guide to the literature of the subject.

The Voluntary Service Committee and the National Service League are opposing teams in the "tug of war" in which our national defence is the rope. In the *Case for Voluntary Service* (London: P. S. King and Son. Pp. 200. Price 1*s.* net) the problem is first considered in its political and social aspect, and the needs and provision of our imperial military policy are considered. Then follows a comparison of voluntary and compulsory armies, a discussion on the Territorial Force and the particular problem of home defence. Various existing compulsory schemes are examined, the National Service League's army estimates are adversely criticised, and the conclusion is arrived at that compulsory service would entail a triple burden in the necessity for an increased, not a diminished, fleet, the compulsory home army, and a voluntary professional army for over-seas purposes.

Life in an Indian Outpost, by Major GORDON CASSERLY (London: T. Werner Laurie, Limited. 1914. Pp. 320. Price 12*s.* 6*d.* net), is a well-written and entertaining account of the life of a European officer in India, away from the sealed-pattern business of an ordinary plains station. The particular spot was Buxa Duar in the native state of Cooch Behar, whose enlightened ruler was a well-known figure in English society at home, as well as all over India. The duties, pleasures, work, and sport are described unaffectedly, and the reader gets a clear idea of the realities of Indian life. The book is well illustrated with photographs, apparently by the author.

There are, as is well known, at least two sides to every question. In the *Dictators of Mexico* (London: Effingham Wilson. 1914. Pp. 218. Price 2*s.* 6*d.* net) Mr. JOHN DE KAY gives us the views and experience of one who has been in close business relation with the rulers of Mexico for 15 years. Mr. de Kay goes to the root of the problems of Mexico. He gives a very fair, yet sympathetic, appreciation of the characters of both Diaz and Huerta—the last named of whom would appear to be by no means so black as he is painted. Here he is described as a plain, simple, rugged, and honest man possessing many virtues and some vices, severe and courageous, a stoic who daily takes his life in his hands. The so-called "Constitutionalists" are described as self-seekers and mere bandits. Mr. de Kay especially denies the stories told about Huerta's personal habits, and particularly gives the lie direct from personal knowledge—he spent the five months from September, 1913, to January, 1914, in close contact with Huerta—to the calumnies so widely disseminated concerning the latter's private house at Popotla. All interested in Mexico or in the present situation there should read this book; particularly it will confirm the opinion of our Ambassador in Mexico, a presumably competent judge, who, in justification of Great Britain's recognition of Huerta, described him as the only discernible man capable of restoring a more stable condition in that distressful land of vast opportunities and unfulfilled promises.

In THE LANCET of Dec. 23rd, 1911, p. 1779, we noticed two volumes by GLADYS DAVIDSON detailing the plots of 200 operas. The same author now offers us *Stories from Wagner's Operas* (London: T. Werner Laurie. Pp. 106. Price 1*s.* net), told at greater length than the brief summaries such as are included in the former volumes. The operas now told in story are the *Flying Dutchman*, *Tannhäuser*, *Lohengrin*, *Tristan and Isolde*, *Die Meistersinger*, *Der Ring der Niebelungen* (viz., *Das Rheingold*, *Die Walküre*, *Siegfried*, *Die Götterdämmerung*), and *Parsifal*.

Two reference handbooks call for notice. A useful one, both to the inhabitants of London and to visitors to the metropolis is the *Social Guide, 1914*, edited by Mrs. HUGH ADAMS and EDITH A. BROWNE (London: Adam and Charles Black. Pp. 264. Price 3*s.* 6*d.*). Preceded by a calendar of events is a comprehensive account arranged in alphabetical order of the various social amusements and entertainments in which society is interested, and, in addition, there has been included this year special information regarding various travel centres in all parts of the world. The mode of gaining admission to different functions and the dress appropriate to them are not overlooked.——*The Directory of Women Teachers and Other Women Connected with Higher and Secondary Education, 1914* (London: The Year Book Press, 31, Museum-street, W.C. Pp. 152. Price 7*s.* 6*d.* net), has increased in bulk owing to the large number of names which have been added to the directory this year. The second portion of the book is devoted to general information, commencing with a chronicle of the year and giving details with regard to appointments, degrees, educational societies and organisations, administration of secondary education, literature of the year regarding education, and so forth; while the third portion is occupied by a list of secondary schools for girls and university and training colleges. The utility of the book is marred by the fact that in the list of secondary schools fees and other useful particulars are omitted in many instances.

FIRE PREVENTION.—In this country the British Fire Prevention Committee have rendered useful service in many directions, and their work has been much appreciated by those who have charge of hospitals and other large institutions. It was on the initiative of this committee that the International Fire Service Council held its meetings at the end of June in London, when representatives of European and American fire brigades were present. The King sent the council His Majesty's good wishes. Earl Beauchamp, in welcoming the visitors on behalf of the Government, dwelt on the importance of the work done by the International Fire Service Council and by the British Fire Prevention Committee. Among the important questions discussed were fires on board ship, celluloid dangers, petroleum dangers, and the formation of county motor fire brigades. A meeting of the council will be held next year in Copenhagen, and in the meantime it has been decided to issue an International Fire Dictionary in three languages. This is a case where it seems to us an international language would serve a useful purpose in a fourth version, and Esperanto has already been used with success in ambulance exercises.

# Reports and Analytical Records
FROM
THE LANCET LABORATORY.

COLLOTHIOL PREPARATIONS.

(AGENCY: F. H. MERTENS, 64, HOLBORN VIADUCT, LONDON, E.C.)

THESE interesting preparations of sulphur in a colloidal form are products of the Clin Laboratories in Paris. There is good reason for believing that sulphur in the colloidal form is considerably more active than sulphur in the ordinary form. The elixir collothiol is prescribed in diseases of the respiratory tract, particularly where there is secretory disturbance. It is also used in rheumatoid arthritis, while it is a useful antidote to lead poisoning since it readily converts lead compounds into the insoluble sulphide. Elixir collothiol is a pale yellowish fluid practically neutral in reaction. A drop of the elixir placed on a silver coin readily blackens it on warming. The elixir has a slightly saline taste. On evaporation ordinary sulphur separates and remains as a resinous mass. The elixir is clear but shows an immense number of mobile particles when examined with the ultramicroscope. Collothiol is also present in a pomade, an oily paste contained in a collapsible tube. It provides a powerful means for applying sulphur externally.

"VAPOROLE" NUCLEIN.

(MESSRS. BURROUGHS WELLCOME AND CO., SNOW HILL BUILDINGS, LONDON, E.C.)

The hypodermic injection of pure sterilised nuclein has attracted attention recently in connexion with its action in increasing the bodily resistance to bacterial invasion. It is recorded that these injections stimulate leucocyte formation and raise the opsonic index. The preparation has thus been employed in bacterial infections generally. The "vaporole" presents a convenient form for administering a definite quantity of the sterile solution of nuclein, the nuclein itself being derived from yeast cells. The preparation has also been reported on favourably in the treatment of alimentary toxæmia, in nervous prostration, and in disorders of nutrition.

POTATO EXTRACT PREPARATIONS.

(MESSRS. BAISS BROTHERS AND STEVENSSON, LIMITED, 174, GRANGE-ROAD, BERMONDSEY, LONDON, S.E.)

The treatment of rheumatism, gout, lumbago, synovitis, and so forth, by potato juice was described in a paper in THE LANCET of April 11th, 1914, by Mr. Heaton C. Howard. Potato juice is now supplied in two pharmaceutical forms—namely, ext. solani liq. and ung. solani. The extract is a dark brown fluid smelling of aromatics and distinctly also of the potato. We found that it rapidly reduces alkaline copper solution and it also produces a beautiful silver mirror when heated with alkaline silver solution. It gives further a precipitate with calcium chloride when the mixture is heated, a part of which dissolves on allowing the fluid to cool. Potassium salts are present in considerable quantities, and probably in the form of citrates or tartrates, or both. Alkaloid reagents gave negative results. Iodine and bromine were without effect. The preparations are interesting and will no doubt receive further trial.

SEDOBROL.

(THE HOFFMANN-LA ROCHE CHEMICAL WORKS, LIMITED, 7 AND 8, IDOL-LANE, LONDON, E.C.)

This combination presents sodium bromide in an appetising bouillon basis. Sedobrol consists of yellowish tablets which are practically completely soluble in warm water, but there is a separation of a distinct quantity of fat. The solution has the pleasant flavour of meat bouillon, but the bases are said to be of vegetable origin. We found that only a small precipitation occurred with bromine indicating the presence of a small quantity of nutrient, but on adding alkaline hypobromite there was marked effervescence of nitrogen gas due to nitrogenous bases. The presence and amount of bromine was confirmed, each tablet containing 17 grains of sodium bromide. In spite of there being only a trace of common salt present the flavour of the bouillon is pleasantly saline. The claims made in regard to sedobrol are: (1) that free dilution is ensured, which together with the presence of the stimulating vegetable extractives obviates gastric disturbances; (2) that by its medium bromide may be given in the form of a dietetic, the patient being unaware of the presence of the drug; and (3) that it enables the physician to give bromide while gradually withdrawing the daily intake of sodium chloride, which can be done without rendering the diet insipid. Clinical examples are given of the advantages of this means of administering bromides. Of course, it is highly desirable in the interest of the patient that sedobrol should be exclusively supplied by the physician and the treatment carried out under his observation.

PLASMON OAT FOOD.

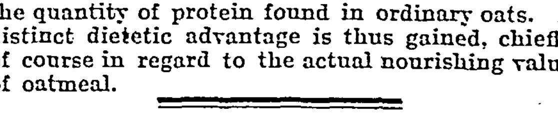
(INTERNATIONAL PLASMON, LIMITED, 66A, FARRINGDON-STREET, LONDON, E.C.)

On a previous occasion we reported upon plasmon rolled oats, but there has now been introduced a finely ground preparation known as plasmon oat food. The statement that there is added 10 per cent. of plasmon to the oat flour is confirmed by our analysis, since we found that the total protein amounted to 23·37 per cent., which is about double the quantity of protein found in ordinary oats. A distinct dietetic advantage is thus gained, chiefly of course in regard to the actual nourishing value of oatmeal.

New Inventions.

A NEW ARCHIMEDEAN DRILL.

I HAVE found the all-metal archimedean drill shown in the illustration much more satisfactory than other mechanical drills for making the screw-holes in plating fractures. The flanged wheel which drives the drill gives a comfortable grip for thumb and finger or hand, and can be held lightly without slipping when wearing rubber gloves.



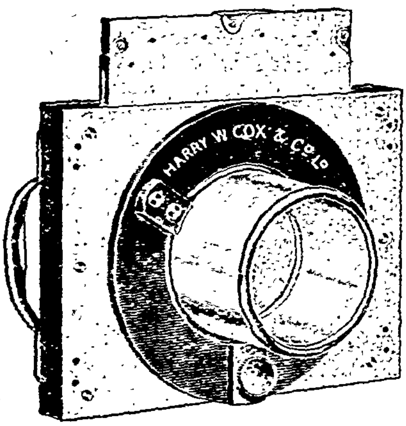
As the pressure on the bone can be nicely regulated, there is much less risk of breaking the drill points than when using a drill worked by turning a handle. It will be found that time is saved and fatigue lessened by this instrument.

The drill has been made for me by Messrs. Allen and Hanburys, Limited, of Wigmore-street, London. W.

R. D. MOTHERSOLE, M.D., M.S. Lond.,
F.R.C.S. Eng.

Bolton.

AN X RAY SCREEN COMPRESSOR FOR THE DETECTION OF URINARY CALCULUS.



THIS is a small and extremely useful piece of X ray apparatus. It consists, as is shown in the illustration, of a short, blunt nozzle of lead glass, above which is fixed a piece of fluorescent screen. Between these is a small gap into which slides a cassete, or plate holder (half plate), containing an intensifying screen of tungstate of calcium. By means of two handles the operator can press the nozzle into the patient's abdomen and thus obtain an extremely bright view of a small area. He is able to explore renal and bladder regions, also to examine more closely supposed kinks and other intestinal conditions after the administration of bismuth. Any discovery he may make can be recorded by instantaneous exposure on the half plate which, in its casette, is placed in the opening below the screen while the exposure is made. Small calculi have been detected with this little instrument that would have evaded the more usual methods of X ray examination. In the last 310 cases of suspected urinary calculus examined by my colleague, Mr. H. M. Eccles, and myself at Guy's Hospital, 68 calculi were discovered, and in every case they were seen upon the screen prior to being photographed. This small screen compressor added materially to the successful detection of these stones.

Messrs. Harry Cox and Co., Limited, 47, Gray's Inn-road, W.C., have made the apparatus to my design.

EDWARD W. H. SHENTON, M.R.C.S. Eng.,
L R C P. Lond.,
Harley-street. W. Senior Radiographer, Guy's Hospital, S.E.

MEDICO-LEGAL SOCIETY.

Discussion on Incipient Insanity.

AT the conclusion of the annual meeting of this society, held on June 30th at the rooms of the Medical Society of London, a discussion took place on Incipient Insanity, with particular reference to a Bill bearing upon this matter soon to be introduced into the House of Lords. The Bill has been drafted by the Medico-Legal Society, in consultation with the British Medical Association and the Medico-Psychological Association. It proposes to legalise the giving of medical treatment in the early stages of mental disease (subject to the consent of the patient), notwithstanding the provisions of Section 315 of the Lunacy Act, 1890, which make it illegal to exercise restraint over a person who is not a certified lunatic. The authority for treatment in an incipient case—which may be given in an approved house—for example, a mental hospital, general hospital, or private house or institution—is a declaration by a medical practitioner that the patient is suffering from incipient mental disease and is not suitable for certification as a lunatic or defective under the Mental Deficiency Act, 1913.

The PRESIDENT (Earl Russell) said the Bill was intended to deal with the circumstance that it was a very dangerous thing for a medical practitioner or anyone else to treat a person on the borderline of insanity. Anyone doing so was constantly running the risk of prosecution under Section 315 of the Lunacy Act, and the result was, they were assured by medical practitioners, that persons who might be saved from becoming actively insane, if treated in time, often were not treated because of this fear of prosecution. They were allowed to go from bad to worse until they reached a certifiable stage and might be brought under the Lunacy Act and properly treated. The Bill was a voluntary one; no person could be detained against his will. The Bill might be a better one if it were compulsory, but it would then have no chance of passing.

Dr. ROBERT ARMSTRONG-JONES, in opening the discussion, said that the whole object of the Bill was to avoid the stigma of certification. Mental disease was of all diseases the most curable in the early stages, but it was one of the most expensive and difficult to cure when rooted in any family. The Bill would make it possible for rich and poor to be treated outside the gates of an asylum; the potentially insane would be saved from the damning certificate. Dr. Armstrong-Jones mentioned that the Bill had the sympathy of the Board of Control under the Mental Deficiency Act.

Dr. FRED. J. SMITH said he wished to raise what was perhaps an academic point—Was there such a thing as incipient insanity? Was it not a condition which had been there practically from birth, though not exhibiting itself at first? He preferred the term used in the Bill, "mental disease of recent origin." For persons whose condition did not warrant compulsory detention the Bill would be an admirable one. The question arose whether a patient would realise his condition and submit himself voluntarily to treatment; such patients usually resented the idea that it was necessary they should be taken care of.

Dr. F. G. CROOKSHANK thought that without casting stones at the general practitioner there was a danger that under pressure the general practitioner would apply this Bill to persons who should be certified: that might be met by including in the declaration to be signed by the doctor the definite statement that the case was not suitable for certification. He foresaw difficulties because the declaration in effect authorised another practitioner to receive a patient and give treatment.

The PRESIDENT pointed out that the authority given by a medical practitioner was not necessarily to another practitioner, but to an approved person. It was felt desirable not to use the word "certificate," so that the patient could not be said to have been certified in any sense. The operation of the Bill would be under the direction of the Board of Control, whose inspectors would deal with cases which it was thought should be certified.

Mr. C. WOODWARD thought puerperal insanity a bad instance to choose for the purposes of the Bill, such persons were absolutely insane at the moment.

Dr. JAMES SCOTT (Holloway Prison) thought the Bill should deal with adolescent cases; in their case the stigma of insanity was a very real thing.

Dr. BERNARD H. SPILSBURY asked what would be gained by the Bill, seeing that it was already possible for a patient to give his consent to voluntary treatment. He thought refusals to undergo treatment would be frequent.

The PRESIDENT replied that the main object of the Bill was to avoid a prosecution of the medical practitioner under Section 315, but although the measure was a voluntary one there was no necessity for a formal consent to treatment. It was proposed to ask Lord Loreburn to introduce the Bill in the House of Lords, to explain its objects, and cause it to be read a first time. The Bill could not get any further this session, but it was thought useful to place it before the public.

Mr. ROLAND BURROWS, LL.D., in closing the discussion, said that care had been taken to eliminate from the Bill any term used in the Lunacy Act whose nomenclature had acquired a sinister meaning. The Bill declared, what was intended to be declared under the Lunacy Act, that if a person was not certifiable he could be treated. It was proposed that this should be done under proper conditions and without embarrassment to those in charge. The aspect of voluntary treatment had been over-emphasised in the Bill for the express purpose of allaying apprehension by the public. The Bill was based on a Government measure introduced in 1905, presumably with the approval of the Lunacy Commissioners. The Bill laid down no rule as to treatment; it merely provided that a person in whose custody a sufferer was should not be liable to be prosecuted. The form of treatment was a matter for a medical attendant. As to the definition of incipient insanity, he felt that the psychiatrists deserved criticism because they had not agreed amongst themselves what were the standards of sanity or insanity. The law had no regard to anything but objective symptoms.

THE LANCET.

LONDON: SATURDAY, JULY 4, 1914.

The Working of the National Insurance Act.

IN a recent article in the *Nineteenth Century and After*, advocating the establishment of a National Medical Service, Dr. W. A. BREND finds that the medical treatment available for the poor "neither covers the whole field nor is always of satisfactory quality." To obviate this and other defects Dr. BREND suggests the establishment of a salaried medical service, with local centres for medical treatment. In a town of, say, 20,000 inhabitants one centrally placed building would suffice for the assembling of patients for clinical purposes, the number of such buildings increasing proportionately to the population. This building, in his idea, would contain two or three consulting-rooms and waiting-rooms and a small theatre for minor operations. In larger clinics, or in the central one of a group, there should be in addition an X ray apparatus and a clinical pathological laboratory. The entire district should be divided into areas, and one salaried medical officer should be told off to do all the house visiting for each area, all consultation work being done at the clinic when the patient was in a position to attend. Each clinic, he considers, should command the services of from five to eight whole-time salaried general practitioners who should work in pairs by turns, at morning and evening hours, and should have the assistance of nurses as well as of specialists. There should be a chief medical officer to each clinic, with principal medical officers in all large towns and counties, and a central administrative staff. The officers of the clinical staff should be chosen persons, and ultimately a State diploma should be instituted. Dr. BREND cites the experience of the Great Western Railway at Swindon, where a scheme of something of this kind works well for 43,000 persons, and his views here are in accord with those of many who see no necessity for the institution of a State Medical Service. In small towns the cottage hospital and its staff might well develop into a clinical centre without any profound professional revolution. In larger towns coördination of the clinical centres with the hospitals might then be effected, and the latter institutions, relieved of trivial cases, would devote their energies, space, and funds to consulting and special work, and do so upon the existing voluntary system.

The advantages of a State Medical Service to the profession as a body should lie in greater leisure for keeping abreast of new knowledge, opportunity for post-graduate study and research work, regular hours and holidays, and certainty of income; but the drawbacks are as obvious as the advantages. Dr. BREND admits the danger that such a scheme might convert the practitioner into an official machine, and the time-honoured objection that it would preclude the public from the free choice of a doctor has to be got over. The amalgamation or coördination of all services at present having medical functions, culminating in the ultimate establishment of a Ministry of Health, is foreshadowed in all such suggestions for root and branch alteration of existing methods. We cordially agree with Sir CLIFFORD ALLBUTT in his advocacy, repeated this week to the Medical School of St. Thomas's Hospital, of a Ministry of Health, but this can be instituted without any deliberate transformation of medical men into a State Service. In considering the establishment of a State Medical Service as a panacea for the medico-economic ills of the public and the profession it may not be unfair to recall the fact that Dr. BREND was one of the optimistic supporters of the Insurance Act before it became law, as the columns of THE LANCET witness. But every one of the admitted defects of the Act, now brought to light as the result of experience of its working, was as a matter of fact insistently pointed out beforehand in these columns as probable. We refer to such defects, now confessed by everyone, as that the faulty conditions of club practice have reasserted themselves in panel work; that the bulk of the insurance work, instead of being evenly distributed, tends to fall into the hands of relatively few practitioners, so that many undertake more than they can adequately perform; that a cleavage has arisen in the profession between panel and non-panel doctors, tending towards the creation of rich men's and poor men's doctors; that the amount of sickness is suspiciously high in many places; that the pecuniary strain on hospitals has been increased; and that over-pressure has occurred among medical men.

We publish this week the last of a series of articles by our Special Commissioner, who has been giving a bird's-eye view of the working of the National Insurance Act during the early stages of its existence. The object of the articles has been to describe typical conditions in places geographically separated, as well as distinct in many of their main characteristics, some being large manufacturing towns, some country centres, some places where wages ruled high, some where poverty was a distinct feature, some where the feeling of the community was dead against legislation of the pattern to which the National Insurance Act belongs, and some where the Act was welcomed by many as an outward expression of their political creed. From the variety of experiences which our Commissioner has recorded there emerge certain definite lessons which do *not* in our opinion support the claim for the immediate institution of a State Medical Service, though they supply the reasons for what is, we think, an increasing advocacy of this revolution among medical men. To begin with, it is perfectly clear that the working of the National Insurance Act, as far as the administration of medical benefit goes, is only partially satisfactory. A certain number of medical men have benefited pecuniarily by the new legislation and in many places the standard of contract practice has been improved, but in other places the old conditions of club practice seem to be persisting unchanged. But as the public, which is thus inadequately served, is not so ignorant as it used to be, considerable resentment may be expected. As yet the administration of the Act appears to be cumbersome and expensive, and we anticipate considerable modifications before smooth working is established, though we cannot call with the same conviction that Dr. BREND does for the institution of a State Medical Service. The scheme of a National Medical Service, before it can attain any enthusiastic support at the hands of the profession, demands more unbiased and less impulsive consideration than was accorded to the Insurance Act, which it is hardly likely to get under the ægis of any political sponsorship.

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The Pituitary Body in Health and Disease.

THE evolution of our knowledge in regard to the functions of the various parts of the pituitary body, and the effects of their derangement in disease, affords one of the most interesting chapters in modern experimental medicine. This structure regarded for long as of little importance, if not actually vestigial in character, practically first received serious recognition from the acute observations of MARIE in 1886 in regard to acromegaly. Even after them, however, but little attention was paid to the possible activities of the pituitary body until the impetus given to the investigation of the ductless glands by the discovery of the internal secretions associated with some of them. Since the beginning of the present century a considerable literature, both on the experimental and clinico-pathological aspects of the pituitary functions, has arisen, and as a consequence our nosology has been increased by the differentiation of certain clearly defined diseases, and our therapeutics enriched by a valuable and powerful agent—pituitary extract.

The anatomy and histology of the gland have been studied with great care and with practical result. Clearly it consists of two portions, of different embryological origin, an anterior glandular lobe, derived from the pouch of Rathke, and a posterior or nervous lobe formed from a downgrowth of the neuroblast of the mid-brain. The glandular portion is divided into two—the pars anterior proper, which is by far the larger, and a smaller paler zone, called the pars intermedia, which forms an investment to the posterior lobe, from which it cannot be separated. It is also worthy of note that embryonic "rests" of hypophysial tissue are frequently to be found in the pharynx and base of the skull, which may possibly assist in carrying on the activities of the pituitary body, when it is diseased or injured in experiment. The complex relationship of the two parts of the gland to one another has rendered the actual differentiation of the special functions of each a matter of great difficulty, and even at the present time it can hardly be said to be complete. It appears to be definitely established that the anterior lobe is essential to life, since its complete removal results in death preceded by a train of symptoms to which the name of cachexia hypophysiopriva has been applied. Partial removal or disease of this structure results, according to CROWE, HARVEY CUSHING, and HOMANS, in a peculiar state of adiposity, with persistent infantilism in young animals or with retrogressive changes in the generative organs in adults. Conditions of polyuria, glycosuria, hypotrichosis, and œdema of the skin, with subnormal temperature and mental changes, are also common. Ablation experiments indicate that the posterior lobe is less essential to life, but show that it plays an important part in the utilisation of sugar in the organism, since after its removal a temporary lowering in the tolerance for sugars is followed by a lasting increase The study of extracts of the gland, first started by SCHÄFER and OLIVER in 1895, has yielded the surprising result that it is from the posterior lobe, with its smaller and relatively simple and indifferent structure, that the active extracts are obtained. The separation of pituitrin and the discovery of its important effects in raising blood pressure, slowing the pulse, inducing diuresis, stimulating the mammary glands, and increasing uterine contractions are now matters of common knowledge and experience. It is generally supposed that the active substance is elaborated in the pars intermedia, and it is suggested by HERRING that it passes into the posterior lobe and thence into the ventricles of the brain. As in the case of the other glands with internal secretions, it would appear that disturbances of the functions of the pituitary body may lead to associated alterations in other secretory structures, and some authorities have endeavoured to establish polyglandular syndromes as a result. It is clear that the pituitary body and the testes and ovaries are intimately associated, and histological changes in the interstitial cells of Leydig in the testes have been demonstrated after partial hypophysectomy. There is a good deal of evidence that the thyroid gland and the pituitary act synergically, and that each may to some extent act vicariously for the other, as Dr. R. G. HOSKINS has rather happily expressed it.

The results of disease of the pituitary body are, as might have been anticipated from its complex structure and important functions, of varying and far-reaching character. At first, on the analogy of thyroid disease, it was customary to differentiate conditions of over-activity or hyperpituitarism and those characterised by defective function or hypopituitarism. It soon became clear, however, that there were conditions which did not fall into either of these groups, owing to the fact that one part of the pituitary may be alone involved, or that by enlargement with over-activity it may interfere with the functions of the other part. For such conditions the term of dyspituitarism has been introduced. The matter is complicated, as has been so brilliantly demonstrated by Harvey Cushing and his co-workers, by what have been referred to as "neighbourhood symptoms"—that is, by the effects of increased intracranial pressure, and by the secondary effects upon other glandular structures. We publish in this week's issue of The Lancet two interesting papers which illustrate the complexity and importance of pituitary disease and indicate that some of its forms may be less uncommon than is generally supposed. Dr. E. G. Fearnsides gives details of a dozen cases which have come under his notice, and the tables which are appended to his paper afford a valuable record of the varied symptoms which he has investigated in order to establish the diagnosis of pituitary disease. It will be seen from these that he has carefully examined the patients for those symptoms which might be expected to be present in derangements of the pituitary body in the light of our knowledge of its functions from physiological experiments. Consequently these tables are of considerable interest, although they are secondary to the main thesis of the paper, which is to establish the effects of pituitary disease upon the shape of the sella turcica and the diagnostic value of X ray examination of the base of the skull. Dr. Fearnsides concludes that in doubtful cases a change in the size or shape of the sella turcica, as seen in the X ray plate, is at present the most certain evidence of pituitary disorder, and for this purpose he states the actual measurements of the pituitary fossa as given by Professor Arthur Keith, and the measurements in profile radiograms which may be regarded as abnormal according to Professor Harvey Cushing. The second paper is that by Dr. W. Johnson on a pathological investigation of four cases of pituitary tumour observed at Guy's Hospital. All four of these cases appear to have been cases of primary malignant disease of the pituitary body, and in only one was there any secondary growth. The growths presented peculiar and somewhat characteristic features, and were in most of the cases cystic. In one of them the ocular condition and the fields of vision were most carefully investigated by Mr. H. L. Eason, who has described the case fully in an interesting clinical lecture published in the *Guy's Hospital Gazette* of June 20th. There was complete temporal hemianopia, which occurs so frequently in pituitary tumours from the pressure of the growth upon the central part of the optic chiasma. Reproductions of the perimeter charts are given with Dr. Johnson's paper.

It not infrequently happens that the detailed examination of a pathological condition by skilled observers throws light upon physiological conditions. The particular case of Dr. Johnson to which we have just referred affords an instance in illustration. The growth occupied the interpeduncular space completely and had broken through the optic chiasma in such a way that the right and left optic nerves appeared to be the direct continuations of their respective tracts—in other words, the fibres crossing at the chiasma were broken through. Fortunately, Mr. Eason's observations were available to show that the temporal halves of the fields of vision corresponding to the nasal halves of the two retinæ were affected. Dr. Johnson availed himself of the opportunity offered of tracing the visual fibres backwards into the brain by studying the degenerations present. He found that the uncrossed fibres—that is, those that were not degenerated—occupied the outer and lower portions of the optic tract. This he confirmed by examination of one of the other cases. He also found that the degeneration was confined to the optic tract and ceased at the primary optic ganglia in the external geniculate body and the pulvinar. No degeneration could be discovered in the optic radiations or in fibres entering the calcarine cortex, thus negativing the statement that has been made that certain fibres pass directly to the occipital cortex without relays in the primary optic ganglia. We can commend both these papers to our readers as interesting, instructive, and suggestive.

The Dogs Protection Bill.

The Bill to prohibit the vivisection of dogs has been recently made prominent. The cause of much bickering and manœuvring in committee, its deliberation has incidentally led to complications involving questions of Parliamentary procedure and practice, and on Tuesday last, the first occasion when a quorum of the Standing Committee on the measure met, the Bill was withdrawn. Considerations of sentiment and also of sentimentality played so large a part in this Bill that discussion of its purport is still desirable, although impossible without hurting the feelings of some who are interested. The Bill received a substantial amount of support in the House of Commons, though it was by but a small majority that it secured a second reading. There is no doubt that a great many members were prepared to vote for it, unless they could be shown sufficiently grave reasons for refraining. Up to a certain point the question is not one of hostility to physiological research as such, though naturally the opponents of research supported the Bill, if only as a base for future assaults; but we have had here an appeal mainly to that affection for the dog which is widely manifested by all sorts and conditions of men and women, and based on perfectly comprehensible feelings and reasons. But that these feelings can be pressed too far is demonstrated at once by considering, as Lord Lamington did in his presidential address this week to the Research Defence Society, the loss of our dog friends by distemper, a disease for which we may surely hope that scientific medicine, unfettered in its working, will soon find a remedy.

There is, admittedly, none of the domesticated animals which is capable of showing such devotion, such loyalty, to man as the dog; or which so uniformly receives in return so much human affection and companionship. Not to admit oneself a dog lover is almost to proclaim eccentricity, if not worse. But those whose bias would have led them to favour this Bill cannot be allowed to assume without protest that they alone entertain natural feelings. Physiologists and surgeons are just as fond of dogs as are any other members of the community. Some antivivisectionists, of course, have persuaded themselves that all who pursue physiological research are callous persons, who are insensible to feelings of compassion even if they do not gloat over cruelty for the mere sake of it; but this extraordinary misconception was surely not harboured by the majority of those who supported Sir FREDERICK BANBURY'S Bill in the division lobbies. To these, and all the many other reasonable people who are inclined to approve of a measure to exempt dogs from vivisection, it is surely sufficient to say that men of science do not practise vivisection with the object of causing or of witnessing suffering in any created thing. They seek the relief, not the infliction, of pain and suffering; and in pursuit of that aim they perform experiments only when they must, and only on those animals whose use appears most likely to advance knowledge and reveal truth. For the great majority of the experiments on living subjects, which are performed in this country, the dog would be an unsuitable subject, and the dog is therefore not used; but we cannot overlook the fact that our most distinguished physiologists, men whom the scientific world in all countries delights to honour, have said emphatically that for certain types of research the dog is indispensable. Even if it were not so at the moment, it would still be imprudent to lay down any absolute prohibition of the employment of dogs, for it cannot be foretold what the requirements of future research will be. No one, it may confidently be stated, would prefer to use a dog for the purposes of physiological experiment when another animal would do equally well. The alleged cheapness of stray dogs is one of the motives frequently imputed by the antivivisectionists to those who hold vivisection licences. This is nonsense. Stray dogs are not so cheap to buy as are some of the other animals commonly used by research workers; they are very much more expensive to feed, and they form but a minute fraction of the total number of animals annually subjected to vivisection. Rats, guinea-pigs, monkeys, horses, rabbits, and many other species are represented on the lists returned by those who hold vivisection licences. Some of these animals are much cheaper, some much dearer, than dogs. Economic considerations do undoubtedly enter to some slight extent into the choice of subject for physiological use—none of our laboratories are so wealthy as to be able to neglect so obvious a point; but economical considerations militate against, not towards, the vivisection of dogs, and certainly the guiding principle in the selection is the suitability of the animal in question for the particular purpose of the experiment. This principle makes the granting of discretion as to the animals to be used a necessity, but it does not preclude the erection of all needful safeguards.

There is, however, one comparatively unimportant branch of vivisection in which restriction, or at least limitation, is in our view reasonable. We refer to the vivisections performed before physiology classes as demonstrations of the truth of the statements of their teachers and their text-books. It is true enough that all such experiments are performed under anæsthesia, and that the animals upon which they are performed are not allowed to regain consciousness but are killed as soon as the demonstration is completed. Nevertheless, the case in favour of these acts of vivisection is less impregnable than in respect of vivisection to promote new researches and to acquire new knowledge; and we could contemplate without any misgiving the entire abandonment of dogs as subjects for these demonstrations. Whether it is in the public interest that such a restriction as this should be enacted by Parliament, and in an absolute form, is a matter of opinion. But there can be, in our judgment, no question that the passage into law of the infinitely more sweeping provisions of Sir FREDERICK BANBURY'S Bill would have been an unfortunate thing. In this connexion it is satisfactory, in the event of the reintroduction of a similar measure, that the Home Office has intimated the need of allowing the use of dogs for vivisection in special circumstances. Here is a plain enough indication that the mischief of total prohibition is recognised in those quarters best qualified, next to the medical profession and students of physiology, to pronounce an opinion, but a Bill containing such a clause would still be both retrograde and unnecessary. The responsibility of the research worker towards the dog would possibly be emphasised; this no one could quarrel with. But to transfer the responsibility of deciding whether or not the dog would be the most suitable animal for any projected experiment from the professor of physiology to the permanent official would be a countervailing disadvantage so great as to justify again the opposition with which Sir FREDERICK BANBURY'S Bill met, an opposition which had the sympathy of the great majority of the medical profession.

Annotations.

"Ne quid nimis."

THE CHILDREN'S COUNTRY HOLIDAY MOVEMENT AND INFECTIOUS DISEASE.

FEW philanthropic undertakings have made more headway in recent years, or are more deserving of support, than those for the provision of country holidays for town children. Institutions such as the Children's Country Holiday Fund, the Pearson's Fresh Air Fund, and the Ragged School Union send every year many thousands of children into the country from London and from the larger provincial towns, while in addition there are large numbers of special organisations in working-class parishes for sending smaller parties to the sea or to quarters inland. Like all good things, the movement has its occasional drawbacks, one of which is that sometimes the influx of town children into country cottages and quarters is suspected to be the starting point of infectious disease, or to cause an unsatisfactory degree of overcrowding in rural areas where the housing provision for the indigenous population is already none too liberal. Such results, it is clear, can to a large extent be prevented by the selection of suitable districts and quarters and by inquiries as to the health of the children before they leave the town. In order to promote organisation for this purpose the Local Government Board has issued a circular to county councils and sanitary authorities indicating the way in which they may usefully coöperate with the organisations in question. The circular points out that effective preventive action rests primarily with the agencies concerned, and that it is no part of the duty of the medical officers of health in the country districts to undertake special supervision of the arrangements made for these children or to advise the agencies organising the holidays. It is believed, however, that if intended arrangements are communicated beforehand, the medical officer of health in the country will generally be prepared to assist the agency by preventing children being sent to houses where they would be exposed to risk of infection or to insanitary conditons, while he will find it an advantage, should infectious disease occur, to be in touch with the persons who are responsible for the care and maintenance of the children. The circular advises the agencies to make personal inquiries through voluntary workers at the children's homes before they are allowed to go for the holiday, and to invite the assistance of the town medical officer of health in ascertaining whether notified or other infectious diseases are present in the houses from which the children are sent away. Reference is also made to the aid which the town authorities can give to the agencies in securing that the children are sent away for their holidays in a cleanly state. The document, which can be obtained on application to the Board, should be useful by securing the concerted action which is desired, and indicating the extent to which coöperation may reasonably be asked for.

GUNSHOT WOUNDS OF THE SPLEEN.

Michelson, in the *Deutsches Archiv für Chirurgie* (Band cxx., H. 1–4), discusses both diagnosis and treatment of this comparatively rare accident. He has collected 80 cases from the literature, and refers also to his own experiences. It is rare that the spleen is alone damaged; this occurred in only seven cases, including one of the author's; most often the stomach or intestines are injured as well. When this is the case it is usual that the symptoms associated with these lesions mask those attributable to the spleen. On this account the diagnosis of splenic injury is frequently impossible. The site of the wound is often not a safe guide, for an instance is recorded in which the injury occurred in the fourth interspace and yet the spleen was found to be damaged. Sometimes there is little hæmorrhage in the early stages; internal hæmorrhage is inconstant. Perhaps the most constant sign of splenic injury is rigidity of the abdomen. When the blood accumulates along the posterior wall of the abdomen or behind the peritoneum, a very characteristic physical sign is a slowly developing rigidity of the upper abdomen. Treatment is operation and removal of the spleen. The operative mortality is high, 33·3 per cent., no doubt not so much due to the actual lesion as to the associated complications found. But where operation is not performed all the cases have been fatal. The author speaks strongly against the procedure of tamponade; splenectomy is the operation of election.

THE MUSEUM OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE conservator of the Museum of the Royal College of Surgeons, Professor A. Keith, has issued his annual report, and the show of specimens added during the past year is now on view, and will continue to be displayed until the end of the month. The anthropological collection has received many highly important additions, skulls of ancient Egyptians, of Stone-age inhabitants of England found in their flint mines at "Grime's Graves," near Weeting, Norfolk, of Anglo-Saxons, and also, and not the least significant, of modern English people. These show more clearly than is generally suspected how certain definite changes have occurred in the physical condition of the people in recent centuries. Dr. T. Wilson Parry has presented a set of preparations made by himself to show the implements and methods of trephining practised by people in a stage of stone culture.[1] Mr. Barrington Nash has presented a cast, undoubtedly authentic, of the skull of Robert Burns. A large number of preparations throwing light on the genitals in relation to changes in external sexual characters are preserved in the museum. During the past year a "mule" pheasant has been graciously presented by His Majesty the King, and in this instance the rudimentary genital glands, probably ovaries, have neither oviducts nor testicular ducts, and therefore the bird is regarded as asexual or neuter. Mr. E. T. Newton, F.R.S., has presented the first of his "reconstruction models," made up of plates of wax, enlarged from a corresponding series of microscopic sections, and put together so as to make one enlarged model of an embryo or organ. As usual, there are many additions to the pathological series. Mr. H. A. T. Fairbank presented to the Museum this year a preparation showing "Sprengel's shoulder," a congenital elevation of the scapula, bilateral, and occurring in a female infant who died from marasmus when six weeks old; and Dr. J. Kingston Barton has given to the collection some skiagrams showing an apparent disappearance of bone tissue in the clavicle and a congenital hiatus in the upper part of the front wall of the thorax. Space prevents us from any mention of numerous other additions of high interest. The annual display and the conservator's instructive report well deserve the attention of the profession and of scientists. The exhibition runs a risk of being overlooked now that Fellows of the College mainly vote by papers, so that there is no longer a great concourse of visitors at the College on the day for the election of members of Council.

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[1] THE LANCET, June 13th, 1914, p. [illegible]

HYPOTHYROIDISM.

COMPLETE suppression of thyroid secretion produces the definite and well-recognised condition termed myxœdema, but partial suppression may also occur, and the effects are less definite, variable, and far from well recognised. To Dr. E. Hertoghe, of Antwerp, we are most indebted for their recognition. By patient observation extending over a period of 20 years he has shown that a variety of morbid states, the nature of which was not understood, are due to deficiency of thyroid secretion (hypothyroidism). Such deficiency is by no means uncommon and often is overlooked. In this country Dr. Leonard Williams has done much to call attention to it. Dr. Hertoghe has recently delivered a series of addresses in the United States on thyroid deficiency. In one, which is published in the Internal Secretions Number of *American Medicine*, he shows how widespread are the effects of thyroid secretion. He points out that no cell in the body can reach morphological perfection without thyroid stimulus. Hence the arrest of growth in cretins. Secondly, when a cell has done its work it disintegrates. If thyroid activity is below normal the carrying away of waste matter is incomplete, and mucin, fat, and other bodies accumulate, producing a certain form of œdema (myxœdema). Thirdly, he considers that the thyroid has a great influence over menstruation, pregnancy, and lactation; having an inhibitory action on menstruation, when it is subnormal the menstrual loss is increased. In pregnancy the thyroid is hypertrophied and pours into the blood an unusually large amount of secretion, thus, it is suggested, suspending menstruation. This action should be remembered, says Dr. Hertoghe, when repeated abortion resists ordinary treatment. After labour the increased thyroid secretion accelerates uterine involution and stimulates lactation. Dr. Hertoghe believes that hypothyroidism produces infiltration of every tissue, causing in muscles painful contractions, in nerves neuralgic and shooting pains, and in the central nervous system headache (migraine), dizziness, vertigo, and tinnitus, and in severe cases loss of consciousness, defective memory, and coma. To infiltration of glandular tissue Dr. Hertoghe traces serious and far-reaching symptoms: the sweat glands cease to act, intestinal secretions are dried up, hepatic activity is impaired, and canaliculi are compressed, causing a special kind of jaundice. Of effects on the skin he mentions premature falling and greyness of hair and striated and brittle nails. Loss of the outer third of the eyebrows he considers a striking sign. Eczema, psoriasis, seborrhœa, and alopecia find, he says, a favourable soil in the skin, and it is in these cases that thyroid extract gives good results. To infiltration of the bladder he attributes the formation of calculi or painful micturition. Bones, he says, become brittle, break easily, and are slow to unite. Hence thyroid extract is often useful in promoting the union of fractures. Cartilaginous tissues are also early affected. He describes as a pathognomonic symptom in the joints a crackling sensation like that produced by pressing on snow. Often the patient hears and feels crepitation of the cervical vertebræ. To infiltration of the cardiac muscle he traces a slow, weak pulse, and to infiltration of the nerve ganglia painful contractions with or without shooting pains in the left arm (false angina pectoris); to infiltration of respiratory mucous membrane dyspnœa, which in mild cases is intermittent and frequently mistaken for asthma. Hence the cases of asthma reported as cured by thyroid extract. In the gastro-intestinal tract the effects, he finds, are constipation and meteorism. He thinks that in time microbes migrate through the walls and reach the peritoneum and kidneys, and that the peritoneum in resisting invasion produces false membranes which grow into bands, causing kinks.

THE STREPTOBACILLUS PELLAGRÆ.

THE exhibition of a case of this disease at the recent meeting of the Dermatological Section of the Royal Society of Medicine recalls to our notice a paper on the streptobacillus pellagræ by Professor Guido Tizzoni, who occupies the chair of pathology at the University of Bologna.[1] The recent and more detailed researches among the rich material collected in pellagrous districts during the past year have enabled him to make known some new facts relative to the cultural characters and biological properties of the streptobacillus of pellagra which are of importance in establishing its more certain identification and in differentiating it more easily from the pathogenic and non-pathogenic micro-organisms which resemble it, and with which it might be mistaken on superficial examination. There are, according to Professor Tizzoni, two separate types of the streptobacillus, the streptococcal and the staphylococcal. The former is distinguished from the ordinary human streptococcus by the following characteristics: it passes through Carnot-Garnier tubes, which human and equine streptococci never do; in some phases of its evolution it presents distinctly bacillary forms; the lower limit of the temperature of development is higher than that of ordinary streptococci; it is not stained by Gram's method; it is distinctly hæmophile; it always coagulates milk within 24 hours, even after long preservation in a saprophytic state, while streptococci, both human and equine, coagulate milk only after one or more days; the colonies of the streptobacillus pellagræ in agar and gelatin differ from those of human streptococcus; and lastly, the cultures of the streptobacillus of pellagra sometimes undergo profound modification and pass from the streptococcal to the staphylococcal form. The second type, the staphylococcal, exhibits the following properties which distinguish it from the ordinary staphylococcus: it passes through Carnot-Garnier tubes, it develops in gelatin smaller and more granular colonies, it gives in fixation in gelatin rounder, larger, and more distinct colonies like those of the streptococcus, such cultures being paler in colour than the staphylococcus pyogenes, but acquiring the property of producing pigment after a saprophytic existence, the pigmentation being partial and never uniform as in the staphylococcus aureus and flavus; and lastly, when introduced under the skin or into the peritoneum of animals it never causes suppuration or fatal peritonitis. It appears, moreover, that there is no true transformation of one type into the other—i.e., a passing from the genus streptococcus to the genus micrococcus, but rather a simple transformation of a culture of a streptococcal type, by means of which, owing to a different grouping of the organisms, it assumes only from the microscopic point of view the appearance of the staphylococcus, retaining, however, in its colonies and gelatin cultures the fundamental characteristics of the streptococcus of origin.

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[1] Malaria e Malattie dei Paesi Caldi. Anno V., Fasc. II. 1914. Rome, Via Farini, N. 62.

THE VESALANIUM MISTAKEN FOR FRACTURE OF THE FIFTH METATARSAL BONE.

IN the *Boston Medical and Surgical Journal* of May 7th Dr. W. P. Coues has described a case of a very rare bony abnormality which is liable to be mistaken for fracture in X ray examinations. The vesalanium or bone of Vesalius of the foot is so rare that it is not mentioned in the standard modern works on anatomy of Sobotta, Piersol, Gerrish, Morris, Macalister, or Gray. It is described as follows by Professor Dwight in his "Clinical Atlas of the Variations of the Bones of the Hands and Feet": "The vesalanium, corresponding to the bone of the same name in the hand, is the proximal and external part of the tuberosity of the fifth metatarsal. It is excessively rare. I have never seen it in the macerated foot of an adult. Spronk has seen it at birth. I have once seen it in the skiagraph of a girl of 12. The entire base of the fifth metatarsal varies much in size. The vesalanium is usually more or less marked off by a groove on the plantar surface." The case reported by Dr. Coues is as follows. A healthy girl, aged 12 years, was seen at the Boston Dispensary. While running a week previously she slipped and fell, her ankle turning under her. After this she was lame and had considerable pain in the ankle. She was well developed and well nourished. Over the external lateral ligament of the ankle there was slight ecchymosis, and over the scaphoid bone tenderness. Movements of the ankle were free, but the child walked with a limp. A provisional diagnosis of sprain or fracture of the scaphoid bone was made, and the foot was immobilised in plaster-of-Paris. A skiagram showed what appeared to be the fracture of the base of the fifth metatarsal bone first described by Mr. Robert Jones in 1902. Its occurrence in childhood was thought most unusual. After two weeks the plaster was removed and another skiagram was taken which showed the supposed fragment in exactly the same condition as before, not united. There was distinct pain on pressure over the base of the fifth metatarsal, and it was supposed that the fragment was slow to unite. After another two weeks a skiagram showed the same condition. A skiagram was then taken of the opposite ankle which showed the same shell-like bone united to the base of the metatarsal by cartilage. All tenderness had disappeared in the left foot. The bandage was removed and weight-bearing on the foot was found possible. In consequence of the tenderness at the time of injury and afterwards an infraction of the cartilage uniting the vesalanium to the shaft could not be excluded. The importance of recognition of this rare abnormality is obvious. Dr. Coues suggests that some of the reported cases of fracture of the fifth metatarsal bone by inversion were examples of it, and others examples of fracture through the line of union to the metatarsal. A radiogram of the metatarsal bone on both sides should be taken in all cases in which fracture through the base of the fifth metatarsal bone has been diagnosed.

ARGYRISM FOLLOWING THE USE OF COLLARGOL.

CASES of chronic silver poisoning or argyrism are much less frequently seen than they used to be, in consequence of the disuse of silver as an internal remedy. In the *Journal of the American Medical Association* of May 2nd Dr. A. M. Crispin has pointed out that there is a danger that the prolonged use of the colloidal preparations of silver now in vogue, which are advertised as innocuous, may again familiarise us with argyrism. He reports the case of a young woman sent to him by her medical attendant with the request that she should be operated on for gall-bladder obstruction. Her complexion was of a dark bluish hue, with bright glistening eyes "compelling the wonder and admiration of all who beheld her." To the medical man it suggested a congenital heart lesion or intense cyanosis. This chromatic effect was a constant worry to an otherwise pretty girl. Sunlight seemed to increase the darkness of her colour. Examination of the chest revealed a perfectly normal heart and lungs. There were slight tenderness over McBurney's point and slight rigidity of the right rectus muscle. The most careful search failed to show any abnormality of hepatic function or anything to account for the blueness. On questioning she stated that she had taken collargol for four years under her medical attendant's advice, and had become "jaundiced." A blood count showed marked anæmia. Chronic appendicitis and argyrism were diagnosed. Before operating it was thought well to improve the patient's general condition and to try to clear her complexion. Potassium iodide had no effect on her colour. Acute coryza occurred, for which hexamethylenamine was given, and to Dr. Crispin's astonishment and the patient's joy her colour began to fade. She said that when she took her bath there was on the top of the water a supernatant film resembling oil, which she never observed before. Operation showed a chronically inflamed appendix, which was removed. The muscles and intestines had a bluish tinge. Dr. Crispin suggests that in a case of argyrism hexamethylenamine deserves a trial.

SECTION OF NERVE-ROOTS FOR BRACHIAL NEURALGIA.

DIVISION of the posterior nerve-roots has become a procedure of possible benefit in several conditions in which persistent pain constitutes the dominant symptom, and pain, too, which is often of so intractable and of so distressing a character as to justify what must be regarded as a serious operation. It has been practised, not only for the pain associated with the gastric crises of tabes dorsalis, with variable results, but also for erythromelalgia, again with some benefit in a few cases. For a case of persistent and acute brachial neuralgia this operation was done, and the report of the case is described by Sicard, Desmarsts, and Reilly in the *Revue de Neurologie* (1913, vol. xxvi., p. 107). The patient was a man aged 48. His complaint was severe paroxysmal algesia of the right upper limb. It resisted all forms of treatment and made the patient's life unbearable. An operation was finally agreed upon. The posterior roots of the seventh and eighth cervical nerves and the first dorsal were divided; the operation was performed with relative ease. The immediate result was relief of the pain. There was in addition complete anæsthesia of the skin areas supplied by the divided nerves. The reflexes were almost abolished. Recurrence of pain, however, followed, and two months later a second operation was performed at which the fifth and sixth cervical and second dorsal nerves were divided. There was some difficulty on account of adhesions resulting from the previous operation. The final result, however, was permanent relief of the pain. Now it was noted that there was, as before, complete anæsthesia. The reflexes were abolished. Movements were affected to some extent. There was no definite loss of power, but rather some unsteadiness of action, some ataxia. This was more marked when the eyes were closed. The patient could, however, perform all ordinary movements with fair accuracy. There was some loss of tone of the muscles. It was of interest to note that there was no adiadokokinesia, an observation confirmatory of Babinski's views of the nature and origin of this curious sign. In so far as the result showed abolition of the pain, it can be said that the operation was successful and justifiable.

ON the occasion of the tercentenary of the foundation of the University of Groningen the degree of Doctor of Medicine *honoris causâ* has been conferred upon Sir Edward Schäfer and Professor J. N. Langley.

THE MILK AND DAIRIES BILL AND THE BACTERIOLOGICAL EXAMINATION OF MILK.

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PROFESSOR OF BACTERIOLOGY IN THE UNIVERSITY OF LONDON (KING'S COLLEGE).

THE Milk and Dairies Bill, 1914, contains one important alteration, or rather addition to its predecessors. In Clause 5, Section 2, it grants powers to health authorities to take samples of milk for "bacteriological examination." Now, judging by the Bill of 1912, Clause 2, Section 3, it is by no means improbable that to the framers of the Bill this bacteriological examination is intended to cover examination for B. tuberculosis only, either by microscopical or inoculation methods. In such a sense and so far the idea is good, and is rendered acceptable by the additional enactment that such samples shall be divided into three parts and the necessary check examinations made as may be desired.

Unfortunately, in Clause 15 the word "bacteriological" is not defined, and it is certain that by most health authorities it will be regarded in its widest sense, an assumption rendered all the more probable by amendments which have been moved in committee to add the words "or other" to "bacteriological." This addition would include the whole field of biological, enzymic, and physical tests, which are constantly brought forward as being infallible methods of judging of the purity of milk, and which, though constantly shown to be more or less fallacious for public health work, yet have such an attraction for the hygienic enthusiast that it is well-nigh impossible to shake his belief in their infallibility. There can be little doubt that the introduction even of a general quantitative bacteriological examination of milk will be fraught with great difficulties and much unnecessary disturbance to those engaged in the milk trade, and should there be added to this anything approaching a qualitative examination, then there is scope for any quantity of misguided energy.

It appears to be forgotten by those who advocate this sort of control that no country has adopted it for legal purposes except in the case of certain special milks which are sold under certain fixed conditions and for which a special price is paid.

Quantitative Enumeration of Bacteria in Milk.

But there are some considerations which must be carefully weighed by those who advocate a simple quantitative enumeration of the bacteria present in a sample of milk as a criterion of its cleanliness and age, and which, if rightly apprehended, show that such a simple enumeration, while direct in its answer as to numbers, gives no reply as to the means by which such numbers are attained. Briefly these are some of the considerations:—

I. We have no reliable data as to what the bacteriological content of milk should be when milk is delivered to the public after such reasonably proper handling as is possible in commercial work. Figures purporting to give such information there are undoubtedly, but the conditions under which these were obtained are not the conditions of practice. How often milk is obtained from a cow direct, and simply kept in a vessel of some kind and examined after 24 or 48 hours at certain fixed temperatures, and the consequent multiplication ascertained. Now any butter-maker knows that if he wants his "starters" to sour more rapidly he must stir them well at intervals, and in ordinary practice milk from the time it leaves the cow till it gets to the consumer is in constant motion, which without doubt produces a profound effect on bacteriological multiplication. Again, the process of straining, especially when centrifugal cleaners are used, and also of cooling, all tend to increase the apparent number of effective organisms by breaking up colonies and rendering active organisms which by enclosure in such colonies had ceased to be available. The following experiment will show the effect of a centrifugal cleaner, which while actually removing many organisms (as could be seen by the qualitative character of the experiments) apparently increases the bacterial count. Six churns of milk were mixed and passed through a centrifugal cleaner running at about 600 revolutions per minute; before passing, 3,900,000 organisms per c.c.; after passing, 5,400,000 organisms per c.c. Also the effect of agitation becomes the more marked as the bacteriological content increases, and it is just at the time when multiplication has already taken place—namely, after arrival at the distributor's premises—that it undergoes the most drastic agitation, and the rate of increase is accelerated out of all due proportion.

II. Any value which might attach to a quantitative examination is completely lost if at any stage the milk be subjected to pasteurisation. It is quite possible to pasteurise milk in such a manner that there is no outward indication that this has been done, and yet the bacterial content be brought within any desired limits, and there would also be no indication as to how often this might have been practised. This is probably one of the most potent objections to bacteriological standards on account of the false idea of freshness which they may imply. This is not the place to enter into the question of the merits or demerits of pasteurisation, but, at any rate, it does not make for improvement in the milk-supply.

Bacterial Development in Milk in Ice-rooms and Ice-boxes.

III. With the effect of weather vagaries, of actual climatic conditions, as opposed to temperature, and of the awkward concurrence of an impoverished and tepid water-supply on farms at times when prolonged or excessive heat renders a plentiful and cold supply for cooling most necessary, there is not space here to deal, but the effect of holding milk in ice-rooms on bacterial development touches this question of bacteriological examination very closely.

It must be clearly understood that since (at least in the case of London) milk reaches the distributor each day during the hours of 12 midnight and 4 A.M., and again from 11 A.M. to 4 P.M., and that the usual times of delivery of milk to the consumer are from 5 A.M. to 7 A.M., and from 12 midday to 3 P.M., nearly half the day's supply arrives at a distributing station after the last round (12 midday) has been dispatched. The milk so arriving must be held for the next morning's delivery. This necessitates some hours' storage in ice-rooms, and for practical purposes a temperature of 45° F. is generally attained. It might be supposed that at this temperature multiplication would be so slow as to be almost negligible, but the results of a few experiments show that this is not the case, and the higher the initial count on going into the ice-room, the greater will be the development during storage. 1. A churn of milk chilled to 45° F. on the cooler contained 483,000 bacteria per c.c. The same kept 18 hours in the ice-room at 43°–45° F. then contained 970,000 per c.c. 2. The following results were obtained with churns of milk taken after passing a centrifugal cleaner, these being then kept in the ice-room at 45° F. for 18 hours.

(*a*) Before storage	... ...	4,000,000	bacteria per c.c.
After ,,	... ...	12,320,000	,, ,,
(*b*) Before storage	... ...	2,000,000	,, ,,
After ,,	... ...	8,100,000	,, ,,
(*c*) Before storage	... ...	3,000,000	,, ,,
After ,,	... ...	10,300,000	,, ,,
(*d*) Before storage	... ...	2,220,000	,, ,,
After ,,	... ...	5,120,000	,, ,,
(*e*) Before storage	... ...	3,760,000	,, ,,
After ,,	... ...	5,550,000	,, ,,

3. Small samples of milk (50 c.c.) kept under similar conditions.

(*a*) Before storage	... ...	1,580,000	bacteria per c.c.
After ,,	... ...	7,500,000	,, ,,
(*b*) Before storage	... ...	1,910,000	,, ,,
After ,,	... ...	8,500,000	,, ,,

These all have a very direct bearing on the results of taking samples of milk and placing them in ice-boxes and sending them to laboratories for examination. The temperature of an ordinary good ice-box is by no means steady, as the following readings will show:—

Time.	Temperature. Inside.	Temperature. Outside.
10 A.M.	37·5° F.	... 65° F.
1 P.M.	39·2°	... 67°
6 P.M.	41·0°	... 63°
10 A.M. (next morning) ...	53·0°	... 65°

If small samples kept constant at 43°–45° F. show the increase stated above, what will it be when the conditions are those of the ice-box, and yet when samples are divided into three it is impossible that all will be kept under identical conditions or be examined at the same interval of time. What a fruitful source of discrepancy and unjust deduction is here!

The following is an actual experiment made under such conditions. Two samples of milk were taken and placed for one hour in an ordinary good type of ice-box, such as is used for sending samples for bacteriological examination by rail or post, the copper receptacle being well packed with ice. A quantitative examination was then made in each case and the bottles returned to the box and kept in it for 24 hours and again examined. The temperature of the milks was then 60° F., with an outside temperature of 64°. The results were as follows:—

	Start.	24 hours later.
Sample 1	168,000	550,000
Sample 2	10,800,000	36,500,000

These samples were deliberately chosen to have a high and a low initial count respectively, and in each case show a very marked increase during an interval which would be a normal one if samples were dispatched by rail to bacteriological laboratories, as would be the case in most instances.

EPSOM COLLEGE.

THE annual general meeting of the governors of Epsom College was held at the office in Soho-square on June 26th, Sir Henry Morris, the treasurer of the College, being in the chair. He was supported by a very large number of governors, amongst whom were: Mr. S. Boyd, Sir John F. H. Broadbent, Mr. J. Paul Bush, Dr. F. Charlesworth, Sir William S. Church, Sir Thomas Boor Crosby, Sir Dyce Duckworth, Mr. A. P. Eldred, Dr. L. Grant, Dr. W. S. A. Griffith, Dr. F. de Havilland Hall, Mr. H. E. Haynes, Mr. H. Hilliard, Mr. D. Keele, Mr. J. B. Lawford, Mr. J. H Morgan, Mr. W. A. Propert, Dr. G. Rankin, Sir James Reid, Dr. St. Clair B. Shadwell, Colonel Bruce M. Skinner, A.M.S., Dr. S. Sunderland, Dr. F. Taylor, Dr. W. E. Wynter, and Mr. E. P. Young.

The SECRETARY read the report of the scrutineers as to the successful candidates for pensionerships and foundation scholarships as follows:—

PENSIONERSHIPS.	Votes.
Nunn, Alice S.	5418
White, Marianna W.	4579
FOUNDATION SCHOLARSHIPS.	
Dyson, Malcolm H. C.	7576
Morgan, Algernon W.	7250
MacDowell, Thomas W....	3895

The SECRETARY reported that as vacancies had arisen since the voting papers were printed, Emma M. Daniell would be elected a "Pugh" pensioner and William G. Hughes would be elected a foundation scholar at the Council meeting which would be held immediately after the annual general meeting.

The annual report of the Council to the governors stated that the foundation had suffered during the years 1912 and 1913 by the uncertainty which had overshadowed medical practice throughout the country, many medical men having withdrawn their contributions. The Council urged upon all friends of the College to do their best to secure fresh annual subscriptions in order that the work hitherto carried out by the Royal Medical Foundation might be maintained. This comprised the provision of 50 pensionerships of £30 a year for members, or widows of members, of the medical profession in reduced circumstances, and of 50 foundation scholarships, by means of which board, clothing and pocket money, and an education of the highest class are given gratuitously to necessitous sons of medical men. The report further impressed upon those intending to leave money for the Foundation of Epsom College the great importance of mentioning in their wills the official title of the College—namely, "Epsom College"—as a legacy of £500 which the Council thought was certainly intended for the College, had recently been lost as a result of what was, if the Council were right, a clerical inaccuracy in the descriptive title of the College. The work of the College, the general health of the boys, and the school discipline had, as usual, been quite satisfactory. The various school games—cricket, football, and hockey—had been played with success, the football team having won most of its matches; the Officers' Training Corps was in a flourishing condition; an aero section and workshop had been instituted; and the various school institutions had been very successfully carried on. Since the last annual general meeting G. W. Davis had obtained an open scholarship in science at St. Mary's Hospital; L. V. Ardagh had secured an exhibition for classics at Wadham College, Oxford; A. R. Wood had won an exhibition for science at Clare College, Cambridge; and two old Epsomians had gained open scholarships at St. Bartholomew's Hospital in October last—namely, G. K. Bowes in science, and J. W. S. Dick in arts.

In proposing that the report be adopted Sir HENRY MORRIS referred to the suggestion which had been made by some persons that the Royal Medical Benevolent Fund and Epsom College ought to have compromised in regard to the bequest left by the late Miss Glenny. He said that it would have been most unjustifiable for the College to agree to such a proposal, as the Council was convinced that the testatrix intended the bequest for Epsom College, and their opinion was fortified by the statement in the proof of Mr. Crosse, the solicitor to the testatrix and one of the executors, that the executors were satisfied that Epsom College was entitled to the legacy, that being the institution the testatrix intended to benefit. Furthermore, the executors would have been failing in their duty had they not done their very best to enable the bequest to reach the destination intended by the testatrix. The chairman emphasised the point that an interval of four days had elapsed between the occasion on which Mr. Justice Joyce stated that if either side knew, either by inadmissible evidence or otherwise, that the legacy was intended for the other, the legacy ought not to be contested, and the day on which judgment was given in favour of the Royal Medical Benevolent Fund.

Mr. PARKER YOUNG explained the reasons which had actuated the committee of the Royal Medical Benevolent Fund in the course they adopted, and expressed the hope that there would be no future difficulties between the two medical charities.

Formal business having been transacted, a vote of thanks to the chairman, moved by Sir WILLIAM CHURCH and seconded by Sir THOMAS BOOR CROSBY, brought the proceedings to a close.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the forty-third meeting of the Royal Commission on Venereal Diseases evidence was given by Dr. J. J. Pringle, physician in charge of the skin department of Middlesex Hospital and President of the Dermatological Section of the Royal Society of Medicine.

Dr. Pringle stated that of 36,151 cases of skin disease dealt with in the out-patients' department of the Middlesex Hospital during the last 25 years, 1853, or rather over 5 per cent., presented indubitable evidence of syphilis. This figure did not represent the number of patients who had attended the hospital for syphilitic manifestations, but only those who had been referred to the special department as suffering from some affection of the skin. Of the 1853 cases of syphilis 925 were males and 928 females. Dr. Pringle thought that this apparent equality of incidence in the two sexes was due to the fact that men do not willingly attend hospitals during working hours, except for diseases which in their opinion threaten life or cause grave discomfort or pain. On the other hand, anything causing disfigurement impelled women to seek medical advice. Of the 1853 cases of syphilis already mentioned nearly 24 per cent. were foreigners.

Dr. Pringle stated that he could not see his way to supporting or advocating any measure of compulsory notification of venereal diseases. The medical profession was, he thought, practically unanimously opposed to it, and even if made confidential its effects upon the public would be merely to drive them to seek treatment from unqualified persons. His experience both in hospital and private practice convinced him that much of the syphilis existent in England was of foreign importation. He believed that a considerable number of prostitutes left their own countries because they were unable to ply their trade there, and spread the disease in this country. It was important that this matter should be further investigated and that steps should be taken to deal with it.

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

Metropolitan Borough of Stoke Newington.—In London sanitary and social progress is greatly affected by the increasing "tenementation" (if the word may be allowed) of houses originally built and contrived for single families, and Professor H. R. Kenwood's report on Stoke Newington for 1913 brings out very clearly the drawbacks to such a tenement house in working-class neighbourhoods. The proper washing and drying of body clothing, bedding, and household linen is always difficult in these circumstances, and in many cases it is impossible. The one copper in the basement or on the ground floor has to be approached through someone else's kitchen or scullery; there are few if any conveniences in the shape of mangles, washing boards, and the like, and the drying has to be done in a small room which must often serve as a living room, and which is crowded at times throughout the day. A tenement house lacks adequate space for healthy reasonable comfort or for children to play, has no provision for storing food or proper facilities for washing up, and no place for storing coal or wood. Little advantage can be expected from school education in "hygiene," or from visits of sanitary inspectors and health visitors, while the means of carrying out elementary requirements of cleanliness are absent. The local authorities in London are able to enforce the provision of a water-supply on each floor of a tenement house, but this is often met merely by the provision of a tap on the landing, and all dirty water has to be carried down one or more flights of stairs. It ought, in Professor Kenwood's view, to be possible to demand that a scullery sink should be provided on each floor. Where the total number of lodgers in a tenement house exceeds 12 the landlord is required to provide a second water-closet, but almost invariably this is placed alongside the other water-closet in the backyard. It should be on the first floor, where it could also serve if necessary as a slop sink. Provision should be required for the proper storage of food in respect of each tenement, against an external wall, and properly lighted and ventilated. Professor Kenwood also lays stress on the defective principle on which the laws relating to these houses are based. The landlord should be required to maintain his property in a sanitary state under a penalty, whereas at present "he has no obligation to do anything until insanitary conditions are belatedly discovered by the sanitary inspector and a notice is served upon him." Professor Kenwood is evidently of opinion that Section 15 of the Housing and Town Planning Act, 1909, of which much was expected, is inadequate for this purpose. Realising that the insanitary tenant is often by no means free from blame on his own account, the report advocates additional powers in by-laws relating to tenement houses by which the tenants themselves are made more responsible for cleanliness and the proper maintenance of sanitary provisions. It is difficult to read this report, which is confirmed by that of many other medical officers in recent years, without surprise that these matters have not already been more seriously taken in hand in London. The matter of tenement houses is one on which the Local Government Board and the London County Council might be expected to have a settled policy, in the active pursuit of which any necessary additional legislation should be strongly pressed for. Possibly the solution lies in the annual licensing of all such houses. Professor Kenwood reports what appears to be an exemplary penalty for milk adulteration in Stoke Newington. The defendant, who had several previous convictions against him, was proceeded against for selling milk containing 8 per cent. of added water, and was fined £100, with costs, with the alternative of three months' imprisonment.

Guildford Rural District.—Dr. R. W. O. Pierce refers to an investigation made by Dr. E. P. Manby for the Local Government Board, which showed that a shortage of working-class dwellings existed throughout the district, and particularly in five parishes. This confirmed the opinion which the medical officer of health had frequently expressed, but from which the district council dissented. It seems to be argued that no action need be taken by the local authority, as many of the cottages are occupied by persons working in other districts. This fact, however, hardly lessens the responsibility of the district council to use the Housing Acts for the purpose of providing cottages where there is a clear demand for them by persons working in their district, and it may be supposed that the council would have full control over the tenancies of any working-class houses which they provided under the Housing Acts. Dr. Pierce states that the four cheap cottages erected at Merrow by Mr. St. Loe Strachey could have been let over and over again. He doubts, however, if the solution of the rural housing problem can be found in attempting to build a £100 cottage, which really means the reduction of the cost of materials and construction to the lowest limits of habitability. The Merrow cottages are characterised in nearly all details by cheapness of materials and omission of many items usually considered necessary from the points of view of sanitation and convenience. A particular defect in such cheap cottages is the lack of cubic space; even old and otherwise insanitary country cottages frequently have a roominess which is absent from the modern cottage, in the construction of which the low common lodging-house standard of 300 cubic feet per person is too readily accepted. Good and substantial cottages, even when built in numbers by contract, cannot be erected in this part of Surrey under from £175 to £200 each. Dr. Pierce asks why the rural worker should be required to put up with a cheap and unsatisfactory cottage, and remarks that this country is not so impoverished that it is obliged to provide for its rural population by makeshift methods. In regard to the treatment of tuberculosis in non-insured persons (excluding dependents of the insured) a scale of costs was arranged last year between the district council and the county council of Surrey. The latter are to pay one-quarter of the total cost and the Treasury one-quarter. The other half is to be made up from the funds of the rural district council and from the Treasury grant in equal amounts, after deduction of any sums received from the patient. In 1913 tuberculosis work by the county council appears to have been limited to domiciliary visiting of insured patients by the county tuberculosis officer. A dispensary is now to be established in Guildford, and progress will be made with the institutional treatment of both insured and non-insured persons. The report refers to the working of the tuberculosis Order of 1913 in regard to tuberculous cattle; experience so far has shown that the veterinary examination of cows in the manner prescribed by the Order cannot take the place of systematic veterinary inspection of all the milking cows of the district, which is needed if the tuberculous cows are to be identified. It is noteworthy that out of five cows suspected to have tuberculous udders, on veterinary examination under the Order, four did not yield milk in which tubercle bacilli were found on centrifugalising.

Auckland Rural District.—This report, like the two above referred to, contains instructive information on housing questions. The Durham colliery village, as is well known, often consists of large numbers of houses built in rows, which do not allow of through ventilation, and have upper rooms the height and lighting of which are altogether inadequate. The houses have no yards or spaces belonging to the dwelling, but abut on unpaved common yards or back streets the chief feature of which is the line of capacious middens in between the rows of houses. It is evident from Dr. John F. Macdonald's report that the council of the Auckland rural district are making considerable progress under the Housing Acts in improving such villages, and that inspection is proceeding fairly rapidly. Plans are given in the report to illustrate clearances which have been made, and photographs show the great improvement which has resulted either by repairing closing, demolition, and rebuilding, or by getting the roofs of the houses raised and substantial large bedroom windows provided in place of the small apertures which formerly served as window spaces in the upper rooms. The work has been largely undertaken by different colliery owners as a result of the representations of the local authority and its public health officers. Self-contained yards have been added in some cases, and insanitary privy middens have been removed. Over 100 new houses were erected and occupied during 1913. Out of 397 cases of scarlet fever notified during the year 233 were removed to hospital. Dr. Macdonald gives a table to show the occurrence of secondary cases in households infected by scarlet fever (*a*) when the primary case was taken to hospital and (*b*) when the primary case was treated at home. While as many as 14 households were affected by return cases after the primary case had been sent home from the hospital, about four times as many secondary cases occurred when no hospital treatment was given to the primary case. In preparing this table Dr. Macdonald has in each instance reckoned the proportion of attacks on susceptible children under the age of 14.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 9192 births and 4193 deaths were registered during the week ended Saturday, June 27th. The annual rate of mortality in these towns, which had been 13·2, 13·5, and 12·9 per 1000 in the three preceding weeks, further fell to 12·1 per 1000 in the week under notice. During the first twelve weeks of the current quarter the mean annual death-rate in these towns averaged 13·9, against 13·1 per 1000 in London during the same period. Among the several towns the death-rate last week ranged from 4·9 in Swindon, 5·5 in Bournemouth, 5·6 in Southend-on-Sea, 6·1 in Hastings, 6·3 in Croydon, and 6·6 in Walthamstow, to 17·3 in Liverpool and in Middlesbrough, 18·3 in Oldham, 18·4 in Smethwick, 19·8 in Wakefield, and 21·1 in Stockton-on-Tees.

The 4193 deaths from all causes were 304 fewer than the number in the previous week, and included 394 which were referred to the principal epidemic diseases, against 395 and 390 in the two previous weeks. Of these 394 deaths, 144 resulted from measles, 93 from whooping-cough, 79 from infantile diarrhœal diseases, 35 from diphtheria, 30 from scarlet fever, and 13 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·1 per 1000 and coincided with the rate in the previous week. The deaths attributed to measles, which had been 131, 119, and 140 in the three preceding weeks, rose to 144 last week, and caused the highest annual death-rates of 1·8 per 1000 in Stockton-on-Tees, 1·9 in Dewsbury, 2·0 in Smethwick, 2·1 in Warrington, 2·5 in York, and 2·8 in Oldham. The deaths referred to whooping-cough, which had been 117, 111, and 99 in the three preceding weeks, fell to 93 last week; the highest death-rates from this disease were 1·6 in Middlesbrough, 1·9 in Gillingham, 2·1 in Warrington, and 2·4 in Barrow-in-Furness. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 80, 69, and 79 in the three preceding weeks, were again 79 last week, and included 15 in London, 8 in Liverpool, 7 in Birmingham, and 3 each in Smethwick and Manchester. The deaths attributed to diphtheria, which had been 38, 56, and 40 in the three preceding weeks, fell to 35 last week, of which 11 occurred in London, 4 in Birmingham, and 2 each in Edmonton, West Ham, and Bradford. The deaths referred to scarlet fever, which had been 26, 24, and 24 in the three preceding weeks, rose to 30 last week, and included 6 in London and 3 in Liverpool. The fatal cases of enteric fever, which had been 9, 16, and 8 in the three preceding weeks, rose to 13 last week, and included 2 in London and 2 in Liverpool.

The number of scarlet fever patients under treatment in the London Fever and the Metropolitan Asylums Hospitals, which had steadily increased from 2862 to 3038 in the six preceding weeks, further rose to 3058 on Saturday last; 440 new cases were admitted during the week, against 339, 391, and 405 in the three preceding weeks. These hospitals also contained on Saturday last 1100 cases of diphtheria, 304 of whooping-cough, 72 of measles, and 35 of enteric fever, but not one of small-pox. The 1045 deaths from all causes in London were 8 fewer than the number in the previous week, and corresponded to an annual death-rate of 12·1 per 1000. The deaths referred to diseases of the respiratory system, which had been 179, 143, and 163 in the three preceding weeks, fell to 144 in the week under notice, and were 17 above the number recorded in the corresponding week of last year.

Of the 4193 deaths from all causes in the 97 towns, 176 resulted from different forms of violence and 377 were the subject of coroners' inquests. The causes of 29, or 0·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in West Ham, Portsmouth, Bristol, Manchester, Salford, Bradford, Leeds, Sheffield, Newcastle-on-Tyne, and in 73 other smaller towns. Of the 29 uncertified causes of death, 6 were registered in Liverpool, 4 each in Stoke-on-Trent and in Birmingham, 3 in St. Helens, and 2 in Hull.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1276 births and 641 deaths were registered during the week ended Saturday, June 20th. The annual rate of mortality in these towns, which had been 15·6, 16·0, and 14·4 per 1000 in the three preceding weeks, rose to 14·6 per 1000 in the week under notice. During the first eleven weeks of the current quarter the mean annual death-rate in these towns averaged 15·7, against a corresponding rate of 14·0 per 1000 in the 97 large English towns. Among the several towns the death-rate in the week under notice ranged from 8·8 in Kilmarnock, 10·1 in Motherwell, and 10·5 in Clydebank, to 18·3 in Leith, 18·7 in Greenock, and 18·9 in Hamilton.

The 641 deaths from all causes were 10 in excess of the number in the previous week, and included 67 which were referred to the principal epidemic diseases, against 62 and 48 in the two preceding weeks. Of these 67 deaths, 20 resulted from whooping-cough, 20 from infantile diarrhœal diseases, 17 from measles, 6 from diphtheria, and 4 from scarlet fever, but not one from enteric fever or from smallpox. The mean annual death-rate from these diseases was equal to 1·5, against 1·1 per 1000, in the 97 large English towns. The deaths attributed to whooping-cough, which had been 23, 19, and 15 in the three preceding weeks, rose to 20 in the week under notice, of which 16 occurred in Glasgow and 2 in Greenock. The deaths of infants (under 2 years) referred to diarrhœa and enteritis, which had been 7, 16, and 10 in the three preceding weeks, rose to 20, and included 9 in Glasgow, 4 in Dundee, 2 in Aberdeen, and 2 in Hamilton. The fatal cases of measles, which had been 17, 19, and 12 in the three preceding weeks, rose to 17 in the week under notice, of which 8 were registered in Glasgow, 3 in Dundee, 3 in Hamilton, and 2 in Clydebank. The 6 deaths attributed to diphtheria, of which 2 occurred in Aberdeen and 2 in Motherwell, were slightly in excess of the average in the ten preceding weeks of the current quarter. The deaths referred to scarlet fever, which had been 5, 3, and 7 in the three preceding weeks, fell to 4 in the week under review, and comprised 3 in Glasgow and 1 in Kilmarnock.

The deaths referred to diseases of the respiratory system, which had been 96, 99, and 95 in the three preceding weeks, further declined to 77 in the week under notice; and 24 deaths resulted from various forms of violence, against 22 and 24 in the two preceding weeks.

In the 16 largest Scotch towns with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1301 births and 605 deaths were registered during the week ended Saturday, June 27th. The annual rate of mortality in these towns, which had been 16·0, 14·4, and 14·6 per 1000 in the three preceding weeks, fell to 13·8 per 1000 in the week under notice. During the first 12 weeks of the current quarter the mean annual death-rate in these towns averaged 15·6, against a corresponding rate of 13·9 per 1000 in the 97 large English towns. Among the several towns the death-rates last week ranged from 10·5 in Clydebank, 11·0 in Falkirk, and 11·3 in Motherwell, to 18·0 in Aberdeen, 19·0 in Kirkcaldy, and 23·0 in Perth.

The 605 deaths from all causes were 36 fewer than the number in the previous week, and included 52 which were referred to the principal epidemic diseases, against 48 and 67 in the two preceding weeks. Of these 52 deaths, 18 resulted from whooping-cough, 10 from infantile diarrhœal diseases, 8 from diphtheria, 7 from measles, 7 from scarlet fever, and 2 from enteric fever. The mean annual death-rate from these diseases was equal to 1·2 per 1000, being 0·1 above the rate recorded in the 97 large English towns. The deaths attributed to whooping-cough, which had been 19, 15, and 20 in the three preceding weeks, fell to 18 last week, and included 15 in Glasgow. The deaths from infantile diarrhœal diseases, which had been 16, 10, and 21 in the three preceding weeks, fell to 10 last week, and included 4 in Aberdeen and 2 each in Glasgow and Leith. The fatal cases of diphtheria, which had been 3, 2, and 6 in the three preceding weeks, further rose to 8 last week, and included 3 each in Glasgow and in Aberdeen. The deaths from measles, which had been 19, 12, and 17 in the three preceding weeks, declined to 7 last week, and included 5 in Glasgow. The deaths from scarlet fever, which had been 3, 7, and 4 in the three preceding weeks, rose again to 7 last week; 3 of the deaths occurred in Glasgow. The 2 fatal cases of enteric fever occurred in Glasgow.

The deaths referred to diseases of the respiratory system, which had been 99, 95, and 77 in the three preceding weeks, further fell to 64 in the week under notice; 26 deaths were attributed to different forms of violence, against 24 in each of the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 641 births and 410 deaths were registered during the week ended Saturday, June 20th. The annual rate of mortality in these towns, which had been 17·8, 16·7, and 17·9 per 1000 in the three preceding weeks, fell to 17·7 per 1000 in the week under notice. During the first eleven weeks of the current quarter the mean annual death-rate in these towns averaged 19·5 per 1000; in the 97 large English towns the corresponding rate did not exceed 14·0, while in the 16 Scotch towns it was equal to 15·7 per 1000. The annual death-rate in the week under notice was equal to 17·6 in Dublin (against 12·2 in London and 15·2 in Glasgow), 17·1 in Belfast, 19·0 in Cork, 11·4 in Londonderry, 23·0 in Limerick, and 30·4 in Waterford, while in the 21 smaller towns the mean rate was 17·3 per 1000.

The 410 deaths from all causes were 3 below the number in the previous week, and included 50 which were referred to the principal epidemic diseases, against 35 and 40 in the two preceding weeks. Of these 50 deaths, 19 resulted from measles, 15 from infantile diarrhœal diseases, 8 from scarlet fever, 3 from whooping-cough, 3 from enteric fever, and 2 from diphtheria, but not one from small-pox. The mean annual death-rate from these diseases was equal to 2·2 per 1000, against 1·1 and 1·5 per 1000 in the English and Scotch towns respectively. The deaths attributed to measles, which had been 19, 21, and 16 in the three preceding weeks, rose to 19, and comprised 8 in Belfast, 5 in Dublin, 5 in Sligo, and 1 in Drogheda. The deaths of infants under 2 years referred to diarrhœa and enteritis, which had been 10, 4, and 10 in the three preceding weeks, further rose to 15, of which 7 were registered in Dublin and 6 in Belfast. The fatal cases of scarlet fever, which had been 6, 1, and 4 in the three preceding weeks, rose to 8, all of which occurred in Belfast. The deaths attributed to whooping-cough, which had been 11, 6, and 8 in the three preceding weeks, declined to 3, and were all recorded in Cork. The 3 deaths referred to enteric, of which 2 were registered in Belfast and 1 in Dublin, were slightly in excess of the average in the earlier weeks of the quarter. The fatal cases of diphtheria were recorded in Belfast and Lurgan.

The deaths referred to diseases of the respiratory system, which had been 85, 63, and 67 in the three preceding weeks, were 68 in the week under notice. Of the 410 deaths from all causes, 142, or 35 per cent., occurred in public institutions and 6 resulted from various forms of violence. The causes of 12, or 2·9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes of death did not exceed 0·7 per cent.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 665 births and 364 deaths were registered during the week ended Saturday, June 27th. The annual rate of mortality in these towns, which had been 16·7, 17·9, and 17·7 per 1000 in the three preceding weeks, fell to 15·7 per 1000 in the week under notice. During the first 13 weeks of the current quarter the mean annual death-rate in these towns averaged 19·2 per 1000; in the 97 large English towns the corresponding rate did not exceed 13·9, while in the 16 Scotch towns it was equal to 15·6 per 1000. The annual death-rate in the week under notice was equal to 15·5 in Dublin (against 12·1 in London and 13·2 in Glasgow), 17·5 in Belfast, 12·9 in Cork, 10·1 in Londonderry, 12·2 in Limerick, and 13·3 in Waterford; while in the 21 smaller towns the mean rate was 15·9 per 1000.

The 364 deaths from all causes were 46 below the number in the previous week, and included 36 which were referred to the principal epidemic diseases, against 40 and 50 in the two preceding weeks. Of these 35 deaths, 13 resulted from measles, 11 from infantile diarrhœal diseases, 6 from whooping-cough, and 2 each from enteric fever, scarlet fever, and diphtheria, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·6 per 1000, against 1·1 and 1·2 per 1000 in the English and in the Scotch towns respectively. The deaths attributed to measles, which had been 21, 16, and 19 in the three preceding weeks, declined to 13 last week, and included 5 in Belfast, 3 in Dublin, and 2 in Sligo. The deaths of infants under 2 years referred to diarrhœa and enteritis, which had been 4, 10, and 15 in the three preceding weeks, fell to 11 last week, of which 5 occurred in Belfast, 4 in Dublin, and 2 in Dundalk. The fatal cases of whooping-cough, which had been 6, 8, and 3 in the three preceding weeks, rose to 6 last week, and included 4 in Belfast. The deaths from scarlet fever, which had been 1, 4, and 8 in the three preceding weeks, declined to 2 last week; both deaths occurred in Belfast. The 2 deaths from diphtheria, one of which occurred in Dublin and the other in Cork, corresponded to the average in recent weeks. The 2 deaths from enteric fever were slightly in excess of the average; one occurred in Dublin and the other in Limerick.

The deaths referred to diseases of the respiratory system, which had been 63, 67, and 68 in the three preceding weeks, were 57 in the week under notice. Of the 364 deaths from all causes, 119, or 33 per cent., occurred in public institutions, and 1 resulted from violence. The causes of 10, or 2·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified deaths did not exceed 0·7 per cent.

THE SERVICES.

MARRIAGE "OFF THE STRENGTH."

IN face of the difficulty that at present exists in maintaining our military forces at their full authorised strength, any proposals that may increase the popularity of the army deserve careful consideration. They will always have a distinctly medical interest.

The great majority of soldiers serving with the colours must be unmarried, but the presence of a considerable leaven of married men has generally been held to have a good effect on the whole body of troops. The proportion of men allowed to marry, or whose married condition is recognised by the grant of certain allowances, varies from 100 per cent. in the case of senior non-commissioned officers down to 4 per cent. in the artillery and 3 per cent. in the infantry private. When placed on the *married roll* the man and his wife enjoy certain privileges and are granted certain allowances. But over and above the men who marry "with leave," in most corps there are many instances of soldiers who have married "without leave," and the condition of these men, their wives, and their families, very generally leaves much to be desired. An inquiry into this matter has been conducted by Mrs. Tennant, and her report[1] to the Secretary of State for War has recently been published. Mrs. Tennant is satisfied that hardship is caused by the present regulations to many men who are of an age at which they might reasonably expect to marry, but who, if they do so, must either leave the army or expose their wives to the poverty, discomfort, and distress almost inseparable from marriage "off the strength." This is particularly the case with sergeants in the home battalion of a regiment whose other battalion is in India. All the sergeants in the Indian battalion may marry, but only 50 per cent. of those in the battalion at home. When married sergeants come home from India, invalided or otherwise, they have to be absorbed into the home battalion before any of the sergeants in the latter may marry. To what extent marriage off the strength exists is apparently a question difficult to answer, the evidence adduced being very conflicting; but the conclusion was come to that in no case are the numbers negligible; its results are regarded as wholly bad, affecting both the fighting efficiency of the soldier (who shares with his family the rations intended for himself alone) and his health and general moral condition. Mrs. Tennant's principal recommendations are that all sergeants permitted to serve beyond 12 years should be allowed to marry, that 50 per cent. of the remainder should have the same privilege, and that a candidates' list should be established, admission to which would carry certain privileges, such as provision of convenient lodgings at a fair rent, instruction of the women in needlework and the care of infants, and the establishment of labour exchanges for women. For the young soldier marriage must be discouraged, and this discouragement must be "unwavering and untempered by contradictory charity." Other important recommendations are that the practice (at present permitted) of allowing men married off the strength to take their rations home should be absolutely prohibited, and that sleeping out passes should be restricted to married soldiers on the candidates' list. The proposals made would not, Mrs. Tennant thinks, lead to any great increase in expenditure.

Lady Haig contributes a report agreeing in many points with that of Mrs. Tennant; the establishment of a "waiting list" for men wishing to marry, from which they would pass on to the married establishment when a vacancy occurs; the building, or provision, of cheap quarters for families married off the strength, and the discontinuance of the practice of men taking their own rations home to their families are among the points regarded as essential. Mrs. Wilberforce would permit marriage off the strength to men of between 7 and 12 years' service under certain conditions. Mrs. Wavell chiefly insists on the utter misery resulting from marriages off the strength, and would grant no sleeping-out passes in such cases. The Hon. Mrs. Maxse would withdraw some of the privileges now possessed by the "off the strength" married woman, would establish a "waiting list," and confer certain privileges on those married couples admitted to it; she believes that the present military regulations "are the worst possible method of dealing with the question, and are, in fact, so illogical that they are not now carried out." Mrs. Robb does not believe that questions connected with the administration of the married roll are as carefully inquired into at generals' inspections as more purely military matters.

We have mentioned a few points specially emphasised in this report, which is a model of conciseness. The question is rather a difficult one to handle owing to the lenient view that has been taken for so many years of breaches of the regulations. We incline to think that a greater stringency or severity in the application of the rules laid down would in the end be the kindest course to pursue; this is the opinion of each of the contributors to the report, which is of a most thorough and exhaustive character, and deals admirably with a difficult subject. The Financial Secretary to the War Office stated in the Commons on Tuesday (June 23rd) that it is now being considered, and that action would be taken as quickly as possible to remedy the undesirable conditions.

ROYAL NAVY MEDICAL SERVICE.

The following appointments have been notified:—Staff-Surgeon: E. B. Kenny, to the *Pembroke*, additional, for disposal.

NAVAL MEDICAL RESERVE.

In order to afford officers of the Naval Medical Reserve opportunities of keeping in touch with the Naval Service in times of peace, His Majesty the King has approved, by an Order in Council, of such officers being re-employed or undergoing courses of instruction during peace in the following conditions: (1) To receive full pay at the rate of 17*s.* a day while re-employed or undergoing courses of instruction; and (2) to be under the same conditions as regards pension, &c., in case of death or injury as would be applicable in the event of their being called upon to serve in time of war or emergency.

ROYAL ARMY MEDICAL CORPS.

Colonel C. Birt has been appointed to officiate as Deputy Director of Medical Services to the Sixth (Poona) Division of the Southern Army in India.

Lieutenant-Colonel S. G. Allen has been appointed to command No. 28 Company, Royal Army Medical Corps, at Gibraltar. Lieutenant-Colonel E. M. Hassard has arrived home from India. Lieutenant-Colonel C. H. Hale, D.S.O., has been appointed to hold charge of the Military Hospital at Sialkot Cantonment. Lieutenant-Colonel E. G. Browne has taken up duty as Senior Medical Officer at Peshawar. Lieutenant-Colonel A. L. F. Bate has been appointed to the Recruiting Medical Staff at Woolwich. Lieutenant-Colonel H. E. Winter has been appointed to hold charge of the Military Hospital at Colaba, Bombay. Lieutenant-Colonel H. H. Brown has been appointed Senior Medical Officer to the North-Eastern Coast Defences at Newcastle. Lieutenant-Colonel W. E. Hardy has been appointed to hold charge of the Military Hospital at Calcutta. Lieutenant-Colonel C. A. Young has been transferred from Shrewsbury to Chatham.

Major H. G. F. Stallard, Mhow Division, has been appointed Deputy Assistant Director of Medical Services (Mobilisation) at Headquarters. Major J. G. McNaught has been placed under orders for service abroad. Major L. Addams-Williams has been transferred from Karachi to Quetta. Major H. L. W. Norrington has arrived home from Malta. An exchange on the roster for service abroad has been approved between Major R. Rutherford and Major J. S. Bostock; the latter officer will remain on the Home Establishment. Major C. T. Samman has taken up duty as Specialist in Mental Science to the Southern Army in India. Major R. L. Popham has joined at Peshawar. Major J. W. West has arrived home from India. Major J. Cowan has been transferred from Lahore to Pachmarhi Cantonment. Major F. W. Bliss has been appointed to the Chatham District. Major E. T. Inkson, V.C., has been appointed Deputy Assistant Director of Medical Services to the Wessex Division. Major J. G. Gill has arrived home for duty from Rangoon. Major E. E. Parkes has been appointed to the Military Hospital at Jubbulpore. Major J.

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[1] Report of an Inquiry by Mrs. Tennant regarding the Conditions of Marriage Off the Strength. Cd. 7441. London: Wyman and Sons. 1914. Price 2d.

Tobin has arrived home from Gibraltar. Major H. M. Nicholls has been transferred from Poona to the Scottish Command. Major A. H. Safford has taken up duty in the Eastern Command. Major C. A. J. A. Balck has been appointed Specialist in Physical Training to the Dublin District. Major W. S. Harrison has been appointed Specialist Sanitary Officer at Jamaica. Major J. S. Gallie has been appointed to hold charge of the Military Hospital at Caterham.

Captain H. S. Dickson has arrived home from Gibraltar. Captain J. A. B. Sim has been transferred from the London District to the Aldershot Command. The following Captains have been placed under orders for service abroad during the coming trooping season: P. Davidson, D.S.O., H. B. Kelly, J. M. M. Crawford, C. Bramhall, H. J. J. Fawcett, and S. E. Lewis. Captain W. L. Baker has been transferred from the Eastern Command to the London District. Captain A. E. Hamerton, D.S.O., has been appointed to the Colchester District. Captain A. L. Stevenson has arrived home on leave of absence from Secunderabad Cantonment. Captain E. Bennett has been transferred from the Military Hospital at Purandhar to Deolali Cantonment. Captain G. Baillie has rejoined for duty at Colchester. Captain J. R. Yourell has joined at Rangoon. Captain A. L. Foster has arrived home from the Military Hospital at Aden. Captain D. S. B. Thompson has joined the Egyptian Army. Captain M. C. Wetherell has been appointed to hold charge of the Military Hospital at Fethard. Captain H. F. Joynt has been transferred from Cape Town to Wynberg. Captain A. S. Cane has taken up duty at Purandhar. Captain J. L. Wood has been appointed to hold charge of the Military Hospital at Richmond. Captain D. S. Buist has arrived home from Egypt. Captain S. S. Dykes has been transferred from Lebong to the Military Hospital at Dum Dum. Captain R. E. Todd has been appointed to the Public Health Department in Egypt. Captain L. V. Thurston has taken up duty in the Aldershot Command. Captain T. J. Mitchell has been transferred from the Military Hospital at Lahore to Subathu Cantonment. Captain W. J. Tobin has joined at Bangalore. Captain P. S. Tomlinson has been appointed to the Military Hospital at Roorkee. Captain O. R. McEwen has been appointed to the Irish Command. Captain C. E. L. Harding has been transferred from Quetta Cantonment to Aden. Captain A. G. Wells has been appointed to the Scottish Command. Captain J. Startin has arrived home on leave of absence from Satara Cantonment. An exchange on the roster for service abroad has been approved between Captain A. A. Meaden, serving at Colchester, and Captain J. M. H. Conway, adjutant of the Royal Army Medical Corps School of Instruction at Leeds; the former officer will proceed abroad instead of the latter. Captain E. B. Lathbury has arrived home for duty from Bareilly. Captain S. Field has been appointed to the Irish Command. Captain A. N. R. McNeill has taken up duty at Lichfield. Captain T. C. C. Leslie has been transferred from the Military Hospital at Youghal to the Allahabad Brigade. Captain J. H. Campbell has been appointed to Edinburgh.

Lieutenant F. S. Tamplin has arrived home from the Military Hospital at Gibraltar. Lieutenant S. D. Large has been appointed to the Scottish Command. Lieutenant W. L. Fretz has taken up duty at Peshawar.

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel G. J. H. Bell, Inspector-General of Prisons, has been appointed to officiate as Inspector-General of Civil Hospitals in Burma, vice Colonel O. Evans. Lieutenant-Colonel A. W. T. Buist has been transferred from Campbellpore to Dalhousie. Lieutenant-Colonel G. McIver C. Smith has been transferred from Ludhiana to Murree. Lieutenant-Colonel S. H. Henderson has been appointed a Member of the Legislative Council of the United Provinces of Agra and Oudh. Lieutenant-Colonel C. T. Hudson has been appointed Civil Surgeon at Dharwar.

Major W. W. Jeudwine has been appointed to officiate as Civil Surgeon at Ferozepore, vice Major S. H. Lee-Abbott granted leave of absence. Major E. F. G. Tucker has arrived home from India. Major H. B. Steen has been appointed to officiate as Medical Officer to the 24th Parganas and Medical Inspector of Emigrants during the absence of Lieutenant-Colonel E. A. R. Newman. Major H. A. H. Robson has been appointed Civil Surgeon at Murshidabad in addition to his own duties. Major G. King has been appointed Civil Surgeon at Manbhum. Major W. H. Cazaly, medical officer 125th Rifles, has been appointed Specialist in Advanced Operative Surgery to the Fifth (Mhow) Division.

Captain L. P. Stephen has been appointed to hold civil medical charge at Ratnagiri. Captain T. S. Ross has been placed on special duty in Madras. Captain R. G. G. Croly has been appointed to Madras Presidency in the [Civil Medical Department. The services of Captain W. L. Harnett, civil surgeon at Kamrup, have been placed at the disposal of the Government of Bengal Presidency. Captain D. C. Kemp has been appointed District Medical and Sanitary Officer at Tinnevelly and Medical Officer to the Central Jail at Trinchinopoly. Captain W. Lapsley has been appointed to the Civil and Prison Department at Gonds. Captain C. M. Goodbody has been appointed Director of the Medical Department in Bikaner State. Lieutenant E. R. Armstrong has been placed in charge of the Bacteriological Research Laboratory at Brigade Headquarters at Jhelum Cantonment.

THE MILITARY SURGEON.

The June number of the *Military Surgeon* is chiefly concerned with the regulations of the Medical Corps of the United States Army, particularly with a circular to Militia medical officers, who may perhaps be called to service in Mexico. The importance of their work in recruiting is emphasised, and their duties in watching the conservancy of camps and securing prophylaxis of venereal diseases and typhoid fever are very distinctly enforced. THE LANCET'S account of the dinner in London to Surgeon-General W. C. Gorgas is reprinted. It caused some searchings of heart that the military surgeons of the United States at their recent meeting, in accordance with their regulations, only saluted at the last note of the British National Anthem, played in honour of the arrival of an English guest, who stood at the salute all through. Crotalin, rattlesnake poison, is a dangerous drug it is almost impossible to sterilise completely. Over one-third of the specimens investigated at the Hygienic Laboratory in Washington were found not to be sterile. As it causes a local necrosis and almost destroys the bactericidal properties of the blood its use requires the utmost caution. A fatal case, in which it was being used for epilepsy, has been reported. Major Lyster has had his method for purifying water adopted by the army. A canvas bag weighing 6¼ lb. and holding 38½ gallons of water has 15 gr. of hypochlorite of lime dissolved in it. The water is sterile after five minutes and the water bottles are filled from taps fitted at the base of the bag. There is an account of the hospital train of the Constitutionalist General Villa in Mexico. There are 25 cars; one is an operating room, one for bad cases, one for the staff, one for food, one for dressings; other cars had tiers of canvas cots and seats for wounded. There were 12 native surgeons and 20 male nurses. The train also carried the equipment for eight field hospitals and other medical stores. General Villa is reported to have said after the battle of Torreon that every wounded soldier was on the hospital train when the engagement closed. Major P. P. Lester, of the Colorado National Guard, was shot and killed by strikers near Walsenburg, Colorado, when attending a wounded militiaman under fire on April 29th.

VOLUNTARY AID DETACHMENTS.

The War Office announce that a committee has been appointed to inquire into the working and organisation of voluntary aid detachments. The chairman is Sir W. R. Lawrence, Bart., and the medical members of the committee are Colonel Sir George T. Beatson, K.C.B., Colonel Sir J. R. A. Clark, Bart., Major Sir Anthony A. Bowlby, C.M.G., and Surgeon-General W. G. MacPherson, C.M.G. The secretary is Lieutenant-Colonel G. B. Stanistreet, R.A.M.C.

ROYAL SOCIETY OF MEDICINE: ELECTRO-THERAPEUTIC SECTION.—An interesting meeting of this section took place at Oxford on June 27th. Many members met together at the Radcliffe Infirmary for tea, and later Sir William Osler addressed the section. Sir William Osler made some interesting remarks drawing attention to the astonishing progress in the electrical treatment of disease and in radiography in recent years. It was remarkable that two of the pioneers to whom electricity owed much were both laymen—John Wesley and Franklin. Of course there was no doubt that the real founder of electrical methods was Duchenne—the first who placed the electrical diagnosis of disease on a sound foundation.—Immediately following Sir William Osler's short address an excellent demonstration of the instruments and methods used in Oxford was given by Dr. W. J. Turrell, physician electro-therapeutist to the Radcliffe Infirmary. Dr. Turrell specially drew attention to diathermy and the use of the static machine, and later he showed many interesting cases that he had treated. The members of the section were delighted with the survey of the new building of the infirmary, and particularly with the complete installation in the electrical department. A dinner subsequently took place at Queen's College, Mr. C. Thurstan Holland, President of the section, in the chair, and the guests included Sir William Osler, Professor Perkins, the Rev. C. Cronshaw, treasurer of the Radcliffe Infirmary, and others. Sir William Osler proposed the health of the section, which was replied to by the President, who also heartily thanked Dr. Turrell for the trouble he had taken and the excellence of his demonstration.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(Concluded from p 1842.)

L.—NORFOLK AND NORWICH, WITH A NOTE ON IPSWICH.

FROM Lowestoft I went back into Norfolk, selecting naturally Norwich as the centre from which to make my investigations. Here I first interviewed men holding high positions on one or more of the committees concerned in working the Insurance Act, and I found that opinions and anticipations differed widely from those propounded by equally good authorities in Lancashire and Yorkshire and in parts of Scotland. One leading and representative practitioner found his fellow medical men in Norfolk "too individualist for anything like organisation. They are all little Popes and resent any interference; yet they are up against many social problems that can only be solved by legislation following on collective action." Certainly something very similar was said to me at Edinburgh by those who were opposed to the Act, but in the industrial districts of England and Scotland on the whole a contrary opinion is being held. It is generally assumed that medical men now see the necessity of union, only they find it difficult to agree upon the course for which they should unite. In Norfolk a pronouncedly independent spirit makes common procedure difficult. The Act is resented by some because it has brought with it common procedure, and establishes committees to interfere in a man's private affairs and leads to compulsory levies. The Norfolk men expect Panel Committees to become more and more bureaucratic, and many of them do not view the idea with relish.

The Medical Committee and the Panel Committee.

In Norfolk the Local Medical Committees have a voluntary levy, and panel practitioners now have to pay in two directions. Practitioners not on the panel may voluntarily subscribe to maintain the Medical Committee as an independent authority, as a counterweight to the Panel Committee; but for the most part the practitioners are on the panel, and a compulsory levy forces them to pay also for the Panel Committee. The question has arisen, particularly in the minds of the more peacefully inclined, whether the two committees are likely to be so constantly in conflict, and this on sufficiently important matters, for it to be worth while paying for both. Those less reconciled to the Act hold that because the attitude of the Government implies that Medical Committees are no longer wanted since the doctors have now got the Panel Committees, the medical men had better be careful to keep the former committees going, for the Panel Committees are considered to be too bureaucratic really to allow of representation of professional views. The Medical Committee is important because it will ensure that the profession should be considered as a whole, for there are interests that relate to the Insurance Act and concern others than the panel doctors, and those others should be heard, especially when problems of public health or preventive medicine are under consideration. The continued existence of the Medical Committees might also be a ready means of intercommunication between consultants and practitioners on the panel.

Lack of Union in the Profession.

The above impressions reflect conversations with prominent practitioners concerned with the Norfolk insurance area, who also say that political differences have exaggerated the discord among medical men. In the insurance area of the county borough of Norwich I found no great difference of thought. There is a Local Medical Committee for the city of Norwich, but doubts were expressed as to whether its voice was effectively heard. One Norwich practitioner declared to me that he did not believe that the profession would ever be able to fight again, and confirmed what his country colleagues had said. "We are all individualists," he remarked; "we cannot unite; the Act showed that there was no unity in us. Such a thing as a general union of the profession now does not seem at all likely." And it is a fact that the profession never realised the promise made that they would have the advantage of collective bargaining and they do not now understand what that means. It is a fact also that when workmen engage in a battle they are, as a rule, much better informed as to their own powers and willingness to resist than the medical profession has ever shown itself to be.

At Norwich the working of the Act is neither exactly satisfactory nor the reverse. Very few cases of contracting out have been allowed, but a good number of persons applied to be allowed to make their own arrangements because the doctor who had attended them for a long series of years was not on the panel. The refusal in some of these instances was deeply resented.

The Norwich Medical Institute.

At Norwich there is a medical institute, an old-established organisation which employs three whole-time men; it is popular because it is well organised. I have been able to obtain full details, which has not always been the case when I have tried to inquire into the working of similar bodies. Out of a population of 123,288 inhabitants it appears that about 45,000 are insured, and rather more than 6400 of these insured persons belong to the institute. Adding the wives and families, the total membership of the institute is probably 11,000. This seems too large a crowd for only three medical officers to cope with, but I was asked to remember one or two things. First, the wives and families have to pass a medical examination and are not accepted as members unless the result of the examination is satisfactory. Secondly, the medical officers have no private patients to see or any dispensing to do. Thirdly, the work is carefully organised. In regard to visiting, the medical officers have divided the city into districts so that there is no overlapping and the patients live close to each other; and they see each others' patients when thought necessary. There are two dispensers, and a secretary does all the clerical work. Carriage hire is provided when necessary, and one of the medical officers having a motor car receives an annual sum to cover the cost of its upkeep.

The Sweating Question.

The medical officers of this institute are very anxious to repudiate the suggestion that they are sweated. From a statement submitted to me in regard to the financial aspect of the matter, it appears that before the Insurance Act the medical officers received a fixed salary that never exceeded £305, plus midwifery and certificate fees. When the Insurance Act came into force the medical officers suggested that they should work on a percentage basis, and this the lay committee of the institute accepted. Of the 9*s*. the dispensing department receives 2*s*. The chemists obtain 44 per cent. of the 2*s*., and the rest pays for the drugs, the upkeep of the dispensary, &c. The remaining 7*s*. goes to the medical staff. Eighty per cent. of this sum is divided equally between the three doctors. The remaining 20 per cent. covers the carriage hire, upkeep of premises, cleaning, lighting, secretary's salary, stationery, &c. The income derived from the non-insured members of the institute is also divided in a similar manner among the medical staff, only they are given a smaller percentage. In the result, the three whole-time medical men employed by the institute receive £700 a year each exclusive of midwifery.

The medical officers claim, therefore, that they are not sweated, which shows that they do not use the word in its strict meaning. Under the sweating system many workers earn high wages. Sweating is not synonomous with bad pay. It means the process by which a third party—insurance agents or medical institutions in the case of medical men—can obtain a profit out of what the patient pays for medical service before the money reaches the medical attendant. The question is not whether the institute pays a good price to its medical officers, but whether it retains for its own benefit any part of the money paid by the patients for medical attendance.

In regard to overwork, which with low wages is so often associated with sweating as to be likewise, but erroneously, considered a part of the system, the medical officers to the institute make no complaint. One of them states that his visits average from 16 to 18 a day. Without counting the signing of certificates, and excluding Sundays, he sees for consultation at the surgery some 50 patients per day. This occupies three hours—an hour and a half in the morning and again in the evening. Each of the three medical officers takes in turn Sunday duty, and they also have a half day entirely free every week. "You will understand, therefore," said one of these to me, "why I resent the statement that all medical officers of institutes are third-rate practitioners giving only shoddy service in return for miserable pay. I have previously been in private practice, and when I remember the bad debts, the bookkeeping and dispensing, and the professional out-goings, I think there is no comparison between the possibilities of good work offered in private practice and institutional practice. That will also explain why I am a believer in a State service."

Increased Prosperity of the Medical Profession.

This roseate view of institutional work may not be borne out in other parts of the country, but there are grounds for it here.

There is a large working-class population at Norwich. Street after street is occupied almost exclusively by artisans, labourers, and employees of the several large factories. Before the Act came in force a very large proportion of these people belonged to clubs or friendly societies. They were consequently well accustomed to the limitations and inconvenience of contract practice. The better-class clubs paid 5*s*. a year for medical attendance and medicine, though the institute only got 3*s*. from its members. Consequently the doctors who attend patients by contract are very much better off than before, while, as already explained, the doctors at the institute, whose maximum salary was £305, now receive £700. There are 32 doctors on the panel, the majority of every available practitioner. As wages are low in Norwich there are not many fees to be obtained from the working class, and therefore in the past, as now under the Act, a very large proportion of the medical practice was contract practice. Women, children, and dependents generally belonged and still belong to clubs. There are juvenile clubs in Norwich to-day.

To prevent abuse by enforcing a wage limit a Public Medical Service was organised which attends to the dependents of many insured persons. Thus the amount of private practice that might be obtained through panel practice is very considerably reduced. Under such circumstances one of the leading Norwich practitioners insisted that the remuneration—the 9*s*. set aside by the Act for the medical service—was in no wise excessive when all the work involved, including the cheaper work that had to be done by the side of the panel work, was fully taken into consideration. He felt convinced that if this payment was reduced a good many practitioners would leave the panel.

The Allocation of Patients.

At Norwich, as elsewhere, there are some lists which are too long in my opinion, admitting, however, that a panel doctor who has a list of 3000 insured persons and no private patients might have some leisure, while another doctor with a list of only 1000 but a good many private patients would be more overworked. The difficulty is not with the visiting. The drawback of the system, as manifest at Norwich as at other places I have visited, can be found in the surgery, where the crowd is often far too large. Yet there have been no special complaints against the possessors of long lists. At the end of the first year's working, when those who might have cause to complain could go to another medical adviser, not one-half per cent. of the insured persons at Norwich asked to change their doctor. This seemed to indicate general satisfaction. Therefore when it comes to the question of dividing the fund created by those who have not selected a medical attendant the argument is that it is a fair presumption that those who have not made their choice would follow the lead of the majority. At Norwich the number who have not made their selection amounts to less than 3000. It is proposed to divide half the money equally among all the panel doctors and to give the rest out in proportion to the lists, those who have the longest lists receiving proportionately more.

But there is not only the question of dividing the money, there is the allocation of the insured persons who have not chosen a panel doctor. It appears that this will not be attempted at Norwich, at least not for the moment, though it has been done, and from what I can hear successfully, in the county of Norfolk. At Acle, for instance, where I paid a short visit, the local practitioners met in a friendly way and went over the list of those who had not selected a medical attendant. If anyone present had a claim, such as having already attended the person on some former even if distant occasion, the name was at once put on his list. Those whom no one knew were given to the nearest practitioner, or if two practitioners lived near to each other then those persons living in their neighbourhood were divided evenly between the two. This sort of friendly arrangement, it appears, cannot be managed so easily in a big city like Norwich.

The Indifference of the Insured.

A practitioner at Norwich not on the panel, who was attached to the Public Medical Service when the Act came into force, told me that he thought that the panel doctors were working well and doing well, but he complained of the absolute carelessness of the public. When he told some of his old club patients that he was not on the panel they loudly exclaimed, "What shall we do?" He suggested they might go on this or that panel, and they readily answered "All right," but went off without seeming to care in the least, and forgot to follow the advice. "And they will forget," he added, "until they are ill." On the point of contracting out, he urged that there were instances when patients should not leave the doctor to whom they had been accustomed for many years because he did not happen to be on the panel, and he was glad to think (I may say that he was in a position to know) that at Norwich the authorities were now giving permission to contract out of the Act more freely. My impression is that they are also realising that some of the panels should be reduced.

Some practitioners whom I interviewed complained that the working of the Act was not watched sufficiently by the medical profession or the public either. Thus in the county of Norfolk out of 92,000 insured persons the panel doctors have been credited with only 85,000. The authorities attribute this discrepancy to some extent to duplication of names, and cases were quoted to me of people entered in more than one list under slightly differing names. But this sort of error can only account for a small part of the deficiency.

The general impression prevails that the Act is working better in Norfolk than in most counties; the doctors have been glad to get a substantial increase of income. The average for the county would be a list of 520 insured persons for each panel doctor, and this average is fairly well maintained except on the borders of Norwich.

Medical Referees.

In regard to the question of referees, it does not seem that a satisfactory solution has been found here. The County Insurance Committee agreed that in each case the nearest practitioner should be the referee, and that he should receive a half-guinea fee and 1*s.* 6*d.* mileage beyond the first mile. No one knew, however, whether the Insurance Commissioners would approve, and it is certain that the panel doctors themselves are doubtful about it. It appears that if the doctor himself calls in the referee he will have to pay the fee, but it is more likely that a panel doctor will resign himself to lose one person from his list rather than pay a half-guinea fee. An Approved Society might occasionally find it advisable to incur such an expenditure; yet as the referee is not to be a recognised authority, but only the nearest neighbour, it may not always be considered worth while appealing to him. The neighbour may be quite a young man who has only recently commenced practice, or for this reason or that a practitioner whose opinion in the particular case would inspire no special confidence. Again, and whatever their respective standing in the profession, it is awkward for close neighbours to sit in judgment over each other's work. The temptation will be to let each other down gently, and that is not the object for which an appeal is made to a referee. Indeed, it looks as if the proposal was a manœuvre, a means of saying that something has been done, though in actual practice it is very unlikely that the services of such referees will ever be required.

Similar Problems at Ipswich.

I conclude this series of articles with a brief note on a visit which I paid to Ipswich this week. I found here conditions exactly analogous to those which I have so often described, and I will not at the present moment enlarge upon them. There was at Ipswich the same distinct spirit of resistance to the Act, the same annoyance among certain both of employers and employees at the compulsory contributions, the same rise in income coupled with an increase of work among some of those practitioners employed in contract practice, while a good many of the insured persons in Ipswich continue to employ and pay private practitioners. The record of sickness has obviously much increased since the Act came into force, and this was especially noticeable in a small women's club the figures in relation to which I obtained. The urgent need for referees is felt, and Ipswich is contemplating an elaborate scheme for their institution. The staff of the East Suffolk Hospital, which charity receives large sums from the working men of Ipswich, have arranged that the out-patient department will see an insured person once as a casualty; and then, if he desires to remain under hospital treatment instead of going to his panel doctor, his case is submitted to the honorary staff for decision. This seems to me to be a judicious method of dealing with a situation which has been embarrassing in many towns that I have visited. The subject is one to which I hope to have an opportunity of soon returning.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.—The usual monthly meeting of the executive committee of this society was held at 429, Strand, on June 19th, Mr. J. Brindley-James being in the chair. The claim account presented still showed an improvement over that of last year, and the proposals received in these first five months constitute a record in the society's experience. The new combined sickness and endowment table with reduced premiums for the first five years is also proving popular with younger members of the profession. The votes for Epsom College were dealt with at this meeting, there being two candidates for Foundation Scholarships who are the sons of deceased members. The widow of a late member was also applying for a pensionership. The society subscribes £105 per annum to the College, and consequently controls a number of votes which are all used for the relatives or friends of deceased members.

LONDON DERMATOLOGICAL SOCIETY.—The annual general meeting of this society was held on June 16th at St. John's Hospital for Diseases of the Skin, Leicester-square, W.C. The President, Dr. Morgan Dockrell, presented the council's annual report, and said that the society had had a successful year, thanks chiefly to the large amount of clinical material they had at their disposal. Forty new Fellows had been elected during the year. The result of the election of officers for the ensuing year was announced as follows:—President: Dr. W. Griffith. Vice-President: Dr. Morgan Dockrell. Honorary Treasurer: Dr. W. Knowsley Sibley. Honorary Secretaries: Dr. J. L. Phibbs and Dr. Simonds Gooding. At the clinical meeting which followed Dr. J. L. Bunch showed a case resembling a Nodular Acne of the Face, from the lesions of which the ray fungus had been grown.—Dr. W. Griffith showed a case of Erythema Iris affecting the hands and mucous membranes.—Dr. W. Knowsley Sibley showed a case of Lupus Vulgaris which had been treated for over a year with tuberculins without improvement, but which was now improving under nascent-iodine treatment.—Cases of syphilis were shown by the President and Dr. J. L. Phibbs, and a paper was read by Mr. C. H. Mills, entitled "Some Points in the Treatment of Syphilis."

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

MANCHESTER.

Memorial to Mr. Walter Whitehead.

ON June 27th the strikingly ornate, tall, and artistic monument—erected in a triangular plot of ground which has been converted into a charming garden—was presented to Bury by Mr. Henry Whitehead, in memory of his brother, Mr. Walter Whitehead. Sir Frederick Treves formally opened the gate of the gardens surrounding the memorial. The clock tower itself is 12 feet square and rises to a height of 80 feet above the ground. At the top is a clock with four dials 5 feet 6 inches in diameter. The dials can be illuminated at night by electricity. A bronze figure, 6 feet 6 inches high, is placed in a niche over the entrance doorway. The tower is built of Portland stone, resting on a concrete foundation 30 feet square, while the base of the tower is formed of polished Aberdeen granite steps.

Salford and Maternity Centres.

The health committee of Salford has asked the council to adopt a resolution similar to the following passed by the St. Helens corporation:—

> That in the opinion of this council it is vital to the public health of the country that all schemes dealing with infant mortality and child welfare should be administered by the constituted sanitary authorities under the direction of the Local Government Board; and that the time has arrived when adequate grants should be made to those authorities to enable them to establish maternity centres and similar institutions dealing with the care of infant life.

Defective Sight in School Children.

From the last report of the school medical officer, Dr. A. Brown Ritchie, it appears that six medical men along with a number of nurses devote all their time to health matters in connexion with 185 schools in Manchester. By the new arrangements each child will be examined three times in the course of its school career. There is an improvement in the attitude of parents towards the provision of spectacles, though there are still a fairly large number of parents who require considerable pressure before they provide the spectacles necessary. Teachers take a keen interest in detecting cases of defective vision.

Memorial to the late Mr. T. H. Pinder.

A fund has been started for a memorial to the late Mr. T. H. Pinder, who for many years was connected with the Hospital for Diseases of the Ear. It has not yet been decided what form the memorial will take. A subcommittee has been appointed to confer with the hospital committee.

June 30th.

IRELAND.

Death of Mr. F. T. P. Newell, M.B.Dub., F.R.C.S.Irel.

I RECORD with regret the death, at the comparatively early age of 54, of Mr. Newell, a well-known Dublin practitioner. He had been suffering for some months past from a tumour of the neck, and the end came last week as the result of hæmorrhage. For more than 20 years Mr. Newell was a Poor-law dispensary officer in one of the city districts. For the past three or four years he was a member of the Council of the Royal College of Surgeons, and was regarded as the representative of the general practitioners on that body. During the professional struggles of the past three years his presence on the Council was of special value both to the College and to the general body of the profession, and it was in large measure due to his influence that the Council adopted a strong attitude in regard to conduct in the administration of the National Insurance Act which might be regarded as unprofessional. Mr. Newell was one of the most active members of the Dublin Local Medical Committee, and he was also a member of the Irish Medical Committee. He was an upright man, much respected both by his colleagues and the public, and held in warm affection by those who knew him best.

Belfast District Lunatic Asylum.

From the annual report for 1913 of this asylum it appears that there were 276 admissions, while 148 were discharged and 145 died. On Dec. 31st, 1913, there were 1232 inmates, 598 males and 634 females. Of those admitted, eight were over 70 years of age. The gross expenditure for the financial year ended March 31st, 1914, was £29,946 5*s.* 10*d.* More than two-thirds of the patients are now in the new colony at Purdysburn, and the remainder—with the exception of 37 at Ballymena—are in the old buildings at Grosvenor-road, Belfast.

Laurelvale Water-supply.

The Local Government Board have sent a sealed order to the Tandragee rural council, county Armagh, stating that whereas complaint had been made to them that the council had made default in providing a proper supply in Laurelvale—a district where there is an industrial population—they directed that the council shall set about the performance of their duty in the matter within a period of three months. It was decided by the Tandragee rural council to engage a civil engineer to report on the question, and a subcommittee was appointed to consult with him. For a long period this matter of the water-supply of Laurelvale has been in dispute, and typhoid has occurred at times owing, it is alleged, to the impure water from wells. It is quite time the people in the area had a reliable supply of pure water.

June 30th.

PARIS.

Students' Grievances.

THE new régime for medical studies has been in operation since November, and the first year's examinations have just taken place. The students complain of unwonted severity on the part of the examiners, and the number of rejected is certainly much greater than ever before. It would be hard to assert that the examiners have exercised intentionally undue rigor, particularly as the medical syndicates have often proclaimed that the examinations should be searching especially at the beginning of medical study, so as to eliminate promptly those students who do not show any real aptitude and so would only encumber the profession. Once a student has fully entered on his studies and has passed with greater or less effort his first examinations, he is almost certain to complete them after a longer or shorter time, for in the end the examiners are merciful to a candidate who perseveres in spite of frequent rejection. It is possible that this consideration has led them to exercise a selective faculty at the beginning of the course, in cases where a real vocation or its absence is clearly indicated. The Coöperative Association of Medical Students, however, is dismayed at the disastrous results, and has called on the doyen of the Faculty of Medicine to complain of this unwonted severity. It even asserts that the examiners have imposed on the candidates questions that ought not to be admitted in the first year. The doyen could only reply that he would consider the points raised and urge upon the students to work with greater energy, so as to raise the entire level of medical study.

An Aeroplane Ambulance.

At the great military manœuvres of last year attempts were made to use aviators in searching for the wounded after a battle. The results were very good, and many wounded were undoubtedly discovered who would have remained a much longer time without assistance under ordinary methods. Dr. Raymond, who is a Senator and himself an aviator of considerable ability, made these attempts with marked success. And now a woman aviator, Mdlle. Marvingt, has extended this idea by having a special aeroplane constructed to accommodate, besides the aviator, a medical man and also a covered litter on which the wounded man can be placed for transport. To collect the necessary sum of 36.000 francs for the construction of this apparatus she has arranged aviation meetings and conferences throughout France, the proceeds of which are to be devoted to this work, and has collected already some 21,000 francs. She thinks that this aeroplane ambulance will be of service, not only in a European war in which battles finish only with nightfall and so render a search by aeroplane very difficult, but in colonial wars also, in which many wounded run the risk of being left in the desert, hidden by the inequalities of the land which impede observation in the case of those on foot, but are easy of survey from above. It is true that landing presents peculiar difficulty in these conditions, and it is hardly likely that this new method of aid to the wounded can become general. But the effort is charitable and worthy of all sympathy.

Antityphoid Inoculation made Compulsory in the Army.

The principle of compulsion in regard to antityphoid inoculation in the army was affirmed by Parliament in a law dated March 28th. A ministerial order has now laid down the conditions of its application. All officers and men of troops quartered in regions where the appearance of typhoid fever may reasonably be looked for, from former or recent experience, must be immediately inoculated. Garrisons in which the typhoid mortality during the past five years has exceeded an average of 2·87 per 1000 are so qualified. All white troops in Algeria, Tunis, and Morocco, and all soldiers under orders to serve in Morocco, must also be inoculated. The last class will not be allowed to proceed there until they shall have undergone the complete series of preventive inoculations. All military nurses must be inoculated immediately when individual contra-indications do not exist. Troops also about to manœuvre in districts where typhoid fever has recently been prevalent among the civil population must be inoculated. Finally, on October 1st this year all soldiers with the colours who do not belong to any of the preceding categories must be inoculated, beginning with the new recruits. All these orders must have been complied with by Dec. 1st. The Minister, having regard to the observations laid before the Senate during the discussion on the Bill, has conceded that the military medical officer shall always have the power to exempt temporarily from inoculation any one whose state of health for any reason shall appear to render the operation especially risky.

June 29th.

BERLIN.

Removal of Injurious Micro-organisms from Vaccine Lymph.

Dr. Friedberger recently read a paper before the Berlin Medical Society on the "sterilisation" of vaccine lymph by means of the ultra-violet rays. He said that a satisfactory method of removing extraneous microbes from vaccine lymph had not until now been discovered, because chemical germicides necessarily diminished the prophylactic efficacy of the lymph. This was also the case with glycerinated lymph, the addition of glycerine producing only a very slow decrease of virulent germs, so that this lymph could not be used in a fresh condition, and much of its activity was sacrificed. He had therefore endeavoured to find some method which would destroy the virulent bacteria without tedious delay and without impairing the valuable properties peculiar to the lymph. Ultimately, in conjunction with Dr. Mironescu, he discovered that the ultra-violet rays produced the effect desired. Exposure to the radiation emitted by a Kromayer lamp for 20 or 30 minutes destroyed the bacteria present in fresh vaccine lymph, the latter remaining efficacious even when the exposure to the rays was continued for one or two hours. When spores of the bacillus anthracis and of the bacillus subtilis were intentionally added to the vaccine lymph the result was that a considerable time was necessary for the destruction of those organisms, but the lymph was still efficacious for vaccination, although its activity was lessened.

A New Method of Testing the Strength of the Heart.

At a recent meeting of the Berlin Society for Internal Medicine Professor Katzenstein read a paper on a new method of testing the strength of the heart. The characteristic feature of his procedure is that he ascertains the number of the beats and the blood pressure before and after a compression of both crural arteries. When the strength of the heart is sufficient the number of the beats decreases, and the blood pressure increases after the compression. In slight insufficiency both remain unaltered, and in severe insufficiency the number of beats increases whilst the blood pressure is sinking. This method has proved valuable in many cases. It may also be used for ascertaining any damage done to the heart by narcotic compounds. When the test gives an unfavourable result general anæsthesia is contra-indicated for such patients, and only local anæsthesia ought to be employed. In nervous patients, however, the method is not reliable.

The Law Relative to Agreements Restraining Medical Men from Practice.

An important judgment was recently given by the Supreme Court of Justice in Leipzic. On the occasion of a medical strike a medical man had accepted an appointment at a sick club the medical officers of which had resigned. The Leipziger

Verband then induced him to leave his appointment by paying him 6000 marks (£300) on condition that he not only resigned this appointment but also pledged himself not to settle as a medical practitioner in Germany for the ensuing ten years without the consent of the Leipziger Verband. He did not keep this agreement, and the Leipziger Verband accordingly brought an action against him for the repayment of the money which he had received. The Supreme Court, however, in its final judgment declared that an agreement by which the right of settlement was limited by or made dependent upon the goodwill of another person was against the law, and therefore incapable of being enforced. This decision will very much hinder the action of the Leipziger Verband, because when the medical officers of a sick club resign in a body on account of some grievance and the club managers appoint substitutes it will in future be impossible to restrain the latter by money payments.

Accidental Loss of a Quantity of Radium.

A private sanatorium in Berlin has recently sustained a heavy loss by the negligence of a servant. One of the medical men attending patients in the sanatorium had applied radium of the value of 20,000 marks (£1000) to a patient. It was enclosed in a small capsule, and when the application was discontinued the capsule was put in a basin which was afterwards cleaned by a servant. The man did not know what the capsule was, and after cleaning the basin he poured the water, together with the capsule, into a sink, from which it ran into the sewer. The loss of the valuable material became known only after the lapse of some hours, and although the sewers were searched for several hours by a number of workmen and a reward of 2000 marks was promised, the valuable little capsule was not found.

June 29th.

UNITED STATES OF AMERICA.

Yale Medical School.

Yale University has received the sum of $125,000 (£25,000) for the erection and equipment of a chemical and pathological laboratory to be known as the Anthony Brady Memorial Laboratory. The announcement has also been made that members of the Brady family will establish the Anthony N. Brady Memorial Foundation of $500,000, the income of which is to be given annually to the University for a term of ten years, in order to enable the University to declare operative at the time the agreement with the General Hospital Society of Connecticut, and to conclude the alliance between the New Haven Hospital and the Medical School of Yale University. If within the ten-year period the University receives a total of $2,000,000 for medical school endowment the $500,000 will become the absolute property of the University. Over $1,110,000 have already been promised, and if $390,000 more are obtained before Jan. 1st, 1915, the General Education Board will give the $500,000 necessary to make up the $2,000,000.

Fund for Johns Hopkins University Medical School.

Mr. Abraham Flexner, of New York, representing the General Education Board founded by Mr. John D. Rockefeller, has made recently final arrangements to turn over to the Johns Hopkins University Medical School the sum of $1,500,000 to establish the William H. Welch Endowment for Clinical Education and Research. The Johns Hopkins Medical School is the first medical institution in the United States to receive money for research work from the General Education Board.

Diagnosis of Cancer.

At a meeting of the executive committee of the American Society for the Control of Cancer held recently the following resolution was adopted:—

> That it is the belief of the executive committee that the City of New York should undertake free diagnosis of specimens of tissue suspected of being cancerous.

It is stated that the New York Department of Health now has the question under consideration and will consult with its Medical Advisory Board before taking action.

The Coroner's Office in New York City.

The recent trial of a coroner in New York City for neglect of duty may lead to the abolition of the ancient office. An investigation of the department by the Commissioner of Accounts has been ordered by the Mayor of New York at the request of the City Club, and as a result the need for an independent official investigation is urged, because of the serious charges made affecting the efficiency and integrity of the performance of the coroner's function in the city.

Street Accidents in New York City.

The National Highways Protective Society has reported that during the month of May 45 persons were killed by vehicle traffic in the streets of New York. Thirty-two of those thus killed, or more than 70 per cent., were less than 16 years of age. During the month of April 5352 accidents occurred on the railroads and street railways under the jurisdiction of the Public Service Commission of New York. As a result of these accidents there were 26 deaths, as compared with 17 in April, 1913, and 22 in April, 1912. In addition 9 persons had their skulls fractured, 3 lost an arm or leg, and 142 were injured seriously.

A False Alarm.

Dispatches from Bogota state that it has been determined by bacteriological tests that the epidemic now prevailing in Colombia is not bubonic plague.

June 25th.

CHINA.

The Health of Shanghai in 1913.

THE annual report of the health department of the Shanghai municipal council, written by Dr. A. Stanley, the medical officer of health, is of value, as it concerns the only place in China where definite statistics are available to indicate the prevalence of diseases both among foreigners and Chinese. Within the area of the municipal limits (8⅔ square miles) there is a population of 14,250 foreigners and 510,000 Chinese. The death-rate among the former was 21·5 per 1000 and 15·8 for the Chinese. But it is noted that 135 of the 305 deaths recorded among foreign residents were Japanese, and that 21 of these were due to beri-beri, which rarely affects non-Asiatics. Instead of the term "non-Asiatic" one might put "non-rice-eaters," but this view, so generally accepted, does not find favour with Dr. Stanley, who still remains, by the evidence he gets in Shanghai, in favour of the opinion that beri-beri is an infective disease "having no relation to food, but infective through body vermin." A diminution in the number of cases of this disease in the municipal gaol is held to be attributable to the measures of disinfestation of body vermin among the convicts. The incidence of small-pox, typhoid fever, dysentery, tuberculosis, and scarlet fever was abnormally high. As regards scarlet fever an unfortunate factor is the extreme virulence of the infection met with in China, it being more than four times as deadly as it is in England, and there is no indication yet of a decrease in virulence. Although scarlet fever has hitherto failed to establish itself firmly in any part of Asia excepting Asia Minor, and is practically unknown in the tropics, it appears to have come to Shanghai to stay, since its introduction in 1900, probably by foreign immigrants. As would be expected with a recently introduced disease, against which evolution has afforded no natural immunity, scarlet fever has been of a virulent type among the Chinese. It is probable that the passage of the disease through the susceptible Chinese has led to an intensification of the virus, so that it is more fatal to foreigners also. There were 12 non-Chinese and 207 Chinese deaths from small-pox. In Shanghai there exists so much small-pox infection that it is advised that vaccination should be repeated every three years till it no longer takes. Over 13,000 free vaccinations were provided by the Health Office during the year under review. No city in the world is probably so favourably served as Shanghai in the disposal of refuse. Over 150,000 tons of garbage and ashes have to be removed yearly from houses in the settlement, and this is done at a very low cost. Cement bins with iron lids and doors are fixed at suitable points in all the alleys. They are both rat and fly proof, and help to minimise the fly nuisance. The former horse carts have been replaced by a small army of scavenging coolies with wheelbarrows who are able to pass practically anywhere. As a result of careful organisation the greater part of the daily mountain of house refuse is now actually a source of profit, being sold to country boatmen who buy it for agricultural purposes. It is, in fact, the cheapest manure available, the average selling price being 5 cents a ton. The cost of collection and disposal was 4½*d.* a ton, compared with 9*s.* the cost of London refuse. It is probable that the ensuing year may actually show a profit. The prevalence of tuberculosis remains at the same high level; it is the most fatal disease, among foreigners and Chinese alike, in Shanghai. A scheme is on foot for the establishment of a tuberculosis dispensary on lines of treatment which will be preventive, educative, and curative. Plague: During 1913, 13,333 rats were found dead, and of these 122 were plague infected, while nearly 153,000 rats were trapped and burnt. An active campaign of making houses rat proof is kept up, and in addition to 5875 houses dealt with in this way all food shops are now required to be rat proof as one of the conditions of licence. Nine cases of human plague with eight deaths occurred. It is considered that by these active rat-proofing measures a serious outbreak has been averted. Close on six million phosphorus baits were laid. Rabies: 41 persons underwent Pasteur antirabic treatment during the year, in 24 of which the animals responsible were proved rabid by inoculation. Two cases died subsequently from hydrophobia, one four days and the other ten days after the completion of treatment—i.e., before its effects were fully established. They had both been severely bitten. Dysentery: There was an increased prevalence of this disease during the latter part of summer. Most of the cases were amœbic in origin, and yielded to the new emetine treatment. Two deaths occurred from liver abscess among foreign residents. Bacillary dysentery was also noted.

Plague in South China.

The most rigorous regulations for the medical inspection of ships entering Shanghai from the South are at present being imposed. The outbreak of plague in Hong-Kong, serious though it is, is nothing like so dangerous to other ports as the epidemic in Canton. Bubonic plague with a high degree of virulence has been spreading over Kuangtung province, of which Canton is the capital, and the conditions there are very bad. The mortality approaches 100 per cent. The percentage of deaths from bubonic plague in South China has never been below 88·4. The plague return for the week ending May 19th in Hong-Kong shows that 241 cases were reported, and 185 deaths. For the past three weeks the number of cases of plague has exceeded those in any week for several years. In the previous week there were 215 cases and 173 deaths, while three weeks ago the returns were 203 reported cases, of which 171 were fatal. The total number of cases in Hong-Kong alone since the beginning of the year is 1474 and 1301 deaths. Since 1894, when the colony was first declared infected, each succeeding year has seen a recurrence of the disease, and since 1899 the heaviest death-rolls have been 1486 in 1899, 1651 in 1901, 1700 in 1912, and 1301 to May 19th in 1914. All these years the Hong-Kong Government has been strenuously endeavouring to eradicate plague, and leaves no stone unturned by means of its active and well-directed sanitary staff to limit infection. But a baffling feature with which the whole life of the colony is bound up is the constant coming and going of Chinese to and from the mainland in native craft, which are innumerable and very difficult to control.

The Rockefeller Foundation.

The trustees of this fund have long been interested in China, and especially in medical education in China, and this spring have sent a commission consisting of Mr. H. P. Judson, President of Chicago University, Dr. F. W. Peabody, of Boston, and Mr. R. S. Greene, United States Consul-General at Hankow, to make a study of the actual conditions surrounding medical education and report to the Foundation. This commission has been in Peking engaged in investigation, and has now left for the Yangtze Valley, where they will visit Hankow, Nanking, Changsha, Shanghai, and other important centres. The foundation is incorporated by the State of New York, and there is a sum of 100,000,000 gold dollars in the hands of the trustees, which by the terms of its charter is to be used "for the welfare of humanity." The members of the commission are examining very thoroughly into the actual amount of work done in each college with a view to the proper allotment of grants in aid, which is the form of help to be given, thus allowing existing institutions to select their own additional teachers and extend their equipment.

Medical Education in China.

At the present time a good deal of discussion is taking place in Far Eastern circles over the reported forward movement by Germany to establish her language and ideals in China to a much greater extent than has hitherto been the case. In Berlin the Reichstag in April, 1913, voted £1000 more than in former years for the establishment of German educational centres in China, and a new German-China institute has been established to bring the scientific and technical achievements of Germany to the knowledge of the Chinese people. These aims will be effected especially by the establishment and maintenance of Sino-German schools, medical, technical, and commercial, and also Sino-German sanatoriums, and by supplying German teachers to Chinese schools. As far as medical schools are concerned there are now in Shanghai and Tsingtao two subsidised colleges where a five years' course of medicine is given, with German as the teaching medium. Both these colleges have preparatory schools attached, where a thorough grounding in that language can be made before entering on the medical course. Although the British Government has not yet seen its way to extend official financial support to the educational efforts of British medical missionaries, the movement, nevertheless, in conjunction with their American *confrères* is in a healthy condition. In fact, there is every reason to be proud of the splendid sustained efforts being made by medical missionaries to establish scientific medicine in China. In all large towns the work of foreign doctors and missionaries is gradually creating a demand on the part of the Chinese for more efficacious treatment than they can get from their native empirics. Two new colleges with hospitals attached have recently been opened. In Manchuria the Mukden Medical College, which owes its existence to the fine work of the veteran missionary Dr. Dugald Christie, C.M.G., has had an extension opened by the Governor of Fengtien, H.E. Chang Hsi Man. The college has 80 students, and in addition to a fairly good educational equipment offers excellent clinical teaching by means of its hospital, which last year dealt with 47,000 out-patient visits and 2380 operations. A new feature is an X ray department, a gift from General Chang Tso-lin, the commander of the army in Manchuria. At the last entrance examination 157 candidates came forward, of whom only 40 could be admitted. This is a healthy condition of things educationally, as it ensures a high standard in those who enter. The other institution, the Tsinan-fu Medical College, formed by a union of the English Baptist and American Presbyterian Missions, has just had the foundation stone of its new hospital laid by H.E. Chin, the Military Governor of Shantung Province. Friends in England, mainly by the exertion of Mr. Harold Balme, subscribed a sum of £6000 for the erection of the hospital which, in addition to a central administrative block and a large out-patient department, fitted with five consulting-rooms and two operating theatres, will have accommodation for 100 beds in modern wards. As a sign of advance in the times I might add that the Chinese Central Government has issued regulations officially permitting human anatomy and post-mortem examinations, and that this is no mere paper affair is shown by the fact that the Peking Union Medical College has received from the local prison authorities unclaimed bodies of dead prisoners for dissection.

Peking, May 27th.

DONATIONS AND BEQUESTS.—By will the late Mr. Francis James Trewent, of Hampstead, N.W., left £1000 to a London hospital for patients suffering from paralysis, and £1000 to the Hampstead General Hospital, Haverstock-hill.—Under the will of the late Mrs. Jane Pitt, of Ullswater, the Royal Infirmary, Liverpool, will receive £500 and the Carlisle Infirmary £250.

Correspondence.

"Audi alteram partem."

THE MENTAL DEFICIENCY ACT.

To the Editor of THE LANCET.

SIR,—It seems, from the remark of Mr. Wallace, K.C., and from the letter of Sir Bryan Donkin in THE LANCET of June 20th, that a person who is mentally deficient is not mentally deficient within the meaning of the Mental Deficiency Act unless his whole history from birth or from an early age can be had. I do not know whether this has been so held by any court of competent jurisdiction, but I venture to assert that it is not only calculated to nullify much of the benefit of the Act, and to remove out of its scope many of those who ought to be within it, and who were intended to be within it, but also that it is not a necessary interpretation of the Act, and that the Act may and ought to be so construed as to escape such a futile result. I am the more concerned to show this since I am largely responsible for the definitions in the Act, each of which requires that the persons defined shall have suffered from defect from an early age, and all but one require that he shall have suffered from birth.

From this it has been inferred, so it now seems, that unless the whole career of the person is known, and his defect can be traced back in his history to an early age or to birth, the definition is not satisfied. The contention seems to me absurd. Take the frequent case of a person who suffers from congenital hemiplegia, with contracture, infantile undevelopment, and choreiform spasm of one arm and leg. The state of the limbs renders it certain on inspection of them that the physical deficiency dates from birth or from an early age; and no information from the mother, no written record of the person's history, could possibly increase our certainty that it does so date. The nature of the bodily deformity and deficiency is itself conclusive of its own inveteracy, and its existence from birth or from an early age; and so it is with many cases of deformity and deficiency of mind. When we observe certain mental defects we know at once, without investigating the history of the patient, that these defects have existed from birth or from an early age, and we no more need to investigate the history in order to determine the point, than we need to investigate the history of a red-haired person in order to determine whether the redness of his hair existed from birth or from an early age, or whether it was not brought on by profligacy and evil living.

If we can say that a person is mentally deficient, and that the deficiency is of a kind that we know by experience is inveterate, and is part of the original equipment of that person, then I maintain he is mentally deficient within the meaning of the Mental Deficiency Act.

I am, Sir, yours faithfully,

CHAS. A. MERCIER.

June 25th, 1914.

THE SOCIETY OF MEMBERS OF THE ROYAL COLLEGE OF SURGEONS.

To the Editor of THE LANCET.

SIR,—I have just received a circular from the Society of Members of the Royal College of Surgeons of England asking me to vote for certain candidates—a rather belated request—at the election to the Council on Thursday next. This request is based upon the fact that these candidates have pledged themselves if elected to support the claims of the Members for an active participation in the government of the College. The circular also includes the following remarkable paragraph:—"To govern a great college there is needed a body of men of wide and comprehensive intelligence. To secure a council of such men we must *avoid those persons whose only idea is to glorify their own existence and to remain deaf to all suggestions for improving the College administration* [the italics are mine], and who refuse to adopt the only course which will help to make the College of Surgeons a real power for inspiring surgical knowledge and for protecting and guarding surgical practitioners."

Could anything have been conceived in worse taste, more impolitic, or more harmful to the Members' cause than this virulent expression of feeling? There is a flavour about it of the militant tactics of those insane women known as suffragettes. It has always been the policy of the Members' association to pour vials of vituperation upon the Council. Surely, the past has shown unequivocally the worthlessness of the proceeding. What has been gained by this policy? Nothing save, perhaps, the alienation of many Fellows who otherwise, at least in part, would be willing to show active sympathy with the Members and their claims. When will the Society of Members realise that to proceed on strictly constitutional lines is the only means by which the Members can hope to gain adherents to their cause among the Fellows? Meanwhile this last ebullition of feeling against the Council will only have the effect of destroying the chances of success of those candidates for whom the Society of Members have appealed for votes.

I am, Sir, yours faithfully,

Wimpole-street, W., June 29th, 1914. PERCY DUNN.

SOME POINTS IN THE MANAGEMENT OF TRACHOMA.

To the Editor of THE LANCET.

SIR,—It may be of interest to record certain experiences in connexion with the management of trachoma in the Poor-law schools under the administration of the Westminster Diocesan Education Fund.

The authorities of the fund have two methods of dealing with this disease: (1) inspection, and (2) isolation in special schools. Under the first head 13 schools are inspected twice a year, and approximately 2200 children examined. The lids of every child are everted with a view to detecting any cases of trachoma or contagious ophthalmia. Any case of trachoma is drafted off to a special school for isolation and treatment. It is difficult to arrive at the percentage of trachoma in Poor-law schools, but I am convinced that a periodical and systematic inspection has a very marked effect in keeping down the number of trachoma cases. Stephenson's census, taken in 1896, when 13,047 children were inspected, gives a percentage of 4·91 trachoma cases. In my last inspection (I found approximately ½ per cent. of the children had trachoma on the previous inspection) I found 22 cases of trachoma—i.e., 1 per cent. Six of these cases were found in one school where there had previously been trachoma, and seven were found in one of the smaller schools, and had nearly all been admitted within the last few months. I may add that the children of these schools are drawn from the very poorest class, and a large percentage are of Irish parentage.

Secondly, with regard to ophthalmic isolation schools, the fund has such schools, one for girls and one for boys, at Chigwell. In the latter school I had last year on an average 240 boys under my care. One difficulty which may from time to time confront the surgeon in charge of such a school is a sudden inroad of cases, which the ordinary accommodation is not sufficient to meet. Such a situation arose at Chigwell on three occasions—namely, the summers of 1910, 1911, and 1912. In each year I had a number of boys put under canvas. The spot selected was a sloping field adjoining the school. The soil was gravel and the aspect west. In 1910 and 1911 30 cases were dealt with in this way. The tents were of the ordinary army bell-tent pattern, with boards. Six boys slept in each tent. There was a man in charge at night, whose duty it was also to see that the bedding was folded and the flies of the tents rolled up in the daytime. There was a lavatory adjacent to the tents, where the boys washed in running water and had access to the spray bath, as did the boys in the school buildings. Each boy had his numbered towel, &c. There was sufficient accommodation in the school for all the boys to attend classes, receive treatment, and have meals together.

In 1912 the numbers under canvas varied from a minimum of 100 to 120. This large increase was due to the fact that 87 boys had to be admitted in one month. The boys were accommodated in two large marquees. No boards were employed, but each boy had a mackintosh sheet under his bedding. A small gutter was cut round the higher side of the tent to carry off water. This year the boys were out from July to the end of October. It is interesting to recall that 1910 was a fairly average summer, 1911 was the year of drought, and 1912 was equally exceptional in the opposite respect. The type of season does not seem to have affected the welfare of the boys. In no year was it necessary to bring any boy in on account of rheumatism or chill. In 1912 there was scarlet fever in the school. Three or four of the boys under canvas became affected, and were, of course, removed to a fever hospital. In 1912 record was kept of the weights of the boys before and after their open-air sojourn. They all increased in weight except one boy, whose weight remained the same. The average increase was 7 to 8 lb. in the four months. One boy increased 28 lb.

On the whole, this method of putting the boys under canvas proved itself a very effective way of dealing with a sudden outbreak of the disease during the summer months. Stephenson, in "Epidemic Ophthalmia," p. 61, suggests that this method might be used, the tents being pitched upon a wooden or asphalt flooring. He cites two instances of epidemics having been treated in this way—namely, at the St. Petersburg Military Hospital in 1835 and 1839, under Florio, and in 1872 at the St. Stanislaus Asylum, Nancy. Boldt, in his book on trachoma, states "that if an epidemic of trachoma broke out at the seat of war, where there was satisfactory accommodation," he "would consider it imperative to treat the milder cases in tents or portable barracks, such as are, indeed, ordered for use in the treatment of epidemics on active service."

In order to meet any further epidemic the managers of the school at Chigwell have erected so-called "temporary" buildings to accommodate

120 boys in the same field where the tents were pitched. They consist of dormitories, class-rooms, lavatory, and recreation-room. The general construction is, first, cement concrete under the whole of the buildings, and then brickwork foundation walls with a superstructure of timber framing, covered externally with corrugated galvanised sheeting, and lined and ceiled internally with sheets of asbestos set out in panels and painted or distempered. The heating is by means of slow combustion stoves.

Of more special interest are the class-rooms and lavatory. There are four class-rooms, each for 25 scholars (existing class-rooms were able to accommodate the balance of the 120 boys). These are exceptionally well-lighted and cross ventilated, the windows being of a special design (suggested by Dr. Ralph Crowley). The rooms are well warmed by open fires, and large double doors open outwards at ground level, permitting if desired of readily removing the classes to the open playing fields outside. The lavatory building was of experimental and original design, specially constructed with the object of the rapid washing and bathing of the 120 boys, and has proved very successful. The boys enter from the outside straight into the dressing room. Here they strip, then pass under a warm shower into the washing room, which is provided with 40 warm sprays, each having racks for soap and a nail-brush and for three numbered toothbrushes. After washing in this room the boys pass under first a warm and then a cold shower, and into the drying room, fitted with racks for 120 towels and hair-brushes, and then again into the dressing room. The floor of this building is so constructed that it can be readily washed down with buckets of water or a hose-pipe. The attendant who has charge of the washing arrangements informs me that he is able to deal with 100 boys in 45 minutes in this way.

I am indebted to Messrs. Best and Sons, of Victoria-street, for the particulars and plans of the temporary buildings.

I am, Sir, yours faithfully,
J. F. CUNNINGHAM, F.R.C.S.Eng.
Weymouth-street, W., June 30th, 1914.

COLOURED CHLOROFORM AND ETHER.

To the Editor of THE LANCET.

SIR,—There are definite dangers due to the fact that chloroform and ether are similar in appearance and only to be distinguished by their weight and smell. Now so much ether is given by the open method different coloured drop bottles are sometimes used, but that does not prevent chloroform being put into the ether drop bottle by mistake. The greatest danger of all is when chloroform has been by mistake put into a Clover's inhaler. I have heard of two fatal accidents from this, and almost witnessed a third myself. The profession has become accustomed to coloured antiseptics; and provided the colouring reagents are absolutely innocuous to the patient, are permanent, and do not affect the properties of the chloroform and ether, there are many things to be said in their favour in the case of anæsthetics.

At my suggestion, after some months of experimenting, Messrs. Duncan and Flockhart have succeeded in producing a pink chloroform and a green ether, which are perfectly satisfactory and which they are now prepared to dispense if they are asked for them. The mixture of equal parts shows a clear brown. I have exposed them to sunlight for some weeks without them fading, and used them frequently with perfectly satisfactory results. I gave the ether by the open method for over two hours a few days ago, using the same piece of lint, and found it perfectly satisfactory, and have found the pink chloroform equally good.

Mistaking chloroform for ether probably never occurs in hospitals or in the practice of the professional anæsthetist, but surely such a mistake ought to be made absolutely impossible. At times anæsthetics are given in a bad light with indifferent assistants and for an exacting surgeon, who is inclined to flurry the anæsthetist. The green used for the ether is a pure vegetable product, 1 in 1400; the red in the chloroform is an aniline product, 1 in 200,000.—I am, Sir, yours faithfully,

P. F. BARTON, M.A., M.B.Cantab.
Wimbledon, June 25th, 1914.

ORAL SEPSIS.

To the Editor of THE LANCET.

SIR,—Dr. Robert Hutchison in his reply to Dr. Sim Wallace in THE LANCET of June 13th (p. 1721), suggests, as a small contribution to a discussion on "oral sepsis," that the pathological consequences of oral sepsis tend at present "to be greatly exaggerated." I am glad to notice that Dr. Hutchison is careful on this occasion only to make a suggestion, and that he has not, in his usual refreshing though rather dogmatic manner, made a definite assertion. May I also make a small contribution to this discussion?

During last season, as one of the physicians to the Royal Bath Hospital, I had under my care 261 cases, which I classified under the following groups: Chronic arthritis, muscular rheumatism or fibrositis, subacute rheumatism, neuritis, skin diseases, and miscellaneous.

The cases of chronic arthritis I attempted to subdivide into the following: Proliferative polyarticular or infective arthritis; degenerative or osteo-arthritis; articular gout; true rheumatoid arthritis, or metabolic osteo-arthritis (Nathan); chronic villous arthritis; and unclassified cases. Now in all these cases I carefully examined the mouth for evidence of oral sepsis, such as decayed teeth, swollen and inflamed gums, pyorrhœa and septic conditions of the tonsils. The arrangements at the hospital at present do not permit of bacteriological examinations, but the evidence of even such perfunctory examination as I carried out is worthy, I think, of Dr. Hutchison's attention. The percentage of oral sepsis in these cases may be seen from the following table:—

	Number of cases.		Oral sepsis.
Chronic arthritis:—			
1. Proliferative polyarticular arthritis	56	...	33
2. Degenerative or osteo-arthritis ...	42	...	10
3. Articular gout	5	...	1
4. Rheumatoid arthritis, or metabolic osteo-arthritis	3	...	None.
5. Chronic villous arthritis	9	...	2
6. Unclassified cases of arthritis ...	10	...	5
Muscular rheumatism or fibrositis	56	...	13
Subacute rheumatism	15	...	6
Neuritis	19	...	3
Skin diseases	36	...	2
Miscellaneous	10	...	3

Thus we see that out of a total of 261 cases admitted 83 suffered from some form of oral sepsis, and what is particularly noteworthy and almost startling is the fact that in the subdivision proliferative polyarticular, which we recognise as infective, 67 per cent. had oral sepsis. I do not wish for a moment to deny that there were not other forms of sepsis present, such as leucorrhœa, gonorrhœa, but the percentage of these was small in comparison.

I feel convinced that if the general practitioner would send these cases to the dentist when they first come under his notice instead of dosing them with salicylates and aspirin, we should soon see fewer of these distressing cases of severe crippling which are so common at all our spas, but the cases must be seen early and before the damage is done.

I am, Sir, yours faithfully,
Harrogate, June 20th, 1914. G. L. KERR PRINGLE.

INTRACRANIAL INJECTIONS OF SALVARSANISED SERUM IN PARENCHYMATOUS SYPHILIS OF THE CENTRAL NERVOUS SYSTEM.

To the Editor of THE LANCET.

SIR,—I have read with great interest the article in THE LANCET of May 30th written by Mr. Ballance on the introduction of salvarsanised serum into the lateral ventricle, and I am much impressed with this ingenious method. I understand, however, that Mr. Ballance would consider an injection into the subdural space over the hemisphere of at least equal value, and that he has given this method up only because he found it was difficult to inject a sufficient quantity of serum into the subdural space. Now I have myself in a few cases of general paralysis (six cases up to now) injected salvarsanised serum intracranially, and my experience is that it is not only possible but very easy to introduce as much as 30 c.c. in the subdural space without any subsequent leaking out of the injected fluid.

I shall as briefly as possible describe the method I have employed. With a ½-inch trephine I make an opening in the skull about 10 cm. above the anterior end of the left zygomatic arch, just behind the border of the hair. I then puncture the dura obliquely with a fine hollow needle, and when the cerebro-spinal fluid trickles out I fix a record syringe on to the needle and inject slowly 30 c.c. I then raise the patient to a sitting position and stitch up the wound. I do it all with local anæsthesia. It will generally be sufficient to inject about 5 c.c. of a 1 per cent. solution of novocaine in the soft parts that cover the skull. One only needs a small flap for the trephining. The bone itself is insensitive. Half an hour before the operation I give ¼ gr. morphia hypodermically, and I regard this as essential in order to keep the patient quiet during the operation. When the patient, after the injection, is raised to the sitting position it will generally be found that there is no leakage worth mentioning. I leave the trephine aperture open for subsequent injections, and it has proved to be very easy to puncture again through the old trephine opening; one has only carefully and slowly to push the needle in till the cerebro-spinal fluid trickles out, and then inject.

I do not think it necessary to remove any cerebro-spinal fluid before the injection; at least, I have not had any pressure phenomena after the injections and I have never removed more than 2–5 c.c. cerebro-spinal fluid before injecting. In the accompanying diagram I have tried roughly to indicate the localisation of the flap and the trephine opening. I suppose one might equally well trephine on the right side (in a case of left epileptiform attacks this would probably be preferable) or on any other part of the convexity of the skull; only I have chosen this site for trephining because of the situation of the eupractic regions on the left side and chiefly because of the ease with which trephining can be performed in this region. There is no muscular cover, one is well in front of the anterior branch of the meningeal artery, and also at a safe distance from the sinus sagittalis superior. The skull is rather thick in this region, which is an advantage, as one wants to leave the trephining aperture open for subsequent injections.

I think that this method has several advantages over the intraventricular injection. In the first place it is a much easier operation, and does not require any great surgical skill. Secondly, there is reason to believe that the injected fluid by subdural injection obtains a more direct access to the cerebral cortex than it does by the intraventricular injections.

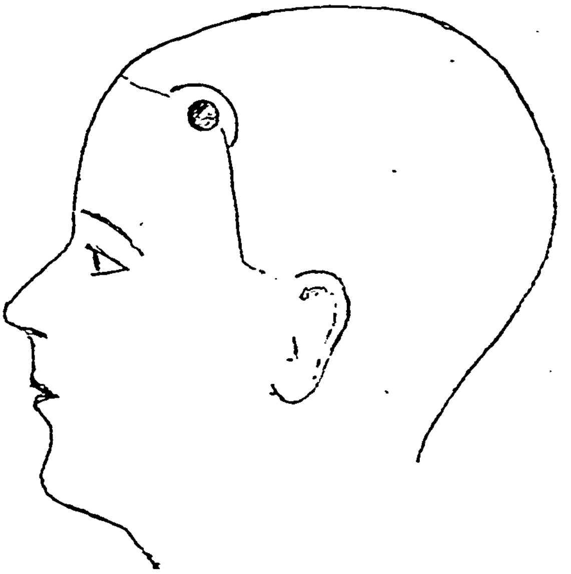

Diagram to show situation of flap and trephine opening.

As far as one can judge from Dr. Golla's experiments (as quoted by Dr. Harry Campbell in his very interesting article in THE LANCET of May 30th), a fluid injected subdurally will readily gain access to the subarachnoid space and the cortex of the brain—and as far as one can judge it will arrive at the cortex in a much less diluted and attenuated form than by intraventricular injection.

It is true one injects rather a small dose of salvarsan by injecting only 30 c.c. serum. After an intravenous injection of 0·6 grm. neosalvarsan (the dose I have generally used) one may say that the blood contains about 0·1 per 1000 neosalvarsan (the entire quantity of blood being about 6 litres), 30 c.c. will consequently only contain 3 mgrm. neosalvarsan, and it seems rational to add more neosalvarsan to the serum. How much one ought to add remains yet to be found out.

Personally I have never added any. Too short a time has elapsed to speak about the results. One thing has always to be borne in mind. Even if one kills ever so many spirochætæ, one cannot create one single new neuron. One may possibly expect a sort of regeneration of neurons which are only slightly damaged, but to expect any great improvement in the objective condition in general paralysis and tabes would be absurd. This new treatment with salvarsanised serum may possibly be able to stop the progress of the disease. Much more than that must not be expected, and therefore early diagnosis is more important than anything else. One must try to stop the disease whilst the patient is still an individual of fairly full value.

I should like to record my best thanks to the members of the honorary medical staff of the hospital for giving me the opportunity of performing these intracranial injections.

I am, Sir, yours faithfully,
G. H. MONRAD-KROHN, M.B., M.R.C.P. Lond., M.R.C.S.,
Resident Medical Officer, Hospital for Epilepsy and Paralysis, Maida Vale, W.
June 8th, 1914.

EVACUATION OF ASCITIC FLUID THROUGH A SLENDER CANNULA.

To the Editor of THE LANCET.

SIR,—In THE LANCET of June 27th, p. 1831, you mention that Dr. Buth, of Berlin, advocates tapping in ascites with a small cannula. In the second edition of my "Therapeutics of the Circulation," published three months ago, I have fully described the advantages of this process and the method of performing it. Dr. Buth's method seems exactly the same as mine, and I have described some additional precautions which I think will be useful in cases where the medical man is obliged to leave the patient for some hours.

I am, Sir, yours faithfully,
LAUDER BRUNTON.
Stratford-place, W., June 29th, 1914.

THE NATIONAL MEDICAL UNION.

To the Editor of THE LANCET.

SIR,—The annual meeting of the National Medical Union took place on June 27th and the dinner followed in the evening.

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Streatham, S.W., June 29th, 1914.

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2. That an official shorthand reporter shall be present at such meeting aforesaid, and that the usual attendance book shall be signed by members before entering the meeting.

3. That an official report of the proceedings of the same shall be printed and circulated to all members.

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If the virus is purely chemical in nature it might be ultramicroscopic, but I have always contended that if the virus is due to the growth of a bacterial organism it matters not how minute the individual organisms may be, when they grow, as all bacteria do, in colonies composed of myriads of individuals, such colonies should be easily detected by the microscope. This has been my consistent attitude with regard to the virus, for instance, of poliomyelitis mentioned in the sentence quoted above. Has not Flexner[1] (with the assistance of Noguchi and others at the Rockefeller Institute, New York) succeeded in cultivating and identifying the virus (micro-organism) of poliomyelitis? This has been accomplished on lines similar to that devised by Noguchi for the cultivation of spirochetæ. Two cultivating media are used, and in the second minute colonies are visible, even to the naked eye, clouding the medium. Under the microscope a globular organism is found in pairs, chains, or clusters. We are further informed that by Giemsa's stain the organism can also be demonstrated in infected tissues. The disease has been reproduced experimentally in monkeys.

When once a suitable medium for cultivation and a suitable stain have been discovered, a cultivable organism should in time be recognised, in colonies at any rate.

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It has been pointed out to me that the words I used have been interpreted by certain persons as casting a reflection upon Dr. Walker and Dr. Erhardt of Crosshills, near Keighley, and I willingly take this opportunity of stating that I did not make, and never intended to make, any imputation upon either of these gentlemen.

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THE NATIONAL INSURANCE ACT.

PROPRIETARY MEDICINES AND THE INSURANCE ACT.

IT is to be observed that a falling off in the sale of the inland revenue stamps applied to proprietary or so-called "patent" medicines, which was stated by Mr. Lloyd George to have taken place and was attributed to the Insurance Act, has not been maintained. The Chancellor of the Exchequer at the same time (in connexion with last year's Budget) spoke of the evidence given before the Select Committee on Proprietary Medicines as a contributing cause of the decline in the trade referred to. Be this as it may, the sale of stamps during the financial year which ended on March 31st was the largest hitherto known, amounting to £360,376, an increase of £32,000 upon the figures of 1912–13. At the same time, however, the rise in the number of licences for the retail sale of these articles has increased but little, and there is no evidence of any connexion between the increased sale of articles to which stamps must be applied and the working of the National Insurance Act. As to this, it seems possible that insured patients, who have before not consulted a medical man, may have done so, and having obtained from him information as to what they are suffering from described in general terms, may have been tempted to make use of such knowledge in order to doctor themselves with advertised "cures" and "remedies"—a regrettable and dangerous course. This seems to be a reasonable explanation, if there is such an increase as that referred to in the sale of preparations strictly of a medicinal character. At the same time it would be interesting to know whether there has not been also a rather marked increase in the sale of proprietary articles which would not take the place of medicines prescribed to insured persons, but which nevertheless are sold under stamps. It may be suggested, for example, that attention drawn to the necessity for taking care of the teeth has caused a large increase in the advertisement, and presumably in the sale of proprietary dental preparations.

salvarsanised serum may possibly be able to stop the progress of the disease. Much more than that must not be expected, and therefore early diagnosis is more important than anything else. One must try to stop the disease whilst the patient is still an individual of fairly full value.

I should like to record my best thanks to the members of the honorary medical staff of the hospital for giving me the opportunity of performing these intracranial injections.

I am, Sir, yours faithfully,
G. H. MONRAD-KROHN, M.B., M.R.C.P. Lond., M.R.C.S.,
Resident Medical Officer, Hospital for Epilepsy and Paralysis, Maida Vale, W.
June 8th, 1914.

EVACUATION OF ASCITIC FLUID THROUGH A SLENDER CANNULA.

To the Editor of THE LANCET.

SIR,—In THE LANCET of June 27th, p. 1831, you mention that Dr. Buth, of Berlin, advocates tapping in ascites with a small cannula. In the second edition of my "Therapeutics of the Circulation," published three months ago, I have fully described the advantages of this process and the method of performing it. Dr. Buth's method seems exactly the same as mine, and I have described some additional precautions which I think will be useful in cases where the medical man is obliged to leave the patient for some hours.

I am, Sir, yours faithfully,
Stratford-place, W., June 29th, 1914. LAUDER BRUNTON.

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institution of the first rank, and that these should be under a hospital authority so far as they were maintained by public money. He would have the necessary funds raised by county and borough rates with a Government subvention. Mr. W. G. Carnt, in commenting upon this, assured the meeting that the voluntary system was not a failure at Manchester, where he is superintendent of the Royal Infirmary. He deprecated any departure from the voluntary system. Sir Henry Burdett gave strong support to the maintenance of the voluntary system which, he declared, no Chancellor of the Exchequer alive would ever be strong enough to destroy. He compared the resulting attitude towards the patient under the voluntary system with that obtaining abroad, and declared that he would rather die than live in a country where they had State hospitals. State-aid had always meant that the professor dominated and that humanity suffered, while the one great blessing of the voluntary system was that the first consideration was the patient. Dr. D. J. Mackintosh, speaking of the Western Infirmary, Glasgow, mentioned a falling off there of £123 in the first year under the Act, owing to refusals by insured working men to continue contributing. New subscriptions, however, due to ship-building prosperity had more than made up for this.

THE NATIONAL MEDICAL UNION.

On Saturday, June 27th, there was a well-attended meeting of the National Medical Union, and in the evening a banquet was given at the Café Monico, when a larger concourse of members assembled. Mr. V. T. Greenyer, of Brighton, as chairman of the council of the Union, presided at the dinner, and after the usual loyal toasts Dr. John Playfair, representing the Edinburgh Medical Guild, proposed the toast of the evening, "The National Medical Union." It had originated, he said, at Manchester in 1912 as a local body, but in the course of time and with the help of the honorary secretary, Mr. Robert Carswell, the Manchester Society had united with the Edinburgh Medical Guild and the London non-panel medical societies. The Union thus became, he said, "a central federation of the forces organised to resist the panel and uphold the best traditions of the profession." Alluding to the feeling of the medical profession against the Act, he said that he was agreeably surprised to find that the majority of medical men were not on the panel. In England 11,820 practitioners were on the panel, but 12,976 had refused to join. In Scotland 2151 were not on and 1756 were on the panel. Taking England, Scotland, and Wales together there were 15,663 non-panel and 14,472 panel doctors. Out of 15,000 doctors it should be easy for the Union to recruit a few thousand more members. Dr. Porter and Dr. James Smith, while they pleaded for the cause of individualism, which they said the Insurance Act had sacrificed, also advocated the formation of a strong, well-disciplined Union. Dr. J. Brassey Brierley said that the National Medical Union had come to stay, their members were increasing, and when the time was ripe for a general reconstruction in medical politics the Government would come to them for help. The chairman thought the fact that so many panel doctors felt the necessity of forming themselves into a strong trade union indicated that the Act was not working satisfactorily. Dr. F. J. Smith responded for "The Guests." As a teacher of medicine he thought the Act was doing harm, for though the minority of the panel doctors were doing their best, medical practice was degenerating into a mere money-making business—"profession be damned, I can earn £1000 a year by having 3000 insured persons on my list," was his way of illustrating this phase, adding, "panel practice is a short cut to £400 or £500 a year by asking a given number of people what is the matter with them and giving them prescriptions in duplicate." Dr. Smith was convinced that a large number of panel doctors did not do their work properly, and thought that the medical student, with such examples before him, would learn as little as possible, and ask why he should do more when he could earn a good living without doing it. The banquet concluded with the toast of "The Press," to which Mr. Adolphe Smith, as representing THE LANCET, responded. He referred to the fact that during the last 12 months he had visited places all over the kingdom and interviewed pro-panel and anti-panel practitioners in all centres, and had been received with equal urbanity by either while studying the existing conditions.

ELECTION OF MEDICAL REPRESENTATIVES UPON THE LONDON INSURANCE COMMITTEE.

Ballot papers for the election of medical representatives to serve upon the London Insurance Committee have now been issued to medical practitioners in the County of London by the National Insurance Commission. The election will be carried out according to the system of proportional representation. The following are the duly nominated candidates whose names appear upon the ballot papers, which when filled in must reach the returning officer, 29, Queen Anne's-gate, London, S.W., not later than 12 noon on Monday next, July 6th: R. V. Donnellan, L.R.C.S., Lewisham Park, S.E.; Major Greenwood, M.D., Hackney-road, N.E.; D. Barty King, M.D., Devonshire-street, W.; W. H. F. Oxley, M.R.C.S., East India Dock-road, E.; and Alfred Welply, M.D., Seven Sisters-road, N.

PROVISION OF SHELTERS IN LONDON.

The London Insurance Committee informs the borough councils that the Local Government Board is prepared to make grants towards the cost of providing shelters for the treatment of consumptive patients in the backyards attached to their homes.

WE are asked to state that the successful action of Dr. Alfred Salter against the London Insurance Committee, recorded in our last issue, was carried out on his behalf by the Medical Defence Union.

THE CLINICAL CONGRESS OF SURGEONS.—Mr. A. H. Tubby, for the Royal National Orthopædic Hospital, and Mr. Stephen Mayou, for the Central London Ophthalmic Hospital, have joined the general committee.

THE President and Council of the Royal Society have accepted the offer of Miss L. E. and Miss M. W. Lawrence to present £4000 to the society in trust to devote the interest arising therefrom to the furtherance of research into the cause and cure of disease in man and animals. The donors desire to associate the gift with the memory of their father, Sir William Lawrence, F.R.S., surgeon to St. Bartholomew's Hospital, and their brother Sir Trevor Lawrence, K.C.V.O., treasurer of St. Bartholomew's Hospital.

Medical News.

UNIVERSITY OF OXFORD.—In the undermentioned examinations the following candidates were approved :—

First B.M. Examination.

Organic Chemistry.—J. P. B. Harold, P. S. Houghton, J. E. B. Morton, M. E. Shaw, G. K. Stone, and W. F. Skaite.

Human Anatomy and Human Physiology.—C. W. W. Armstrong, G. Cranstoun, J. L. Dunstan, C. K. J. Hamilton, J. F. Haines, R. M. Humphreys, R. W. Lush, B. G. v. B. Mellé, D. H. Skinner, A. E. Thomas, K. F. D. Waters, and C. D. Wood.

Second B.M. Examination.

Materia Medica and Pharmacology.—H. E. A. Boldero, C. J. A. Buckell, R. W. J. A. Cushing, S. C. Dyke, H. S. Jeffries, O. P. Sells, and C. P. Symonds.

Pathology.—A. C. Ballance, H. E. Bamber, J. B. Batt, H. E. A. Boldero, L. G. Brown, C. J. A. Buckell, C. H. Carlton, F. B. Chavasse, G. Cranstoun, A. W. Dennis, S. C. Dyke, K. M. Dyott, O. H. Gotch, C. H. L. Harper, H. M. Oddy, O. G. Parry-Jones, O. B Pratt, G. P. Selby, S. W. F. Underhill, H. St. H. Vertue, A. L. Watts, and H. A. B. Whitelocke.

Forensic Medicine and Public Health.—C. H. Carlton, V. T. Ellwood, F. C. Gladstone, C. H. L. Harper, C. W. B. Littlejohn, G. A. Maling, E. E. Mather, O. G. Parry-Jones, M. O. Raven, G. S. Robinson, and G. P. Selby.

Medicine, Surgery, and Midwifery.—J. C. Davies, C. Dean, A. W. Dennis, C. W. B. Littlejohn, E. E. Mather, H. M. Pope, M. O. Raven, G. P. Selby, and A. B. Thompson.

Diploma in Public Health.

Part I.—F. S. Carson, G. M. Cogswell, H. B. Gibbins, W. H. Hewlett, J. Inkster, C. F. B. Kebbell, F. J. H. Martin, L. M. Mayers, R. S. Miller, H. W. Parnis, W. R. S. Roberts, and A. H. Savage.

Part II.—N. A. Coward, H. B. Gibbins, W. Gilmour, J. Inkster, F. J. H. Martin, J. Powell, E. L. N. Rhodes, W. R. S. Roberts, and A. H. Savage.

UNIVERSITY OF SHEFFIELD: FACULTY OF MEDICINE.—The following are the results of examinations held recently :—

First Examination for the M.B., Ch.B. Degrees.—James N. Gale, John V. Mainprize, Robert H. B. Mathews, John Ryan, Alice White, and Ethel White.

Second Examination for the M.B., Ch.B. Degrees.—Mary Andrews, Frederick G. E. Hill, and Florence E. Millard.

M.B., Ch.B. Final Examination.—Part B, completing examination: William B. Allen (Second Class Honours), Gordon F. Stones, Josiah R. Turner, Derwent C. Turnbull, and Charles H. Wilson.

Diploma in Public Health.—John R. McGregor, Ernest T. K. Walker, and Percival D. Warburton.

UNIVERSITY OF DURHAM: FACULTY OF MEDICINE.—At the Convocation on June 23rd the following degrees were conferred :—

Doctor of Medicine.—James Kenworthy Johnston Haworth, Eva Lumb, and Ralph Stuart Renton.

Doctor of Medicine for Practitioners of Fifteen Years' Standing.—William Oliver Beddard, William Horton Date, John Flynn, Alfred John Hesterlow, William Massingberd Middleton Jackson, James Ryan McFerran, Edwin Maynard, and John Jesudasen Srinavasagam Pillay.

Master of Surgery (M.S.).—Joseph Jopling Brown and James Carruthers Young.

Bachelor of Medicine (M.B.).—Cyril Armstrong and Ishmael Gustavus Cummings, College of Medicine, Newcastle-upon-Tyne; Henry Hawes Elliot, Guy's Hospital; Charles Norman Gover, Frank Wilson Harlow, Maurice Henry de Jersey Harper, and Cyril Jacobs, College of Medicine, Newcastle-upon-Tyne; Hubert Vere Leigh, Guy's Hospital; Francis Metcalfe, College of Medicine, Newcastle-upon-Tyne; Eric Knowles Ryan, University of Sheffield; and Herbert Joseph Shanley, Kirton Ivor Seager Smith, and James Calvert Spence, College of Medicine, Newcastle-upon-Tyne.

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Bachelor of Hygiene (B.Hy.).—Arthur Hyde Wear and Stanley Worthington.

The following received the Diploma in Public Health (D.P.H.) :—

Arthur Hyde Wear and Stanley Worthington.

The following received the Licence in Dental Surgery (L.D.S.) :—

John Thomas Smith and Sidney Wilkinson, College of Medicine, Newcastle-upon-Tyne.

At the Second Examination for the degree of Bachelor of Medicine, the following candidates were successful :—

Anatomy and Physiology.—First Class Honours: William Andrew Hewitson, College of Medicine, Newcastle-upon-Tyne. Second Class Honours: Harold Mason Leete, College of Medicine, Newcastle-upon-Tyne. Pass List: Percy Vernon Anderson, William Duncan, Ernest Craig Dunlop, Mordecai Jacob Erdberg, Charles Gordon Irwin, Malcolm Cyril Joynt, Freda Newman, George Fleming Philip, and Harold Ivan Sterne-Howitt, College of Medicine, Newcastle-upon-Tyne.

At the Third Examination for the degree of Bachelor of Medicine the following candidates were successful :—

Materia Medica, Pharmacology and Pharmacy, Public Health, Medical Jurisprudence, Pathology and Elementary Bacteriology.—Second Class Honours: Henry Evers, John Alexander Charles, and Arthur Edwin Raine, College of Medicine, Newcastle-upon-Tyne. Pass List: John Francis Carter Braine, Guy's Hospital; John Brumwell, Harry Cecil Broadhurst, George Albert Clark, Horace George Bennett Dove, and John Horsley, College of Medicine, Newcastle-upon-Tyne; and Hugh Gordon Sparrow, St. George's Hospital and College of Medicine, Newcastle-upon-Tyne.

Materia Medica, Pharmacology and Pharmacy, Public Health and Medical Jurisprudence.—Mary Russell Campbell, Reginald Arthur Hooper, Norman Alexander Martin, Carl Damien Newman, William Oxley Forster Sinclair, Alfred Cresswell Tayler, and Robert Welch, College of Medicine, Newcastle-upon-Tyne.

Pathology and Elementary Bacteriology.—Lionel Basil Frere, Harold Kingston Graham-Hodgson, and James Dixon Johnson, College of Medicine, Newcastle-upon-Tyne; Douglas Oliver Richards, Guy's Hospital; and Alfred Smirthwaite, College of Medicine, Newcastle-upon-Tyne.

COMPLIMENTARY DINNER TO DR. JOHN BROWNLEE.—Last week a large company, mainly composed of Glasgow medical men, but representative also of the other professions in the city, met in the Grosvenor Hotel, Glasgow, to do honour to Dr. John Brownlee, lately physician-superintendent of Ruchill Hospital, on the occasion of his appointment as statistician to the Medical Research Committee under the National Insurance Act.

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL.—The distribution of prizes at this school was made on Tuesday last by Sir Clifford Allbutt, Regius professor of physic at the University of Cambridge, who spoke hopefully of the future of the profession of medicine, which he considered would be enormously uplifted in the near future by the establishment of clinical and scientific centres all over the country. These, he said, would make the services of specialists available for every general practitioner at his need, while the necessity also of establishing a Ministry of Public Health was insisted upon.

RESEARCH DEFENCE SOCIETY.—The annual meeting of this society was held in the rooms of the Royal Society of Medicine on June 30th. The new President, Lord Lamington, in delivering his presidential address, said that the whole question of cruelty to animals should be considered in relation to the question as to how far it might be brutalising to the human mind. He referred to the predatory instincts found in animals, and said it might be presumed that if the wishes of dogs and cocks could be consulted they would enjoy nothing better than a good fight, but the law rightly held that whatever pleasure the animals might find in fighting it should not be allowed because of its brutalising effect on the human witnesses. He was honestly convinced that not physical pain so much as alarm to their instinct of self-preservation caused them suffering; anyone could see that they seemed indifferent to their wounds when unalarmed. All must recognise that pain was not felt with the same intensity by the lower creatures as by man, and even uncivilised man did not feel pain to the same degree as civilised man, while certain African races appeared totally insensible to pain and would on no account take an anæsthetic for an operation. In considering vivisection there could be no pain when the animals were experimented on under an anæsthetic and killed while under it. Only 5 per cent. of the experiments were of a surgical nature and these were done under an anæsthetic, and in many of them the animal was killed while under it. 95 per cent. of all experiments were of the nature of inoculations, and as to the question of pain in such, he had seen guinea-pigs infected with cancer moving about and feeding apparently without discomfort. The report of the Royal Commission showed that the actual pain caused was infinitesimal and in no degree comparable to that caused by the yearly mutilation of farm animals in millions of cases. In support of this he cited the evidence of Sir John MacFadyean before the Commission. In conclusion, he drew attention to benefits that had been derived from experiments on animals, alluded to the fact that in this way distemper among dogs might become curable, and pointed to the business of the society as the educating of public opinion to the true character and method of experiments on animals. The report stated that the membership of the society now exceeds 5000. At the conclusion of the meeting moving pictures of various disease-producing organisms were shown.

Literary Intelligence.—The W. B. Saunders Company announce for early publication a new work on Anoci-association by Professor G. W. Crile and Dr. W. E. Lower, assistant professor of genito-urinary surgery, Western Reserve University.

Death of a Centenarian.—The death occurred at Chichester on June 26th of Mrs. Elizabeth Coote, who was born on April 5th, 1812. On her 100th birthday she had a motor-car ride for the first time in her life. She was a native of Sussex.

Presentation to a Medical Man.—Dr. Evan Alban, who practised for many years at Lindfield, Sussex, and has now gone to Wales to reside, has been presented by his many friends at Lindfield and the surrounding district with a cheque for £100 and an illuminated address.

Tuberculosis Society.—We are asked to state that a meeting under the auspices of this society will be held at Leeds in the town hall at 7.45 P.M. on Wednesday, July 8th. Tuberculosis officers and practitioners specially interested in tuberculosis are invited to attend with a view to joining the society. A discussion on "The Future of the Tuberculosis Service" will be opened by the President, Dr. Halliday G. Sutherland.

St. George's Hospital.—The introductory address at the opening of the winter session of St. George's Hospital Medical School on Oct. 1st will be delivered by the Master of Christ's College, Cambridge, Mr. A. E. Shipley, F.R.S., in the large lecture theatre, at 3 P.M. The Master of Christ's will also present the prizes to the successful students. On the same evening the annual dinner will be held at Princes Restaurant, Piccadilly, at 6.30 for 7 o'clock, when the Right Hon. Sir Gerard Lowther, G.C.M.G., joint treasurer of the hospital, will take the chair.

Dr. J. E. Blomfield presided over a complimentary dinner given at the Crown Hotel, Sevenoaks, by the practitioners of Sevenoaks, Tonbridge, and the surrounding district to Mr. Arthur Maude, of Westerham, and Mr. E. G. A. Walker, of Ightham, in recognition of their prolonged and valuable services to the medical profession both in the local administration of the British Medical Association and in connexion with the National Insurance Act. Mr. Maude, who is resigning the chairmanship of the Kent medical committee and retiring from practice, was afterwards presented with a set of silver dessert dishes, inscribed with the words, "Pignus amicitiæ et gratitudinis."

Central Midwives Board.—Special meetings of the Central Midwives Board were held at Caxton House, Westminster, on June 9th and 10th, Sir Francis H. Champneys being in the chair. A number of midwives were struck off the roll, the following charges, amongst others, having been brought forward: The midwife disregarding the wish of the patient's relatives for medical assistance, and neglecting to take the pulse or temperature of a patient at her visits. A registered medical practitioner having been sent for on account of there being threatened danger the midwife did not await his arrival nor faithfully carry out his instructions as required by Rule E. 6; discontinuing attendance upon a patient at a time when she was dangerously ill. A child suffering from discharge from the eyes the midwife did not explain that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E. 20 (5). Attending a patient wearing a skirt of non-washable material, as required by Rule E. 1; being unable to take the pulse or temperature of patients, and consequently being unable to comply with Rule E. 13. With intent to avoid inspection by the local supervising authority the midwife neglected in the month of January in this year, and subsequently, although practising, to notify her intention to practise as a midwife as required by Section 10 of the Midwives Act, 1902. Medical aid having been sought for the child the midwife neglected to notify the local supervising authority thereof, as required by Rule E. 21 (1); not keeping the register of cases as required by Rule E. 23; paying no visits to the patient on the fifth, seventh, and ninth days; neglecting to disinfect the hands and forearms as required by Rule E. 3 when making an internal examination of the patient, and neglecting to adopt the antiseptic precautions required by Rule E. 7 before making the first internal examination of the patient; neglecting to wash and swab the patient's external parts as required by Rule E. 7. The case being one of puerperal fever the midwife continued to attend other patients without having undergone any disinfection to the satisfaction of the local supervising authority, as required by Rule E. 5; neglecting to explain to patients that the attendance of a registered medical practitioner is required in cases where the rules require the midwife to do so; neglecting to visit patients with due regularity, or to attend to their cleanliness, comfort, or proper dieting, as required by Rule E. 11. That being in attendance at a confinement the midwife, well knowing that the child was stillborn, falsely informed the father of the child and made false statements to other persons that the child had been born alive and had lived for a stated space of time; and describing and notifying as stillborn children who have, in fact, been born alive.—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on June 18th, Sir Francis H. Champneys being in the chair. Jurisdiction of the Board: A letter was considered from a certified midwife forwarding a copy of a notice sent to her by the Cleveland Division of the North of England Branch of the British Medical Association. The Board decided that it be pointed out to the certified midwife that medical practitioners are not under the jurisdiction of the Board. Signing of cases: Correspondence attending the sending in of a schedule by a candidate for the examination of June 15th in which she had falsified the names and dates of several of the patients attended by her and had then certified them to be correct and true in all respects was considered. The Board decided amongst other matters that as regards the signature of the medical practitioner as to the correctness of the cases the facts be communicated to the General Medical Council. Examinations: A letter was considered from the honorary secretary of the medical committee of the Birmingham Maternity Hospital asking the Board to arrange for the holding of six examinations each year at Birmingham. The Board directed that the application be granted. Qualifying cases: A letter was considered from the resident medical officer of a recognised training school asking the Board whether a portion of the 20 necessary cases taken two years ago may be counted as qualifying a candidate to enter for the examination of the Central Midwives Board. The Board decided that the resident medical officer be informed that the proposed procedure is contrary to the intention of the Board, and is in its opinion highly undesirable.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Milk and Dairies Bill.

A number of amendments have been introduced by the Standing Committee of the House of Commons into the clause in the Milk and Dairies Bill prohibiting the sale of tuberculous milk. The effect is that in order to succeed the prosecution will have to prove that the farmer or dairyman has received notice that the milk was infected or the product of a diseased cow, or that he knew it to be so, or that by the exercise of ordinary care he could have ascertained the fact. In regard to the mixed milk from a number of cows, Mr. Herbert Samuel, the President of the Local Government Board, said that he proposed that the department should be authorised to make regulations to prevent danger arising from the sale of such milk or its use in manufactured products.

On Monday, June 29th, the committee had under consideration Clause 2, which contains provisions for the extension of the power to make orders respecting milk and dairies. Mr. Astor brought forward a proposal for the granting by local authorities of annual certificates of registration of dairymen and the suspension or revocation of [illegible] ertificates where a dairyman had been guilty of repeated or erious offences against the Act. This proposal was strongly pposed, and was ultimately negatived without a division.

Milk and Dairies (Scotland) Bill.

On Thursday, June 25th, the Scottish Standing Committee f the House of Commons adopted a provision which is esigned to define the powers of a local authority to trace ontaminated milk coming from an area outside its own. his took the form of a subsection to Clause 4 of the Milk nd Dairies (Scotland) Bill. It was in the following terms: "When the medical officer of health or the sanitary nspector of any district is of opinion that any milk consigned to the district from any other district is contaminated r impure, or when the medical officer has any reasonable round for believing that any milk consigned as aforesaid s likely to cause any infectious disease or other illness, it hall be lawful for the medical officer of health, sanitary nspector, or veterinary inspector to the first-named district, o inspect the dairy from which such milk has been consigned, nd to examine the cattle therein, and the dairyman and ersons in his employment shall give all reasonable facilities nd assistance to such officers for such inspection and xamination." Some complaint was made that this would ave the effect of reducing powers of inspecting milk pplies already possessed by Glasgow and Edinburgh under rivate Acts, but the retention of those powers may be iscussed at a later stage in the proceedings.

Excellent progress was made with the Bill on Tuesday, une 30th. Few alterations were made in the text. An mendment was introduced at the instance of Captain ILMOUR to protect the name "milk" against being applied o milk substitutes.

Vital Statistics for 1912.

The seventy-fifth annual report of the Registrar-General of Births, Deaths, and Marriages in England and Wales n 1912 has been presented to Parliament. In it it is stated that the birth-rate in 1912 was 23·8 per 1000, and was 3·0 below the average of the preceding decennium. It was the lowest rate on record, being no less than 0·6 below that of 1911 which was the next lowest. The provisional figures for 1913, however, indicate a rise of 0·1 per 1000 upon the rate of 1912, this being the first year since 1903 to show an increase. The report adds that in view of the fact that the rise in 1903 proved to be only a temporary check to the general downward tendency it would be unsafe to conclude that there is any present indication of a real check in the decline of the birth-rate. The death-rate in 1912 was 13·3 per 1000, and was 1·9 per 1000 below the average for the 10 preceding years. It was the lowest on record, being 0·2 per 1000 below the lowest previously recorded, that of 1910. Infant mortality was 95 per 1000 births, being 30 per 1000 below the average of the preceding decennium. It was the lowest rate on record, being 10 per 1000 births below the lowest rate recorded, that for the year 1910. The provisional infant mortality rate for 1913, when the summer conditions were less favourable to infant life, is 109 per 1000 births. It is noted that the death-rates from enteric fever, diphtheria and croup conjointly and diarrhœal diseases were the lowest recorded. Cancer caused a higher death-rate both among males and among females than in any preceding year, but the rate from tuberculosis as a whole was the lowest on record.

insured persons, tuberculosis laboratories, and nurses was to be divided amongst the three items mentioned.—Mr. MONTAGU replied: It is proposed that of the sum referred to £400,000 should be allocated to tuberculosis services, £250,000 to nursing, and £100,000 to pathological laboratories.

Mr. WORTHINGTON EVANS: Have these grants been abandoned or are they in the amended Budget?—Mr. MONTAGU: They have not been abandoned. They are in the Finance Bill.

Small-pox at Pretoria.

Mr. TENNANT (Under Secretary of State for War) in reply to Mr. JOHN WARD said: So far as the Army Council are aware only one case of small-pox has occurred in the Bedfordshire Regiment at Pretoria. The man had undergone primary vaccination on enlistment in October, 1905. The case occurred in May, 1914, and the man had not been revaccinated since 1905. In the circumstances no change in the present regulations in regard to vaccination appears to be called for.

THURSDAY, JUNE 25TH.

The Mortality of Seamen.

Replying to Major ARCHER-SHEE, Mr. BURNS (President of the Board of Trade) wrote: The investigations into the mortality of seamen are being conducted by Mr. E. G. Moggridge, Mr. E. W. Colvill, Mr. C. Hipwood, Mr. T. F. Jenkins, and Captain A. H. Young, of the Board of Trade; Dr. A. H. Newsholme, of the Local Government Board; and Dr. T. H. C. Stevenson, of the General Register Office. They are considering the mortality among seamen on British merchant ships, as shown in the vital statistics, with a view to reporting what steps are desirable to diminish that mortality and how far such steps will need legislation. They will, if necessary, take evidence.

MONDAY, JUNE 29TH.

The Excessive Sickness Inquiry.

Mr. WEDGWOOD BENN stated in reply to Mr. CHARLES BATHURST that he was informed that the Departmental Committee upon excessive sickness in connexion with the National Insurance Act had finished taking evidence and hoped to report at an early date.

National Insurance and the Government of Ireland Bill.

Mr. NEWMAN asked the Chancellor of the Exchequer whether the proportion of the proposed grants due to Ireland in respect of National Health Insurance, feeding of school children, nursing, and health research would be specifically allocated in respect of the above enumerated or similar services, or would in the event of the Government of Ireland Bill becoming an Act be automatically added to the transferred sum and be at the disposal of the Irish Government.—Mr. LLOYD GEORGE answered: Subject to the provision of Clause 5 (2) of the Government of Ireland Bill all public services in Ireland in connexion with the administration of the National Insurance Act are matters reserved to the Government of the United Kingdom. The proposed grant in respect of National Health Insurance will be administered by that Government. The equivalent grants to Ireland corresponding to the grants in Great Britain for new educational services, tuberculosis, and pathological laboratories will be added to the transferred sum, and be at the disposal

JARROLD AND SONS, London.

How to Keep Fit. A Series of Special Lectures to Young Men delivered at the Central Y.M.C.A., London. By W. McAdam Eccles, M.S., M.B., F.R.C.S.; Sir Robert W. Burnet, M.D., F.R.C.P., J.P.; Sir Dyce Duckworth, Bart., M.D., F.R.C.P.; Sir R. Douglas Powell, Bart., K.C.V.O., M.D.; Sir George Henry Savage, M.D., F.R.C.P.; James Cantlie, M.A., M.B., F.R.C.S., D.P.H.; and Sir Francis H. Champneys, Bart., M.D., F.R.C.P. Price 1*s.* net.

LANE, JOHN, London and New York. *BELL AND COCKBURN, Toronto.*

The New Optimism. By H. de Vere Stackpoole. *Price 3s. 6d.* net.

LAURIE, T. WERNER, *LIMITED, London.*

Tales of Two Countries. By Maxim Gorky. *Price 6s.*

MATTHEWS, A., AND CO., LIMITED. Chancery-lane, W.C.

Matthews's Manual of Nursing Homes and Hydros of the British Isles and Guide to Spas and Health Resorts. *Price 2s. 6d.*

SAFÁR, JOSEF, Wien und Leipzig.

Militärmedizin und ärztliche Kriegswissenschaft. Price M.8. Von der Abteilung herausgegeben und für dieselbe redigiert von generalstabsarzt Dr. Zdislaus Ritter v. Juchnowicz-Hordynski und Stabsarzt phil et med Dr. Erhard Gläser. Heft I., Kriegs- und Militärchirurgie sowie Verbandkunde. Heft II., Militärgesundheitspflege und Heeresseuchen. Heft III., Beiträge zum Truppensanitätsdienst. Heft IV., Interne Krankheiten. Heft V., Geistes- und Nervenkrankheiten. Heft VI., Ohren-, Nasen- und Halskrankheiten. Heft VII., Zahnheilkunde. Heft VIII., Die Salvarsanbehandlung beim k.u.k. Heere.

ST. CATHERINE *PRESS*, THE, 34, *Norfolk-street*, Strand, W.C.

Why Early Death? By M. C. Sykes, M.D., F.R.C.S.E., D.P.H. Lond., F.C.S. Price 6*d.* net.

SAUNDERS (W. B.), COMPANY, *London.*

Infant Feeding. By Clifford G. Grulee, A.M., M.D., Assistant Professor of Pediatrics at Rush Medical College, Chicago. Illustrated. Second edition, thoroughly revised. Price 13*s.* net.

Collected Papers by the Staff of St. Mary's Hospital, Mayo Clinic, 1913. By W. J. *Mayo, M.D., C. H. Mayo, M.D., and their Associates.* With 335 illustrations. Price 24*s.* net.

Chemical Pathology. By H. Gideon Wells, Ph.D., M.D., Professor of Pathology in the University of Chicago, and in Rush Medical *College,* Chicago. Second edition, *thoroughly revised. Price* 15*s.* net.

SPON, E. AND F. N., London.

The Evolution of Greater Britain's Antiseptic House and Town Sewage-Drainage Systems of the Twentieth Century and After—for all Time. With Descriptions of Inherent Defects of the *Nineteenth Century Systems* and *How to Overcome those* Defects at Great Saving of Expense. By Isaac Shone, Civil, Mining, and Sanitary Engineer. Price 25*s.* net.

SPRINGER, JULIUS, Berlin.

Abwehrfermente. Das Auftreten blutfremder Substrate- und Fermente im tierischen Organismus unter experimentellen physiologischen und *pathologischen Bedingungen.* Von Emil Abderhalden (Halle). Price M.12.

UNIVERSITY *PRESS, Cambridge.*

The *Life,* Letters, and Labours of Francis Galton. By Karl Pearson, Galton Professsor, University of London. Vol. I.: Birth, 1822, *to Marriage,* 1853. *Price 21s. net.*

Know Your Own Mind. A Little Book of Practical Psychology. By *William Glover. Price 2s.* net.

The Philosophy of Biology. By James Johnstone, D.Sc. Price 9*s.* net.

VIGOT FRÈRES, Paris.

Les Anomalies de l'Urine. Par A. Escalch. Price Fr.3.

WILSON, EFFINGHAM, 54, Threadneedle-street, E.C.

Partnership (Law and Practice). By H. C. Emery. Price 5*s.* net.

Dictators of Mexico. By John De Kay. Price 2*s.* 6*d.* net.

YEAR BOOK PRESS, 31, Museum-street, W.C.

Directory of Women Teachers and other Women *connected with* Higher and Secondary Education. 1914. Price 7*s.* 6*d.* net.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ASHBY, HUGH T., M.B., B.C. Cantab., M.R.C.P. Lond., has been appointed Honorary Physician to the Salford Royal Hospital.

DAVIES, H. W., M.B., B.S. Lond., has been appointed House Surgeon at University College Hospital.

DEAKIN, H. V., M.R.C.S., L.R.C.P. *Lond.*, has been appointed House Physician at University College Hospital.

DE SOUZA, D. H., M.D., D.Sc., M.R.C.P., has been appointed Demonstrator in Physiology at King's College, University of London.

DICKSON, W. E. CARNEGIE, M.D. Edin., F.R.C.P. Edin., has been appointed Director of the New Pathological Department of the Royal Hospital for Diseases of the Chest, City-road, E.C.

GREGOR, ALEXANDER, M.D. Aberd., has been appointed a Medical Referee under the Workmen's Compensation Act, 1906, for County Court Circuit No. 59.

HUDSON, R., M.D. Durh., has been appointed Certifying Surgeon under the Factory and Workshop *Acts for* the Pontymister *District of* the county of Monmouth.

JONES, HOWARD, M.B., B.S. *Lond.*, M.R.C.S., L.R.C.P., has been appointed Honorary Anæsthetist to St. Mark's Hospital for Diseases of the Rectum.

MORLEY, JOHN, Ch.M., F.R.C.S. Eng., has been appointed Honorary Assistant Surgeon *for* Children at the St. Mary's Hospital, Manchester.

NYHAN, CHARLES, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health of Brynmawr.

POSTLETHWAITE, J. M., *L.R.C.P. Lond.*, M.R.C.S., has been appointed Certifying Surgeon under the Factory and Workshop *Acts for* the Whalley District of the county of Lancaster.

REES, F. H., M.B., B.S. Lond., has been appointed Obstetric Assistant at *University College* Hospital.

RICKARDS, J., M.B., Ch.B. Vict., has been *appointed Certifying* Surgeon under the Factory and Workshop Acts for the Brackley District of the county of Northampton.

ROBERTS, ROBERT ELLIS, M.B. Lond., has been appointed Medical Officer of Health to the Mynyddislwyn Urban District Council.

RUSSELL, J. R., M.D. Durh., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Westerham District of the county of Kent.

SEDGWICK, RICHARD ERNEST, M.D. Cantab., *has been appointed a* Medical Referee under the Workmen's Compensation Act, 1906, for County Court Circuit No. 3.

SKERRETT, FRANK B., M.B., B.Sc. *Lond.* & Vict., D.P.H., M.R.C.S., has been appointed Assistant *Medical Officer of* Health and Chief Assistant School Medical Officer of the County Borough of West Ham.

STEADMAN, F. ST. J., D.P.H., L.R.C.P. *Lond.*, M.R.C.S., L.D.S., has been appointed *Assistant Dental Surgeon to the Royal Dental* Hospital.

SUTCLIFFE, LIONEL E., M.B., Ch.B. Sheff., has been appointed Second Honorary Anæsthetist to the Chesterfield and North *Derbyshire* Hospital.

SYMONS, JOHN, M.R.C.S., L.S.A., has been appointed a Medical Referee under the Workmen's Compensation Act, 1906, *for* County Court Circuit No. 59.

UNDERWOOD, D., M.B., B.S. *Lond.*, *has been* appointed Clinical Assistant in the Dental Department at University College Hospital.

WATT, R. H., M.D. Edin., has been appointed Certifying Surgeon under the *Factory* and *Workshop Acts for the* Langholm District of the county of Dumfries.

WILLIS, MORLEY, F.R.C.S. Eng., has been appointed a Medical Referee under the Workmen's Compensation Act, 1906, *for* County *Court Circuit No.* 18.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ABERGAVENNY, MONMOUTHSHIRE ASYLUM.—Locum Tenens Assistant Medical Officer. Salary 6 guineas per week, and all found.

ARGYLL AND BUTE DISTRICT ASYLUM, Lochgilphead.—Medical Superintendent. Salary £500 per annum, with house and allowances.

BARROW-IN-FURNESS, NORTH LONSDALE *HOSPITAL.*—House Surgeon. Salary £150 per annum, with residence, board, and laundry.

BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon. Salary [illegible] per annum, with board, *lodging,* and laundry.

BETHLEM *ROYAL HOSPITAL*, Lambeth-road, S.E.—Second Assistant Medical Officer, unmarried. Salary £275 per annum, with apartments, board, and laundry.

BIRKENHEAD BOROUGH HOSPITAL.—Senior *House* Surgeon. Salary £120 per annum, with board and *laundry.*

BIRMINGHAM GENERAL DISPENSARY.—Resident Medical Officer, unmarried. Salary £240 per annum, with apartments, fire, light, and attendance.

BIRMINGHAM, *QUEEN'S HOSPITAL.*—One House Physician and Two House Surgeons for six months. Salaries at rate of £50 per annum, with board, lodging, and washing.

BOARD OF CONTROL.—Medical *Superintendent* of a State Institution *for Defectives of Dangerous* or Violent Propensities shortly to be opened near Liverpool. Salary £800 per annum and *unfurnished* house.

BOLINGBROKE HOSPITAL, Wandsworth *Common*, S.W.—House Surgeon for six *months.* Salary £75 per annum, with board, residence, and laundry.

BOLTON INFIRMARY AND DISPENSARY.—*Third House* Surgeon. Salary £110 per annum, with apartments, board, and attendance.

BOOTLE BOROUGH HOSPITAL.—Senior and Junior House Surgeons. Salaries £120 and £100 respectively, with residence, board, and laundry.

BRADFORD ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing.

BRENTFORD UNION INFIRMARY, WARKWORTH *HOUSE*, AND SCHOOLS, Isleworth, W.—Second Assistant Medical Superintendent, unmarried. Salary £175 per annum, with usual residential emoluments.

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN.—House Surgeon. Salary at *rate* of £100 per annum, with board, *lodging*, and washing.

BRISTOL ROYAL INFIRMARY.—Honorary Ophthalmic Surgeon.

BUXTON, DERBYSHIRE, DEVONSHIRE HOSPITAL.—Assistant House Physician for six months. Salary £100 per annum, with apartments, board, and laundry.

CAMBERWELL TUBERCULOSIS DISPENSARY, 19, *Brunswick-square*, S.E.—Assistant Medical Officer. Salary £250 per annum.

CARDIFF, KING EDWARD VII.'s HOSPITAL.—Two House Surgeons for six months. Salary at rate of *£80 per* annum, with board, residence, and laundry.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, London, S.W.—Surgeon to In-patients.

CHELSEA INFIRMARY, Cale-street, S.W.—Second Assistant Medical Officer. Salary £140 per annum, with board, washing, apartments nster, Essex County Hospital.—House Physician. Salary £100 r annum, with board, residence, and washing.

r Mental Hospital.—Senior and Junior Assistant Medical fficer. Salaries £250 and £200 respectively, with board, apartents, and washing.

port, Royal Albert Hospital.—House Surgeon, unmarried. lary £150 per annum, with board and laundry.

am County Hospital.—House Surgeon. Salary £150 per annum, ith board and lodging.

London Hospital for Children and Dispensary for Women, adwell, E.—Medical Officer to Casualty Department for six onths. Salary at rate of £100 per annum, with luncheon and a. Also House Physician. Salary at rate of £75 per annum, ith board, residence, and laundry.

Education Committee.—Medical Inspector of School Children. lary £300 per annum.

ina Hospital for Sick Children, Southwark, S.E.—House urgeon for four months. Salary at rate of £75 per annum, with ard, residence, and washing.

cestershire Education Committee.—School Medical Inspector. lary £250 per annum.

fax Royal Infirmary.—Second House Surgeon and Third ouse Surgeon, unmarried. Salary £120 and £100 per annum spectively, with residence, board, and washing.

ford County Hospital.—Resident Medical Officer, unmarried. lary £100 per annum, with board, washing, and rooms.

ital for Consumption and Diseases of the Chest, rompton, S.W.—Assistant Physician. Also Assistant Resident edical Officer. Salary £100 per annum, with board and residence. lso House Physician for six months. Salary 30 guineas.

dersfield Royal Infirmary.—Assistant House Surgeon. Salary 20 per annum, with board, rooms, and washing.

Royal Infirmary.—Casualty House Surgeon. Salary at rate of 30 per annum, with board and lodging. Also Assistant House urgeon. Salary at rate of £100 per annum, with board and dging. Also Honorary Assistant Ophthalmic Surgeon.

an Medical Service.—Thirteen Commissions.

Edward VII. Sanatorium, Midhurst, Sussex.—Second Assistant edical Officer, unmarried. Salary £150 per annum, with board, dging, and attendance.

's Lynn, West Norfolk and King's Lynn Hospital.—House urgeon. Salary £150 per annum.

eth Parish Infirmary Workhouses, Brook-street, Kennington-oad, S.E.—Fourth and Sixth Assistant Medical Officers. alary at rate of £180 and £150 per annum respectively, with esidential allowances.

s Public Dispensary.—Junior Resident Medical Officer. Salary 150 per annum, with board, residence, and laundry.

s Tuberculosis Association.—Resident Medical Officer at Sanaorium, Gateforth, near Selby, for six months. Salary at rate of 100 per annum, with board, lodging, and washing.

rpool City Infectious Diseases Hospital.—Assistant Resident Medical Officer, unmarried. Salary £150 per annum, with oard, washing, and lodging.

rpool School of Tropical Medicine.—Research Assistant at Runcorn Research Laboratory. Salary £150 per annum.

rpool Stanley Hospital.—Two House Physicians and a House Surgeon. Salary £75 per annum each, with board, residence, and laundry.

stone, Kent County Asylum.—Fourth Assistant Medical Officer, unmarried. Salary £250 per annum, with quarters, board, attendance, washing, &c.

stone, West Kent General Hospital.—Assistant House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing.

chester, Hulme Dispensary, Dale-street, Stretford-road.—House Surgeon. Salary £180 per annum, with apartments, attendance, coal, and gas.

chester Northern Hospital for Women and Children, Park-place, Cheetham Hill-road.—House Surgeon. Salary £120 per annum, with apartments and board.

chester Royal Eye Hospital.—Junior House Surgeon. Salary £80 per annum, with residence, board, and washing.

Hospital for Women, Euston-road.—Female Obstetric Assistant. Board, lodging, and washing provided.

thampton General Hospital.—Two House Surgeons, unmarried. Salary £120 per annum each, with apartments, board, washing, attendance, &c.

tingham General Hospital.—Assistant House Physician for six months. Salary at rate of £100 per annum, with board, residence, and laundry.

ore and Garw Urban District Council.—Medical Officer of Health. Salary £325 per annum.

mouth, South Devon and East Cornwall Hospital.—House Physician for six months. Salary

Royal Free Hospital, Gray's Inn-road, W.C.—Female Assistant Anæsthetist. Salary £75 per annum.

Royal Naval Medical Service.—Twenty-five Appointments.

Royal Waterloo Hospital for Children and Women, S.E.—Surgeon to Out-patients. Also Junior Resident Medical Officer. Salary at rate of £50 per annum, with board and washing.

St. Mary's Hospital for Women and Children, Plaistow, E.—Assistant Resident Medical Officer. Salary at rate of £100 per annum, with board, residence, and laundry.

Salford County Borough.—Junior Resident Medical Officer at Ladywell Sanatorium, Salford. Salary £150 per annum, with apartments, &c.

Salford Royal Hospital.—House Surgeon, Junior House Surgeon, and Casualty House Surgeon. Salary at rate of £100 per annum each, with board and residence.

Salisbury (General) Infirmary.—House Surgeon, unmarried. Salary £100 per annum, with apartments, board, and lodging.

Samaritan Free Hospital for Women, Marylebone-road, N.W.—Resident House Surgeon. Salary £50 per annum, with board and washing.

Scarborough Hospital and Dispensary.—Senior House Surgeon. Salary £100 per annum, with board, residence, &c.

Sheffield, East End Branch of the Children's Hospital (Out-patient Department).—House Surgeon. Salary £120 per annum, with board and residence.

Shrewsbury, Salop Infirmary.—House Physician. Salary at rate of £110 per annum, with board and apartments.

Somerset County Council.—Assistant Tuberculosis Officer. Salary £300 per annum.

Sunderland Royal Infirmary.—Two Junior House Surgeons. Salary £100 per annum each, with board, residence, and laundry.

Surrey County Council.—Assistant Medical Officer of Health. Salary £400 per annum.

Swansea General and Eye Hospital.—Two House Surgeons. Salary £125 per annum, with board, washing, and attendance.

Trinidad and Grenada, British West Indies.—Two Assistant Medical Officers in Campaign against Ankylostomiasis. Salaries £400 per annum.

Truro, Royal Cornwall Infirmary.—House Surgeon, unmarried. Salary £100 per annum, with rooms, board, and washing.

Univerrsity of London, University College.—Lecturer and Demonstrator in Anatomy. Salary £350 per annum.

University College Hospital, Gower-street, W.C.—Junior Surgical Registrar. Salary £80 to £100 per annum.

Victoria Hospital for Children, Tite-street, Chelsea, S.W.—House Physician and House Surgeon for six months. Salary £40, with board and lodging.

Walsall and District Hospital.—Assistant House Surgeon. Salary £110 per annum, with board, residence, and laundry.

Warwickshire and Coventry Joint Committee for Tuberculosis.—Tuberculosis Medical Officer. Salary £500 per annum.

West African Medical Staff.—Appointments. Salary £400 per annum, with free quarters. Gibraltar: Second Assistant Colonial Surgeon. Salary £350 per annum, with free quarters.

West Bromwich and District Hospital.—Assistant Resident House Surgeon and Anæsthetist, unmarried. Salary £100 per annum, with board, residence, and washing.

West End Hospital for Diseases of the Nervous System, Paralysis, and Epilepsy, 73, Welbeck-street, W.—Clinical Assistants to the Out-patients' Physicians.

West Ham and Eastern General Hospital.—Junior House Physician and Junior House Surgeon. Salary at rate of £75 per annum, with board, residence, and washing.

West Hartlepool, Cameron Hospital.—House Surgeon, unmarried. Salary £150 per annum, with board and rooms.

Westminster Union Infirmary, Fulham-road, S.W.—Third Assistant Medical Officer. Salary £140 per annum, with board, residence, and washing.

Weston-super-Mare Hospital.—House Surgeon, unmarried. Salary £120 per annum, with residence, board, and laundry.

Willesden Urban District Council.—Consulting Ophthalmic Surgeon. Salary at rate of 1 guinea per hour. Also Assistant Medical Officer of Health and Assistant School Medical Officer. Salary £300 per annum.

Winchester, Royal Hampshire County Hospital.—House Physician. Salary £80 per annum.

Wolverhampton and Midland Counties Eye Infirmary.—House Surgeon. Salary £120 per annum, with apartments, board, and laundry.

The Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Harris, in the county of Inverness; and at Southwell, in the county of Nottingham

Notes, Short Comments, and Answers to Correspondents.

CARBOLIC ACID INJECTIONS IN TETANUS.

To the Editor of THE LANCET.

SIR,—I have only recently returned from China. In reply to Dr. F. Carden Brodie's letter in your issue of May 30th last, with reference to my paper in THE LANCET of May 23rd the following table, which was accidentally omitted, shows the dosage given:—

Day after admission.	Temperature, Fahr.		Pulse.		Times.	Injection.		Anesthetic given.
	M.	E.	M.	E.		Amount. oz.	Strength. %	
1st day	99·0°	100·5°	124	108	2 A.M. 2 P.M. 10 P.M.	1½ 2 2	1 2 2	Yes. ,, ,,
2nd ,,	99·0°	101·0°	108	124	10 A.M. 2 P.M. 10 P.M.	2 2 2	2½ 2½ 2½	,, ,, ,,
3rd ,,	99·0°	100·5°	116	108	10 A.M. 6 P.M.	2½ 2½	3 3	,, ,,
4th ,,	99·0°	102·0°	114	130	2 A.M. 10 A.M. 6 P.M.	2½ 2½ 2½	3 3 3	,, ,, ,,
5th ,,	101·2°	99·8°	130	140	10 A.M. 10 P.M.	2½ 2½	3 3	,, ,,
6th ,,	98·6°	100·0°	120	136	—	None given.		—
7th ,,	99·0°	101·2°	124	110	10 A.M.	3	3	Yes.
8th ,,	98·6°	100·0°	104	112	—	None given.		—
9th ,,	99·0°	99·5°	104	104	—	,,	,,	—
10th ,,	99·0°	101·5°	102	116	2 A.M.	2½	3	Yes.
11th ,,	98·6°	99·0°	108	112	10 A.M. 10 P.M.	1½ 2½	3 3	,, ,,
12th ,,	100·8°	99·0°	100	124	2 P.M.	2½	3	,,
13th ,,	99·0°	99·0°	96	128	—	None given.		—
14th ,,	99·0°	100·0°	100	106	2 P.M.	2½	3	Yes.
15th ,,	99·5°	99·0°	108	120	2 P.M.	2½	3	,,

I am, Sir, yours faithfully,
W. GRAHAM REYNOLDS.
St. Mary's Hospital, W., June 22nd, 1914.

HEALTH AND SANITATION IN CEYLON.

A SUPPLEMENTARY report on the affairs of Ceylon for the year 1912 (delayed on account of fresh arrangements in connexion with the publication of the Blue-book of the colony) has just been presented to Parliament. It shows that the estimated population on Dec. 31st was 4,189,000. There is an excess of males over females, the proportion being 113 males to 100 females. The birth-rate for 1912 was 33 per mille, and was lower than the average (38). It appears to be gradually declining. The death-rate for the whole island was 32 per mille, and was in excess of the average (28). The Ceylon rate appears to be lower than that of Bombay, but higher than rates in Bengal, Madras, Jamaica, and British Guiana. The infantile mortality was 215 per 1000 births, compared with an average of 183. Snakebite, homicide, and suicide each accounted for 50 deaths per 1,000,000 of the population. There were 29 executions—i.e., 7 per 1,000,000, as compared with 4 per 1,000,000 in England and Wales. The tea, rubber, and cocoa estates contain a population of about 578,200, mostly of Tamils immigrant from Southern India. The estate death-rate rose to 40 from an average of 35, and in one district was as high as 72. The chief causes of death were fever (chiefly malarial), diarrhœa, dysentery, pneumonia, and phthisis. There were only 13 deaths from cholera, as against 277 in 1911 and 22 in 1910. Deaths from small-pox numbered 15, as against 89 in 1911 and 29 in 1910. Ankylostomiasis claimed 1843 victims, as against 2001 in 1911. Measures have been taken for the prevention of malaria by the free distribution of quinine, the circulation of leaflets, and lectures and demonstrations to the public through the officers of the Medical Department and the headmen. Ankylostomiasis, which is extremely prevalent amongst estate coolies, especially in the low country, has been and is receiving considerable attention on the part of the inspecting medical officers. A large number of estates have been visited by them, and both prophylactic and medical treatment are being adopted. Parangi (yaws) has been treated successfully with salvarsan in some of the hospitals, and arrangements are being made to introduce it to other hospitals. Vaccination is systematically carried on throughout the island by a special staff. During the year 140,501 subjects were vaccinated. The percentage of successful primary vaccinations to total inspected was 93·3, while that of successful re-vaccination cases was 71·7. Stringent precautions are taken under the auspices of the plague committee to prevent the introduction of plague into Ceylon, which has hitherto been immune from the disease. One case of plague in a European was landed at Galle in July, the patient recovering. There were 14 deaths from hydrophobia, as against 38 in the previous year. The Ceylon Government gives an annual grant to the Pasteur Institute at Coonoor, and poor persons bitten by rabid animals and unable to bear the expense of the journey are sent there at the cost of the Government. Concerted action is being taken by the local authorities to stamp out rabies by enforcing the registration of dogs and by the destruction of homeless vagabond dogs (pariahs).

The drainage of Colombo has been undertaken by Government at the request of the municipal council, the necessary funds being advanced by Government on loan, while further assistance is being given by the contribution of a part of the expenditure as a free grant. The scheme provides for a complete system of sewers and rain-water drains throughout the city and for the disposal of the sewage by bacterial treatment upon modern lines. With the assistance of Government, partly by way of grant, partly of loan, various local bodies have undertaken the provision of an improved water-supply for the towns under their control.

There is a marked variation in climate between the different parts of Ceylon. In the low country, with a mean temperature of the order of 80° F., a noticeable feature is the small range of both temperature and pressure. There is, however, wide divergence between the moist conditions in the south-west of the island, where the annual rainfall is often over 100 inches, and the dry zone areas of the north, north-west, and south-east. Inland, with altitudes reaching 8000 feet, the temperature is cooler and shows a bigger daily range; there is a corresponding change in vegetation, and the conditions are altogether more akin to those in the temperate zone. The rainfall of 1912 was below normal in the north and north-east, and above it in the south and south-west. Ratnapura again headed the list in absolute amount—viz., 149·95 inches, which is practically identical with the average for that station. Colombo observatory, with 101·14 inches on 195 days, was well above normal. The mean temperature at Colombo was 81·0° F., and at Kandy 76·6°. The highest temperature reached in the island was 100·2° on August 10th at Anuradhapura. The highest on record is 103·7° at Trincomalee on May 12th, 1890.

There are 76 Government hospitals, the number of beds in them ranging from 30 to 425. In addition, there are 418 out-door Government dispensaries and 279 estate dispensaries supported by the planters, who get their drugs free up to a value of 50 cents per cooly per annum. The Lunatic Asylum is situated in Colombo. There are 714 inmates. The Leper Asylum is situated about six miles from Colombo, and contains 398 patients. A small establishment for lepers exists in the eastern province, and contains 36 patients. A large leper settlement is to be founded there shortly. In association with Government a home for incurables (containing 80 beds) is worked by a committee of Government officials and representatives of the public.

The Medical College accommodated in 1912 145 medical and 90 apothecary students. The full course of training for medical students is five years. A diploma in medicine, surgery, and midwifery (which can be registered in the United Kingdom) is granted to successful students. In association with the college there are a bacteriological institute with a small clinic for tropical medicine attached, a laboratory for the Government analyst, an ophthalmic hospital, a lying-in home, a woman's hospital, a children's hospital, and special hospitals for the insane, lepers, and infectious diseases.

SEA-BATHING AND COLD BATHS.

SEA-BATHING began to be popular in England in the "seventies" of the eighteenth century. In 1779 Margate is referred to as "a place of great resort for sea-bathing." Our quotation is from "A Tour Through the Island of Great Britain," eighth edition, a work begun by Daniel Defoe and continued by Samuel Richardson. Later we read "Brighthelmstone is now become a polite place, and very convenient for sea-bathing. Several machines have been built." In other early guide-books of this period the machines are elaborately described and illustrated, and it is to be noticed that the little dome-like tent, still sometimes seen at the back or sea-door of the machine, [illegible] ntended to ensure privacy for persons in the costume of Adam or even of Eve. The sea-bath was adventured on or hygienic purposes. It was supposed by its more nthusiastic advocates, such as Dr. White, a writer n the subject in 1775, to cure quite a number of diseases. The sea-bath did not reach the continent until many years ater. At the time of the Restoration, after Waterloo, ertain English families, driven from their own country y creditors, brought the custom to Dieppe. All the outy and lame among the new immigrants are said to ave gone to the bleak northward-facing beach in the onth of August, and there, leaving their clothes in heaps, hey "bravely presented their heads and shoulders to the aves." In other words, the men bathers struck out to ea. They soon found Gallic imitators. Remarkable salt-ater cures were recorded. Certain famous French hysicians took the custom under their protection and ashion did the rest. Hence, when Vitet published his Guide to Dieppe" in 1844—it is quite a work of literature —he was able to refer to an annual exodus of sea-athers to all the French seaside towns and villages. uch baths, says this writer, are not the remedy of very ill; it would certainly be easier to cite the illnesses o which they are hostile than to make out a list of those hich they can successfully combat or root out. The *tablissement* at Dieppe dates from 1821, but although atronised by the famous Duchesse de Berry, it was probably for long regarded as somewhat of a fad. Indeed, as e travel eastward in Europe we find that wonder at the nglish bathing habit increases apace. From Paris eastards it is common form to say that "the English must e a very dirty people" to require so many baths, and as e reach Vienna we find the bath regarded as an occasional uxury only. Yet the ancient Teutons, according to acitus, were the original users of the cold river bath. ow can we account for the shyness in this matter of their irect descendants? And how is it that the Gaul, the nheritor of Roman tradition, is not an ardent advocate of he bath?

A WARNING.

To the Editor of THE LANCET.

IR,—By the advice of the police I am warning your ders against a man of gentlemanly and plausible address o consulted me on June 24th, paying his fee by a cheque the Tottenham Court-road branch of the London City and lland Bank. This draft was returned marked "no ount," and the book from which it was torn is one issued e years ago by the bank. It appears, further, that ther doctor besides myself has similarly been defrauded ently. The man is of medium height, dark, heavily led, and wearing a short moustache. He gave the name "J. Howard Stewart" and his age as 38 and 9 months, but may use other aliases.

I am, Sir, yours faithfully,
MACLEOD YEARSLEY.

ueen Anne-street, W., June 30th, 1914.

E NIGHTINGALE FUND: PROPOSED NEW SCHEME OF SCHOLARSHIPS FOR NURSES.

yet fully matured, but its outline is briefly this: the council will offer every year a limited number of scholarships to nurses who have obtained a certificate after three years' training in some recognised school. These scholarships will entitle the holders to a year's training at the Household and Social Science Department of King's College for Women in the University of London. This department, which will be carried on in the new buildings now in course of erection on Campden Hill, has specially applied itself to the teaching required. Its specially fitted laboratories are in close proximity to the experimental kitchen and laundry which form a portion of the hostel where the practical arts are taught. The college has met the council in every way in the preparation of a suitable course, so conceived as to embrace both theory and practice. Every endeavour will be made to keep in view the object of the course—namely, to equip trained nurses to undertake the responsible positions they are likely to be called on to fill. The subjects chosen will, to this end, be dealt with largely from the practical point of view; and, as experience adds to knowledge, this, the first scheme, will no doubt be modified later, both by omission and addition. It is also intended to ensure the elasticity of the scheme by introducing the principle of alternative subjects, so that a scholar shall be able to select such courses as shall seem most likely to help in the ambitions she may have placed before herself. The value of the scholarships will be adjusted to meet the tuition fees, to provide maintenance during the year, and to compensate in some degree for the salary the year's training will oblige the scholar to forego. The new buildings of the college include a hostel in which scholars would be able to reside should they so wish. The scheme is experimental, and its continuance must depend upon its success; we cannot but think that the want of such higher practical training is a real one, and nurses will gladly avail themselves of the new opportunities. Its very tentativeness should help to its success, for if, as the council believes, the principle be a wise one, its application can be varied with the years until an ideal scheme be evolved.

THE EYESIGHT OF RECRUITS.

To the Editor of THE LANCET.

SIR,—Can any of your readers tell me where I can obtain information on this matter? What I more particularly want to know is the percentage of men who are rejected on account of myopia. I am, Sir, yours faithfully,
J. A. WILSON, M.D. Glasg.

Glasgow, June 29th, 1914.

A HARD CASE.

Dr. S. C. Lawrence, medical officer of health of Edmonton, writes on behalf of a widow in poor circumstances who has to go out to work daily, but unfortunately she has a boy, aged 3 years, who is frequently having severe epileptic fits. This condition compels her either to refuse work or pay a neighbour 4s. weekly to look after him. This is (either way) a heavy tax on her slender purse, and makes human food is a little different in a country where to hide your food in an igloo snow-house or ice-cave is impossible That artificial refrigeration costs money is the reply to our correspondent's question. The storage of meat is said to be 1*d.* per stone per month. A joint of meat has just been exposed at Smithfield market after having been kept refrigerated for 18 years, and apparently it is still good enough for human food. At the beginning of this year a family at the mouth of the Thames shared the remains of a wedding cake 50 years old. We have also heard of the mummy wheat of the time of the Pharaohs, used as seed, but all these pale into insignificance at the memory of somebody cutting and eating a steak from a mammoth whose age was computed to be tens of thousands of years of preservation in the solid ice. Tinning food is the modern method of preserving it, and we do not know the greatest age of any tinned food which has been considered wholesome enough for food, but as we stated in an annotation in THE LANCET of Feb. 25th, 1911, on canned goods and the public health, it has been shown that the quantity of tin dissolved increases with the age of the goods, because the acid juices continue to act upon the metal, but with other substances it might be possible to avoid or postpone this contamination. Some retailers say that certain foods improve by prolonged keeping—e.g., sardines. There is no doubt that in the packing and preserving of fruit some colonists could give us a few hints. The following are a few of the things employed: tissue paper or wood shavings, cotton- or wood-wool, dry moss, cork dust and muslin, charcoal, and ice. The colonial authorities have provided extensive cold storage stores on shore, and the shipping companies have done a good deal by *providing refrigerating chambers of special* construction, although all these precautions are more or less nullified unless the colonist packs dry and well-chosen goods. Every housewife knows how difficult it is to keep the mould from the cheese, from the bread in the pan, and from the bottled pickles, fruits, and jams. Freezing or chilling is the sheet-anchor of food preservation nowadays, and millions of pounds' worth of frozen meat, rabbits, hares, and fish are transported, and salting or smoking is resorted to with meats and sun-drying or the artificial exhaustion of moisture with fruits; but it is known that in prolonged storage these things will often lose weight and engender a condition of staleness. The difficulty of keeping food arises from the fact that where the food is there will the living things be gathered together to feed on it, and the farmer and colonist have a continual fight at great expense against the fruit flies, flesh flies, devastating insects of all kinds and fungi and blights of extraordinary pertinacity in order even to be able to get the produce as far as our tables, and when we have got it there we in our turn find the fight continued to preserve it. Evidently food is not meant to be kept for any great length *of time, at all events only for winter* storage.

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P. H.—When thallium pomade is used there is always the risk of absorption, though this occurs only very rarely. The effect of absorption might show itself either by a general depilatory action or by effect on the general system.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

THE LANCET Office, July 1st, 1914.

Date.	Barometer reduced to Sea Level and 32°F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
June 25	30·27	W.	...	121	75	56	58	60	Cloudy
" 26	30·37	N.E.	...	118	74	54	57	62	Fine
" 27	30·27	S.E.	...	121	79	56	58	63	Fine
" 28	30·36	W.	...	125	80	59	62	67	Fine
" 29	30·23	N.W.	...	127	83	60	65	70	Fine
" 30	30·13	S.W.	...	131	87	66	66	75	Fine
July 1	29·89	S.E.	...	134	90	68	66	75	Fine

The following magazines, journals, &c., have been received:—Canadian Medical Association Journal, Annales Paulistas de Medicina e Cirurgia, Interstate Medical Journal, Indian Medical Gazette, Journal of State Medicine, Archives of Internal Medicine, Klinik für Psychische und Nervöse Krankheiten, Mercy and Truth, Archiv für Schiffs- und Tropen-Hygiene, Journal of Nervous and Mental Diseases, South African Medical Record, Journal of the Royal Sanitary Institute, Ophthalmoscope, American Journal of Orthopedic Surgery, Therapeutic Gazette, &c.

Medical Diary for the ensuing Week.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. G. Little: Clinique (Skin). 5.15 P.M., Lecture:—Mr. L. Mummery: Chronic Obstruction of the Large Bowel.

TUESDAY.—4 P.M., Dr. G. Rankin: Clinique (Medical). 5.15 P.M., Lecture:—Mr. J. W. T. Walker: Urinary Antiseptics.

WEDNESDAY.—4 P.M., Mr. P. P. Cole: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. A. Wylie: The Diagnosis and Treatment of Tubercular, Syphilitic, and Malignant Disease of the Larynx.

THURSDAY.—4 P.M., Dr. W. H. Willcox: Clinique (Medical). 5.15 P.M., Lecture:—Dr. A. F. Tredgold: Mental Deficiency Act.

FRIDAY.—4 P.M., Dr. H. W. Lyle: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 11 A.M., Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. Mr. B. Harman and Mr. Gibb: Diseases of the Eye. 5 P.M., Lecture:—Mr. Addison: Tumours and Diseases of Bone.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. *Dr. Owen: Demonstration of Cases in Wards.* 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Clinical Lecture:—Dr. Davis: Diseases of the Throat.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Dr. Simson: Diseases of Women. Mr. Gibb: Diseases of the Eye. 5 P.M., Lecture:—Mr. Addison: Tumours and Diseases of Bone.

THURSDAY.—9 A.M., Dr. Bernstein: Bacterial Therapy Department. 10.30 A.M., Dr. Simson: Gynæcological Demonstration. 12 noon, Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Mr. B. Harman: Diseases of the Eye. 5 P.M., Lecture:—Mr. Addison: Tumours and Diseases of Bone.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12.15 P.M., Lecture:—Dr. Bernstein: Applied Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Clinical Lecture:—Dr. Davis: Diseases of the Nose.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Operations of the Eye. 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

LONDON SCHOOL OF *CLINICAL* MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. H. B. Carlill: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Throat, Nose, and Ear.

TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. C. E. [illegible]: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine. 4.15 P.M., Sir Malcolm Morris: Skin.

WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. H. B. Carlill: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. B. Bickerton: Eye.——2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery.

THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. H. E. Prentice: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. Dr. A. Davies: Pathological Demonstration. 3.15 P.M., Dr. R. Wells: Medicine.

FRIDAY.—Out-patient Demonstrations;—10 A.M., Dr. C. E. [illegible]: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford: Medicine. 3.15 P.M., Mr. L. McGavin: Surgery.

SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. E. E. Prentice: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. B. Bickerton: Eye.——10 A.M., Col. Barry: [illegible].

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TUESDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Nose, Throat, and Ear (Mr. H. D. Gillies). X Ray and Electrical Department (Dr. Metcalfe). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting).

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. Dorell).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson); X Rays and Electrical Methods (Dr. Metcalfe).
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YAL HOSPITAL FOR DISEASES OF THE CHEST, Medical chool, City-road, E.C.
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TUESDAY.—9 A.M., Laryngological Department, Mr. Mant. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department, Dr. M. Leslie, Dr. B. King; Operations, Mr. A. Evans. 3 P.M., Wards, Dr. White. 4 P.M., Wards, Dr. M. Leslie.
WEDNESDAY.—2 P.M., Wards, Dr. A. Davies; Out-patient Department, Dr. Drysdale, Dr. Kellie. 4 P.M., Wards, Dr. Drysdale. 4.30 P.M., Roentgen Ray Department, Dr. Jordan.
THURSDAY.—9.30 A.M., Dental Department, Mr. G. Thomson. 10 A.M., Cardiac Department, Dr. Stott. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department, Dr. Phear, Dr. S. Thompson. 4.30 P.M. Laryngological Department, Mr. Mant.
FRIDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Wards, Dr. Calvert; Out-patient Department, Dr. M. Leslie, Dr. B. King.
SATURDAY.—10 A.M., Out-patient Department, Dr. Drysdale, Dr. Kellie. 11.30 A.M., Roentgen Ray Department, Dr. Jordan.

SPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, rompton, S.W.
WEDNESDAY.—4.30 P.M., Dr. Miller: The Morbid Anatomy of Tuberculous Lesions in Relation to Morbid Physical Signs.

Y OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, ictoria Park, E.
ourse of Demonstrations for Post-Graduates:—
WEDNESDAY.—4 P.M., Dr. W. A. Chaplin; Demonstration of Cases in the Wards.

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TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. H. Howell: Facial Neuralgia and its Treatment.
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THURSDAY.—5.15 P.M., Clinical Lecture.

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TUESDAY.—MANCHESTER AND SALFORD HOSPITAL FOR SKIN DISEASES, Quay-street.—4.30 P.M., Dr. W. Dyson: Tuberculosis of the Skin (II.).
WEDNESDAY.—ROYAL INFIRMARY—4.30 P.M., Mr. Ray: Tumours of the Inguinal and Scrotal Regions.
THURSDAY.—ANCOATS HOSPITAL—4.30 P.M., Mr. Platt: Infantile Paralysis.

or further particulars of the above Lectures, &c., see Advertisement Pages.

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e shall publish this diary from time to time that our readers may ave under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions eek by week, and we propose to make only such gatherings as will ccur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are nnounced:—

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A Lecture
ON
THE CAUSES OF INSANITY.[1]

F. W. MOTT, M.D. LOND., LL.D. EDIN., F.R.S.,
PATHOLOGIST TO THE LONDON COUNTY ASYLUMS.

IR. PRESIDENT AND GENTLEMEN,—The increase
nsanity and feeblemindedness is a matter deeply
cerning the race and its future, and a most
turbing factor in the minds of the ratepayers;
l can it be wondered at when we consider that
t year alone (1913) the total cost of maintenance
London pauper lunatics under the control of the
ndon County Council amounted to over three-
arters of a million (£755,198). This does not
lude the cost incurred by the Metropolitan
ylums Board for the housing and maintenance
imbeciles, idiots, and incurable cases of insanity,
iich would raise the annual expenditure to at
ist a million. Soon to this sum will have to be
ded. a fresh charge for the life segregation of
ental defectives—a very necessary procedure
hich from the ratepaying, as well as from a
genic, point of view will well repay the outlay.

The first duty of the State is to prevent disease;
iling that, to cure disease; and failing that, to
olong life and to relieve suffering. Have the
presentatives of the ratepayers in the past
lfilled this maxim, or have they not rather begun
t the wrong end and spent huge sums of money
prolong the lives of the derelicts of humanity in
nnecessarily costly buildings? Asylums have been
uilt at a cost of £300–£500 per bed, and it may
ell be asked whether the money might not have
een more advantageously spent on "brains instead
f bricks." We want to educate the public con-
cience to the value of scientific research, for we
annot hope to prevent or cure insanity or feeble-
nindedness until we know the causes underlying
he diseases of the mind and mental deficiency.

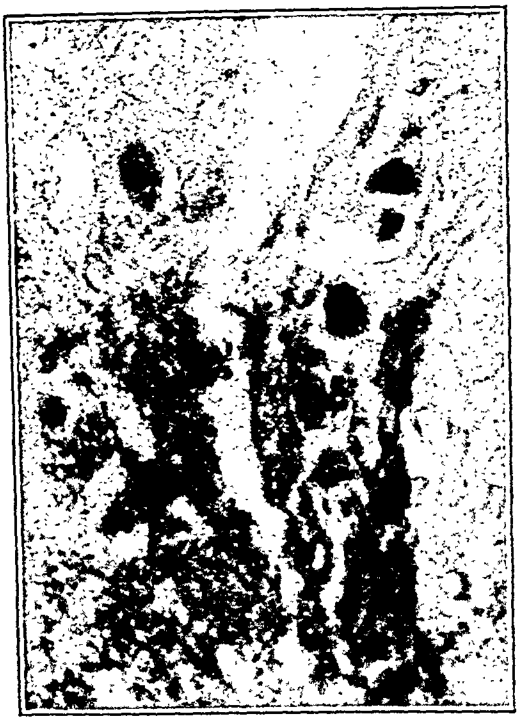
SYPHILIS AND MENTAL AND NERVOUS DISEASE.

The history of the progress of medical science
lemonstrates the fact that the application of the
biological, physical, and chemical sciences to the
study of the causes of disease has led to discoveries
by means of which prevention and successful treatment have resulted. When I was appointed pathologist to the London County Asylums syphilis as a
cause of mental disease was not mentioned in the
reports. My hospital experience had taught me
that it was by far the most important cause of
organic disease of the nervous system; and this
led me to make researches in this subject in respect
to asylum patients. In a few years by dint of constant research, especially by the study of numbers
of the juvenile forms of general paralysis of destruction, and for reasons which I have indicated in my report to the Neurological Section of the International Congress of Medicine and therefore need not go into here, the poison of the spirochætal activity may not necessarily be formed in the nervous system.

Spirochætes in Brains of General Paralytics.

Since the discovery of Noguchi and Moore of spirochætes in 12 out of 70 brains of general paralytics, confirmed by myself and many other observers, any doubt as to syphilis being the essential cause has been dispelled. In fact, in a series of 100 brains of persons dying from this disease I have found the spirochæte in 66, in some cases more numerous than in the primary sore. According to my experience they are more numerous and found with greater ease in cases dying soon after admission. They exist in scattered foci all over the grey matter of the cortex, but especially can they be found in those regions where the earliest signs of adhesions of the membranes occur—namely, the frontal lobes. The colonies are perhaps not more than a millimetre to a few millimetres in size, and when they exist the grey matter has a softer consistence and a pinkish appearance. Microscopically there is more evidence in the neighbourhood of

FIG. 1.



spirochætes by taking a little of the grey matter, rubbing it up in a mortar with salt solution, and examining the emulsion with the dark-ground microscope. If the preparation is made from a brain obtained soon after death the organisms can be seen moving. They differ in no way morphologically from the spirochætes obtained from the primary sore or from a congenital syphilitic organ. By Neisser-Pollak puncture method Förster and Tomaczewski have obtained living spirochætes in the small cylinder of brain removed during life in 40 per cent. of 60 cases. If we had time to search there is no doubt spirochætes could be found in every case; for we know that the cerebro-spinal fluid in practically every case of general paralysis gives a positive Wassermann reaction.

Lesions and Remissions in General Paralysis.

There is reason to believe that the spirochæte enters the central nervous system when generalisation takes place in the secondary period, and it remains latent for a number of years; it then takes on active multiplication with production of toxins resulting in an encephalitis with mental and motor phenomena of irritation. But this encephalitis is accompanied by a neural destruction and a degree of dementia and paresis proportional to the neuronic destruction. We know that then the patient may remain more or less demented a number of years until a recurrence occurs, due no doubt to a fresh development of the parasites, or he may die from some intercurrent disease. Sometimes, however, after an attack of acute mental and motor irritation phenomena, or a loss of consciousness, the patient makes an apparent recovery (without any specific treatment) and is discharged from the asylum, only to return again on account of a recurrence of symptoms. We must suppose that nature itself has arrested the multiplication of the specific organisms by the production of spirillocidal antibodies.

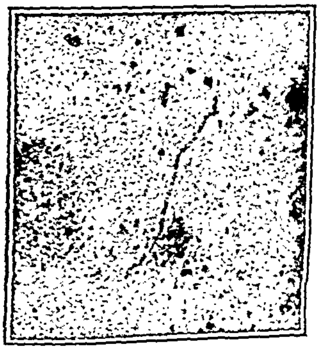
What, then, has caused the recurrence? Either the organism has survived as an extra- or intracellular resistive spore, or the explanation of Ehrlich may be the correct one—viz., some few of the spirochætes are resistive to that particular antibody and remain undestroyed, awaiting a favourable moment of a lowered resistance of the tissues to start multiplying. (Fig. 2.) Owing to the extreme minuteness of this organism it is very difficult to investigate the question of spore formation. An immense number of granules may be seen in the brain and in the proliferative cells of the inflamed perivascular sheaths; these may be spores, but I am inclined to think they are granules shed by the spirochætes which are undergoing plasmolysis. Occasionally, however, I have seen in sections and films spirochætes stretched out with granules in their interior (*vide* Fig. 2).

If these cases with remissions had been treated by any of the numerous spirillocidal methods of intravenous or intrathecal injections of arsenobenzol compounds they would have been claimed as therapeutic cures. Candidly I do not think any marked success has attended any of the methods of treatment so far employed. Indeed, several cases in which I found enormous numbers of spirochætes in the brain had been treated with large doses of salvarsan prior to admission to the asylum. We must then rather look to the prevention of the spread of syphilis and its early diagnosis and treatment by modern methods as the most hopeful way of combating this terrible malady.

Incidence of General Paralysis.

Of the total admissions to the asylums of the County of London every year about 10 per cent. are general paralytics; more than 15 per cent. of the male admissions are general paralytics, and these are recruited from men of all social grades who, prior to the onset of the disease, for the most part were efficient and productive social units of civic worth and capacity. True, the females are largely recruited from the unfortunate class of women, many of whom are mental defectives. Many of the women so affected have been driven to prostitution by seduction, desertion, and destitution, but by no means all female paralytics are immoral women, for a good number are the innocent wives of men by whom they have been infected and who are unaware of the real cause of the disease. Moreover, the histories of the families of paralytics show that not infrequently they have transmitted syphilis to their offspring. Incidentally I may remark that of the 60 juvenile paralytics I have collected in 20 per cent. one of the parents, usually the father, was a paralytic.

FIG. 2.



Film of brain emulsion stained by Fontana's method, showing spirochæte which has lost its coils and is filled with granules. (Magnified 1400 times.)

I have made an inquiry regarding the incidence of general paralysis in the two sexes in London parishes,[2] and I have found that the females are relatively more numerous in the poorer East-end parishes, and there is a correlation between female paralysis and degraded poverty. Now it is interesting to note that the higher you rise in the social scale the less often do you meet with general paralysis in the female sex. This is not the case with the male sex. In the juvenile form, where the chances of syphilitic infection are equal, the sexes are equally affected. The incidence of general paralysis in a population is a measure of the incidence of syphilis.

In connexion with the different class of female to male affected by this disease and the large number of female general paralytics who are prostitutes, I may mention that these facts may be correlated with observations I made some years ago on the convolutional pattern of the brains of male and female paralytics; for I was struck by the fact that, as a rule, the male paralytic generally possessed a well-convoluted brain of above the average, whereas the female paralytic possessed very frequently a small brain of simple convolutional pattern indicative of an imbecile.

Economic Considerations.

If it were not for the fact that there is no accumulation of general paralytics in the asylums, as the death-rate equals the admission-rate, the cost of maintenance from this disease alone would be enormous. But it must be remembered that many cases of organic dementia, imbecility, idiocy, epilepsy, and brain-softening are due to syphilis. Moreover, it is the most potent cause of nervous disease—e.g., tabes is always syphilitic, hemiplegia, paraplegia, and likewise aphasia are very often due to syphilis; and the sufferers with these diseases do not die in a short time, as is the case in general paralysis, but have to be maintained for numbers of years in asylums, infirmaries, and institutes for incurables. Numbers of other incapacitating diseases due to syphilis might be mentioned—e.g., aneurysm and aortic disease.

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[2] THE LANCET, Nov. 15th, 1913, p. 1374.

As an asset to the nation the value of each individual depends upon the amount of physical and mental work he or she can produce, and the capacity for breeding and rearing healthy children. Now venereal disease, especially syphilis, although in the majority of instances, from its direct effects, it does not prevent a man or woman working, by making them bedridden, nevertheless by direct or indirect effects on the vital organs it diminishes considerably the efficiency and length of productive usefulness of the individual; and in at least 15 per cent. of persons affected by syphilis causes, when no treatment or insufficient treatment is adopted, fatal incapacitating diseases which render the individual prior to death a monetary burden to the State for a number of years, not to mention the great infant mortality and mental and physical disabilities in the offspring that survive. From an economic and productive point of view the State and municipal authorities could save in the end enormous sums of money by a wise expenditure in preventing the spread of this disease and by promoting cure in the early stages, thereby preventing generalisation in the blood and lymph streams and infection of the central nervous system. Those of my readers who are interested in the subject of general paralysis of the insane in the light of recent research I would refer to my article on the Nature of the Condition termed Parasyphilis.[2]

storehouse of memory of experiences are there. And it is an interesting fact that just as there is a similarity in the bodily formation and physiognomy of relatives, so there is a similarity in the folds and fissures forming the convolutional pattern of the brain. "Like tends to beget like" in the morphology of the organ of mind.

It is not surprising, therefore, that my observations, based upon a large amount of material and investigations, lead me to form the conclusion that the principal causes of mental deficiency may be summed up in the fact that, as regards the functions of the organ of mind, "like tends to beget like." Although occasionally in a family where mental deficiency is not expected an idiot or an imbecile is born (and in such cases not infrequently we obtain a history of syphilis or alcoholism or both in the parents), mentally defective children, particularly if more than one occurs in a family, are usually the offspring of parents who are imbecile or of low-grade mentality.

Inquiry as to Mental Deficiency and Insanity.

I have instituted an inquiry regarding mental deficiency and insanity. As the subjoined table shows, 2074 insane parents in the London County asylums had 4430 children under 16, 3543 being of school age. Among these there were 50 children in the mentally defective schools. This gives only a percentage of 2·1 of insane parents with mentally defective children, and a percentage of 1·4 children of insane parents of school age who were mentally defective. A considerable, but as yet unascertained, percentage of these children owe their mental deficiency not to a germinal hereditary defect but to congenital, pre-natal, or post-natal causes.

Number of children over school age	355
,, ,, of school age	3543
,, ,, under school age	532
Total number of children	4430
,, ,, parents	2074

Average number of children under 16 years of age to each parent = 2·1.

Number of mental defectives = 50 out of 4430 = 1·1 per cent environmental causes of degeneracy. The number of grandparents affected supports the truth of Morel's doctrine on the intensification of mental deficiency in successive generations, which theory is supported by my statistical results of anticipation or antedating in the case of insanity, which is the tendency to the occurrence of the mental disorder at an earlier age and in a more intense form in successive generations; this will be considered more fully later.

THE RACE POISONS IN RELATION TO DEGENERACY.

Although mental deficiency is not limited to any social grade, and an idiot or imbecile may even sometimes crop up unexpectedly in a family in which both maternal and paternal stocks are apparently sound, yet as a rule it is the sediment of our large overcrowded cities and the rural districts where feeblemindedness is most to be found. "Birds of a feather flock together," and among the lower inefficient grades of society there will always be a tendency for people of feeble intelligence, weak will-power, slender sagacity, and deficient moral sense to mate and breed. The social environment is necessarily bad and unhygienic; consequently they are very prone to be affected by the race poisons—syphilis, alcohol, and tuberculosis—which tend to an increase of the bodily and mental deficiency in the next generation. In this way it is possible that these race poisons may tend to weed out poor types, but it is also probable that they tend to produce poor types.

It may be a biological heresy, but it is firmly rooted in the minds of practising physicians that a chronic saturation of the blood by the race poisons, specially when operating in successive generations, can *per se* cause degeneracy in healthy stocks by a pathological mutation of the germ plasm. Biologists may assert that one is assuming an acquired character can be inherited, and you must prove that the poison is not acting on the individual by reviving a latent neuropathic taint. I admit the great difficulties attending a proof that would satisfy some eminent authorities, still Galton himself admitted the possibility of continuous saturation of the blood by poisons modifying the germ plasm, and Professor Arthur Thomson in his work on heredity comes to this conclusion.

If we consider the matter from a physiological point of view it may be assumed that a chronic blood poisoning would disturb the biochemical interrelations of all the organs of the body, including the ductless glands and the sexual organs. It cannot be supposed that the continuous disturbance of the normal biochemical dynamics of so complex a mechanism can have no effect, after its operation in successive generations, upon the specific energy of the master tissues, germ cells and brain cells, seeing that they are supplied by the same blood and lymph as the rest of the organs and tissues of the body. My investigations of pedigrees of the insane and the feebleminded certainly support this conclusion. Many pedigree charts of defectives show a drunken mother or father, but particularly the former, with a family of healthy or comparatively healthy firstborn; then as the effects of the poison become intensified the later born children are either dying in infancy or mentally defective. Every effect owns a cause, and it seems as reasonable to attribute degeneracy to specific nutritional deficiency of the germ cells brought about by environmental agencies as to call it spontaneous variation. However, I have two pedigrees (Figs. 3 and 4) which are almost of the nature of an experiment which, so far as is possible, afford proof of my proposition. One relates to a woman who had two husbands, the other to two brothers who married two sisters.

Although higher-grade imbeciles are deficient in intellectual and moral qualities they are not deficient in animal propensities, and they are very fertile. Large families are the rule, but owing to the race poisons, maternal ignorance, and neglect, the infant mortality is proportionally high, so that the average number of surviving children attending the schools only exceeds by a trifle the average number in families in which all the children are in the normal schools.

CAUSES OF PSYCHOSES OR TRUE INSANITY.

Having thus given some consideration to the causes of mental defect and mental diseases with recognisable morphological defects or destruction of the organ of mind (amentia and dementia), I will pass on to the consideration of the causes of the true psychoses or disorders of mind, in which so far no adequate explanation by morphological changes in the brain exists.

The causes of these functional disorders fall into two groups: (1) the toxic, and (2) the degenerative (neuropathic), but, of course, the two conditions are more often than not combined. The toxic causes are (*a*) exogenous, and (*b*) endogenous. The field of inquiry concerning the latter (endogenous) compared with the former (exogenous) is beset with many difficulties, because the source and mode of introduction of poisons from without can be ascertained, whereas the genesis of the endogenous poisons is much more obscure and complicated by the general disturbance of the biochemical harmony of the physiological interrelations of the organs of the body. Indeed, many of the pathological conditions, bodily and mental, which arise from the introduction of poisons into the body, especially when they are taken habitually, are due not only to the poisons introduced from without, but to microbial poisons and the toxic products caused by disorders of alimentation, of metabolism and of inefficiency of elimination of waste products with the installation of a vicious circle.

Time does not permit of my dealing fully with the intoxication insanity brought about directly by alcohol and lead acting as principal factors. I may, however, remark that the characteristic true alcoholic psychosis (Korsakow psychosis), and regarded by Kraepelin as chronic delirium tremens, is not a common class of case in our asylums, and I have but seldom found cases in the post-mortem room. Alcoholic insanity is more often transitory and the cases are intercepted in the infirmaries. Although alcoholism plays an important part in the degeneracy of a stock, yet as the sole cause or even the principal cause of a large proportion of *admissions to asylums* I am very sceptical; indeed, I have brought forth a mass of evidence, clinical, pathological, and statistical, to show that a relatively small quantity of alcohol, the quantity which is taken daily by many physicians, magistrates, and pillars of society generally without any apparent harmful effects, is quite sufficient to make a potential lunatic or epileptic antisocial, and thereby necessitates segregation.

Neuropathic Inheritance.

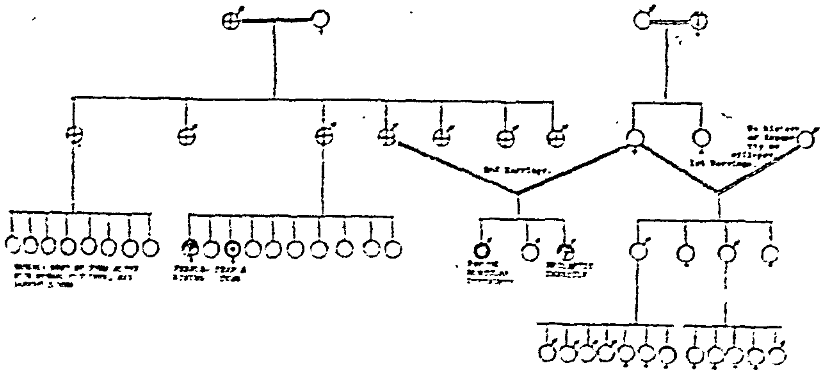
I do not wish to imply that alcohol is not a potent evil to society, for I am in entire agreement with Sullivan's conclusion in his work on "Alcoholism."

"To sum up, then, we find that the extent of the alcoholic evil is represented by a considerable contribution to the amount of suicide; by a share in the causation of crime, which though small in relation to the total mass of delinquency, is of extreme importance by reason of the specially grave character of the offences comprised in it; by a comparatively small part in the causation of insanity; and, lastly, by an indefinite but certainly reproduction and occurring especially at the critical periods of life—namely, early adolescence and the involutional period, and also in the female during the puerperium, parturition, and lactation.

EVIDENCE OF ANTEDATING.

From these facts it may be deduced that the neuropathic inheritance and disorders of the functions of the sexual glands play a dominant part in the causation of the true insanities. For years past I have been studying the neuropathic inheritance by means of pedigrees made by myself and collaborators, also by means of the card system of a collective investigation of nearly 4000 relatives who are at present in or have been discharged from, or who have died in the London County Asylums, and I have observed that there is, as this graph shows, a marked correlation between the age at onset of insanity and the critical periods of sexual life. In the insane parents of insane offspring you will observe that the maximum is at the involutional period of life. in the offspring it is at the adolescent period. under 25.

FIG. 3.



This pedigree relates to a woman with two families. By her first husband, with no history of the neuropathic taint in his family, she has healthy children and grandchildren, many of whom are grown up. She then married a man who was a drunkard, one of a family of drunkards; his father was a drunkard. One of his brothers, a drunkard, had ten children, and of these one was deaf and dumb and another an imbecile, otherwise there was nothing in the family indicating a hereditary taint. The offspring of this woman by the second husband were as follows: a boy with pseudo-muscular dystrophy, a normal boy, and a feeble-minded epileptic imbecile. A glance at the pedigree seems undoubtedly to show that the father's germ plasm was accountable for these defects, and drink in successive generations the probable cause.

dans la folie à un âge plus jeune que leur père par une sorte d'accumulation."

Now, granting that Professor Pearson's conclusions are right and that my statistics show no antedating, I would remark that numbers of pedigrees which have been taken by myself and independent observers show this tendency in successive generations for the insanity to occur at an earlier age in an insane stock. Professor Pearson in one way does not deny the fact that there is a tendency for an insane stock to be either ended or mended, which is really the practical point which we have to decide, for he says: "In the case of insanity is the man or woman that develops insanity at an earlier age as likely to become a parent who develops it at a later age? I think there is not a doubt as to the answer to be given. Those who become insane before 25, even if they recover, are far less likely to become parents than those who become insane at later ages; many of them, considering the high death-rate of the insane, will die before they can become parents of families." But the objection which Professor Pearson raised does not apply, it seems to me, when a comparison is made between the age at onset of insane offspring of insane parents with all the admissions to the asylums, and a graph can be constructed very similar in many respects to that obtained when the comparison of offspring and parents is made.

Histological Changes in the Ovaries in Dementia Præcox.

Now, it is an interesting fact that in certain types of insanity, especially the primary dementia of adolescence, there occur in quite young females a great diminution of ova, signs of absence of maturation of the ova, and marked fibrosis of the gland. I consider this to be further evidence of "anticipation," by which the children of insane parents are affected at a much earlier age than the parents and in a more intense form. Dr. Laura Forster has been working in the laboratory at Claybury for the past two years on the histology of the ovaries of 100 cases of females suffering from different forms of insanity and dying during the child-bearing period of life. Her observations strongly support the view I have put forward regarding the early involution change of the ovaries in dementia of adolescence.

The observations of Ceni support the conclusion that there is a close functional correlation between the brain and the reproductive organs. He removed one hemisphere from hens; the birds surviving traumatic shock were killed after periods varying from a few months to three years, and their ovaries were subsequently examined histologically. The primary shock had the effect of causing them to cease laying eggs for a few months. In the following year they began to lay again, but in the second year fewer eggs were laid or they ceased altogether from laying. The birds were otherwise healthy. Microscopic investigation of the ovaries showed a premature progressive involution. Ceni infers from these experiments that intimate dynamic relations exist between the brain and the reproductive glands. It is more difficult to show changes in the male sexual organ, and at present an investigation is being made. The masturbation which so frequently occurs may interfere with the results.

Psycho-Physiology of the Sexual Glands and Brain.

Now let us regard the question from a psycho-physiological aspect. In the insanity of adolescence are the brain and sexual glands simultaneously functionally disordered, or is the deficiency and disorder of the one the cause of the derangement of the other? It has long been recognised by alienists that the primary dementia of adolescence may arise from an auto-intoxication possibly of sexual origin. In women it coincides with menstrual disorders. The reality of the auto-intoxications is demonstrated by vaso-motor disturbances, febrile attacks, digestive troubles, furred tongue, nausea, and pyrosis, which frequently occur at the period of onset of the attack; but this, to my mind, explains nothing, because these symptoms of auto-intoxication are common conditions in insane persons. But let us consider the question from a biological standpoint. The germ cells are the transmitters, not merely of morphological characters, but also of the raw material of mental characters of ancestors. There may be a failure of specific energy of the germ cells, and this dynamic deficiency shows itself in the two master tissues, sexual glands and brain, at the time when all the latent energy of these organs is stimulated to a supreme effort for the reproduction of the species.

Biochemistry and physiological experiments are throwing a new light on the intimate and subtle functional association of all the organs of the body brought about by the internal secretions or hormones, specially those of the ductless glands, which we know play an important rôle in the metabolism, growth, and functional activity of the central nervous system. In proof of this I need only mention the known facts concerning the thyroid glands and their absence in relation to cretinism and myxœdema, and of hypothyroidism and hyperthyroidism in relation to certain nervous and mental disorders especially affecting women. Again, there are certain forms of disease of the pituitary body which are associated with abnormalities of the sexual organs; besides there are other facts based upon clinical observation and experiment showing the correlation of function between the sexual glands and the pituitary body which I need not dwell upon here, but they suffice to support the view that hormones produced by the sexual glands may serve, not only to excite the growth of the secondary morphological sexual characters, but to arouse in the central nervous system the vague instinctive desire connected with the sexual appetite.

All the higher as well as the baser sentiments have their roots in the desire for propagation even more than preservation, for Nature is unmindful of the individual, mindful only of the species. Painting, sculpture, poetry, music, literature, and the drama owe their inspiration and fervour to the sexual passion, yet social conditions, traditions, and customs conspire to throw a veil over the tree of life, the openly expressed knowledge of which has been regarded as forbidden fruit. Modern social conditions tend to repress or suppress the natural physiological gratification of the sexual passion, especially in women. When this happens the desire is not suppressed, but causes a silent undercurrent of sexual passion which, although it may not be manifest to the external world, nevertheless occupies a large place in the conscious and subconscious self; it suffuses silent thought and consciousness with an emotional tone which may find outward expression in æsthetic or religious observances or fanatical agitation; its suppression is one of the causes of insanity, especially in subjects with the neuropathic taint, for it tends to continue mental depression and the instatement of an anxiety-neurosis which in its turn leads to a disorder of the vital functions and a disturbance of the biochemical relations of the whole body, causing an auto-intoxication; thus a vicious circle may be established by the interaction of a disordered mind and a disordered body.

Evolution of Character in Man.

The raw material of character possessed by every individual is a complex of the characters derived from species and sex—the outcome of evolution, and fixed and organised by heredity, but modified by special racial and family traits. All stable foundations of character have their roots in the desires, emotions, and instincts connected with preservation of the individual and the species, but modified in accordance with the functional and bodily differences of the two sexes. They are the oldest phylogenetically and ontogenetically; they are common to all human beings, and are the main source of all human activities. This fact has been poetically expressed by Schiller in the following lines:—

> Durch Hunger und durch Liebe
> Erhält sich die Weltgetriebe.

The special racial and family characters are of later development, therefore are less fixed, stable, and organised in the nervous system, consequently are more liable to mutation.

The last to come are the family characters, which are most subject to mutation and therefore most influenced by adaptation to environment and sexual selection in the struggle for existence. The character of the civilised man, which places him above the primitive savage, is mainly due to racial and family characters which by the evolution of language and the use of the hand as an instrument of the mind have built up the great social heritage which he utilises in the preservation of the individual and the species. Occasionally, for no known reason except atavism, we find an idiot born of intellectual parents. As there is no danger of propagation it does not much matter. In the feebleminded, like the savage, the animal propensities constituting the roots and stem of the tree of life are vigorous for propagation; but the fruits, intellectual and moral, do not ripen sufficiently to be of any productive value; consequently, like weeds, they tend to use up nutrition, materially despoiling the fruitful trees and contaminating the social heritage. The constantly expanding social mind colours the hallucinations, delusions, illusions, obsessions, and phobias of the insane civilised human being, thereby obscuring the real source of the mental disorder, which lies deep down in the roots of character, connected with a germinal inborn failure of the harmonious interrelation of the biochemical processes of organs, the normal functioning of which is indispensable for the appetites, desires, instincts, and

and witchcraft, the fear of natural phenomena, which they cannot explain, enters largely into their mentality. P. C. J. van Brero, who has had a long experience at Lawang Asylum, Java, points out the difficulties of obtaining information regarding the prevalence of different forms of insanity among primitive and semi-primitive peoples, and of appraising the value of such accounts as exist by various writers, owing to their using a different nomenclature. Nevertheless, it appears that they suffer, although to a less extent and with a different colouring, the same forms of insanity, and apparently the primary dementia of adolescence, dementia præcox, is the commonest form.

Among these people it cannot be an effect of the non-gratification of the sexual instincts, owing to failure of opportunity occasioned by social conditions; yet its appearance in individuals in early adolescence, who up to the time of puberty were normal, points to some intimate relation of the disease to the sexual functions. We know that this form of insanity is evidence in most cases of an ancestral neuropathic taint. In a large proportion of the cases of insane parents and offspring which I have collected I find the offspring are suffering with this form of insanity. In 80 per cent. of the cases of dementia præcox the onset occurs before 25. In cases where there are two or more members of the same co-fraternity suffering with insanity it is nearly always this form of insanity of adolescence, and it frequently terminates in dementia. It is noteworthy, too, that in a large proportion of cases the age of onset of the offspring of insane parents is the same or within a few years of the same. This corresponds to family nervous diseases. The sexes are about equally affected. Over-pressure at school and college is often (I think erroneously) attributed as the essential cause of the disease, although I do not deny there is not infrequently a history of such over-pressure. Again, masturbation is very common, so much so that it is thought to be the cause of the onset of the disease and of the anergic stupor that so commonly occurs in these cases, but it is more probable that this is a sign of the disease and not a cause.

Now it is very interesting to note that up to the time of puberty the majority of patients affected by dementia præcox have been intelligent individuals and full of promise. Aschaffenburg, cited by Christain, gives the following proportion per cent. of dementia præcox: 27 men and 21 women were of an average intelligence prior to the onset; 55 males and 65 females were intellectually good and even remarkable; 18 males and 13 females presented a psychic development below the average without, however, being idiots or imbeciles. These and other statistics tend to show that there is not a congenital feeblemindedness but some germinal defect, possibly of durability of the sexual glands, which has a profound influence on the function of

THE TREATMENT OF ANKYLOSTOMA ANÆMIA.

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With a Note by
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ON taking over charge of the medical wards in the large Cairo Hospital of Kasr-el-Ainy some years ago I was struck by the varying and often disappointing results of treatment in the large number of cases of ankylostomiasis admitted, which approach 400 annually. Since the outstanding symptom of this disease is anæmia, I instituted regular blood examinations in each case to test the efficacy of the treatment adopted.

My observations are based on a study of over 300 cases. These all represent patients severely ill with ankylostomiasis and not simply harbourers of the parasite or cases of ankylostoma infection, to follow the distinction made by Boycott.[1] So long as no serious degree of anæmia is present the average Egyptian peasant (fellah) is usually able to continue work and does not apply for hospital treatment unless suffering from some other disease. A fall of hæmoglobin below 50 per cent., however, is a serious handicap on exertion, but the fellah generally delays until he is entirely incapacitated before journeying to hospital. Thus I found in my series that the average hæmoglobin value on entry was only 22 per cent., and in one-fifth it did not exceed 10 per cent. That patients can get about with such intense anæmia must be ascribed to the increase of blood volume described by Haldane, so that the total deficiency of hæmoglobin is considerably less than appears. The average colour index was reduced to 0·4. I have never yet seen a case of ankylostomiasis in which the high colour index typical of pernicious anæmia was approached, though instances have been reported.[2] For the hæmoglobin estimation I at first employed Oliver's instrument and his daylight reading scales, but I now use Talquist's simple method, which is sufficiently accurate and time-saving.

Long before the parasitic cause of endemic anæmia was discovered patients were treated with iron in the hope of benefiting this chlorotic type of anæmia. Dock and Bass[2] narrate instances from the Southern States where decided, though only temporary, improvement resulted. In my series I have only met with one case of pure ankylostomiasis in which a slight improvement did follow the administration of iron before any worms were expelled. (Chart VI.) This failure may be due to the severity and long duration of the anæmia in hospital patients. Yet cases of severe secondary anæmia due to loss of blood in bilharziasis commonly show decided improvement on hæmatinic treatment, although the hæmorrhage from bladder and intestine can rarely be arrested. However, rest in bed and attention to diet probably do much to relieve the drain on the system and to enable the bone marrow to make good the loss. From the point of clinical diagnosis it may be stated that a marked anæmia dependent on no obvious cause, and which resists hæmatinics, is almost invariably due to ankylostomiasis in this country. The successful treatment of such patients depends primarily on a correct diagnosis and the expulsion of the ankylostoma worms. In every case of anæmia the stools are examined for ova by the microscope, and if none be found a culture is made and the result noted after an incubation of five days at summer temperature to obtain developed larvæ. When time is important the centrifuge method described by Dock and Bass for isolating ova from stools may be used. Examination of the blood for eosinophilia is of little value in this country where all forms of helminthiasis are rife. The choice of anthelmintic, the dosage, and the method of administration vary with different physicians. The careful work of Schüffner and Vervoort[3] on a large scale at Delhi gave the following results for a single administration, and is in harmony with the experience of most other workers:—

Drug.	Dose.	How given.	Worms expelled.
	grm.		Per cent.
Thymol.	5	One gramme two-hourly. Followed by castor oil.	83
Beta naphthol.	3	As above.	63
	4	As above.	74
Eucalyptus. Chloroform. Castor oil.	3 3·5 40	Mixture. In two portions at interval of half an hour.	33
Oleum chenopodii.	3	In three doses of 16 drops on sugar every two hours. Followed by castor oil 17 grm. with chloroform 3 grm.	91
Oleum chenopodii.	3	As above, but without castor oil and chloroform.	84

Personally I generally use a mixture of thymol (3 to 4 grm.) with beta naphthol (3 grm.). The addition of beta naphthol reduces the dose of thymol necessary and ensures a thorough breaking up of the crystals, which often tend to pack together in the cachets. Oleum chenopodii is expensive and has a peculiarly disagreeable flavour, most repulsive to patients, so I have not persevered with its use.

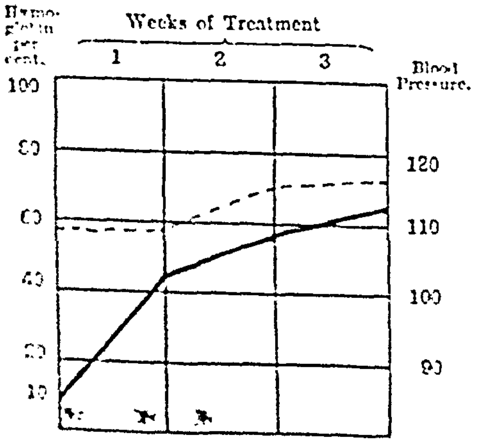
Whatever drug be chosen as vermicide, a preliminary preparation of the patient by fasting and purgation is strongly advisable. The usual course consists of milk diet for one day, with a saline purge in the evening in order to free the upper intestinal tract from food and mucus and so expose the worms, which often lie buried. The vermicide is then given early the next morning on an empty stomach in divided doses and the drug swept out by a second purge two hours after the last dose. Until this is finished the patient is kept in bed.

In order to free the intestine of the worms it is usually necessary to repeat the vermicide, often several times. Ashford and King at Porto Rico found two courses generally sufficient; Sandwith in Egypt averaged 2·6; and Dock and Bass found over three courses necessary in half their patients. It is advisable to allow from four to seven days to elapse before the treatment is repeated. Personally I prefer the shorter interval, as it favours a cumulative effect of the drug on the worms. When practicable the stools are examined for the worms expelled after each course, and when no more are forthcoming a microscopical search for ova is made to see if any (female) worms remain. This should be deferred until some days after vermicidal treatment, since the drug may temporarily disable the egg-laying capacity of worms without killing them. Since it is more important to know whether worms remain than the number of those discharged. I consider this search imperative and cultivate the stools whenever possible, to obtain a certain result. When the worms prove resistant to one vermicide, it is advisable to employ an alternative drug.

Expulsion of the worms is followed by gradual disappearance of the anæmia in most cases of ankylostomiasis. The rise of hæmoglobin is more often irregular than uniform, depending on the proportion of worms got rid of by successive doses of vermicide. A decided improvement is commonly seen after the second dose; for if a patient has 300 worms, for example, 200 of which are expelled by the initial dose, the 100 that remain are generally sufficient to maintain the anæmia. As a rule, a rise in the number of red corpuscles precedes the rise of hæmoglobin, and the number of corpuscles reaches normal long before the hæmoglobin standard is attained. This response to anthelmintic treatment occurs readily in young and vigorous subjects recently infected. But in the severe chronic cases that form the majority of hospital in-patients, satisfactory improvement may not occur or may be delayed for some months. Hence the patient is not conscious of any benefit accruing from his stay in hospital, and, owing to the liability of reinfection after discharge, may be none the better for the treatment.

In order to obtain a rapid cure of the anæmia in moderate cases, and to get any decided improvement in severe cases, hæmatinic treatment is generally essential. Since the anæmia is of a marked chlorotic type the administration of iron is strongly indicated to supply the deficiency of hæmoglobin. Under the influence of iron a rapid amelioration is usually seen, even in patients with severe anæmia, and before all the worms are expelled. There is generally an immediate rise in hæmoglobin value of from 20 to 30 per cent. in the first week, and a slower increase later. A typical case is here shown (Chart I.).

CHART I.

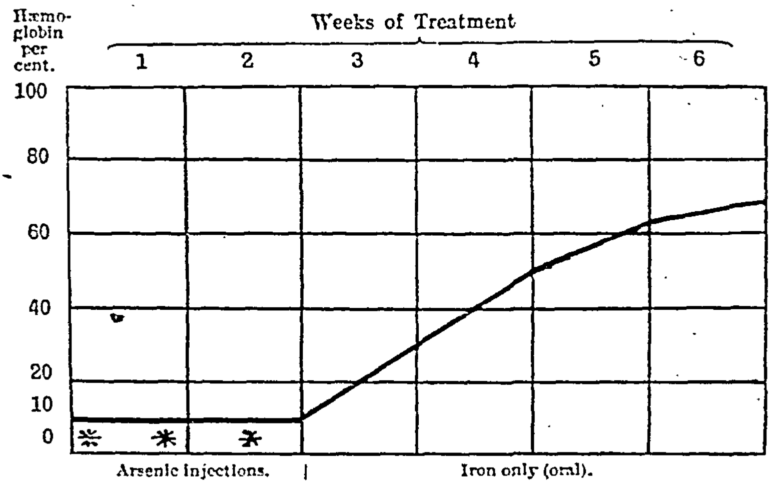


Case No. [illegible].—Male, aged [illegible]. [illegible] rise of hæmoglobin [illegible] blood pressure [illegible] [illegible] administration of vermicides.

In young subjects with vigorous bone marrow the transformation in appearance is startling. In one such patient a single dose of thymol and the administration of reduced iron raised the hæmoglobin value from 10 to 60 per cent. in one week. This increase may be partly explained by a rapid reduction of the hydræmia shown to exist by Haldane, with concentration of the blood elements. But the rise of hæmoglobin in such cases treated with iron is proportionally greater than the rise in the number of red corpuscles, so that the colour index rises quickly, pointing to a high degree of activity on the part of the bone marrow. This is rarely seen when iron is withheld, the colour index remaining low for a long time.

Chart II. shows the usual result of withholding iron in a severe case. Although all the worms had been expelled and arsenic given, no rise of hæmoglobin occurred until iron was substituted, when the response was immediate.

CHART II.



Case No. 176.—Male, aged 39. Asterisks denote administration of vermicides. All worms expelled.

An interesting case is shown in Chart III. Here iron and arsenic were given at first for just three days, with immediate benefit, but were afterwards omitted. In spite of the complete expulsion of worms the hæmoglobin value actually sank, but rose again rapidly as soon as hæmatinic treatment was resumed.

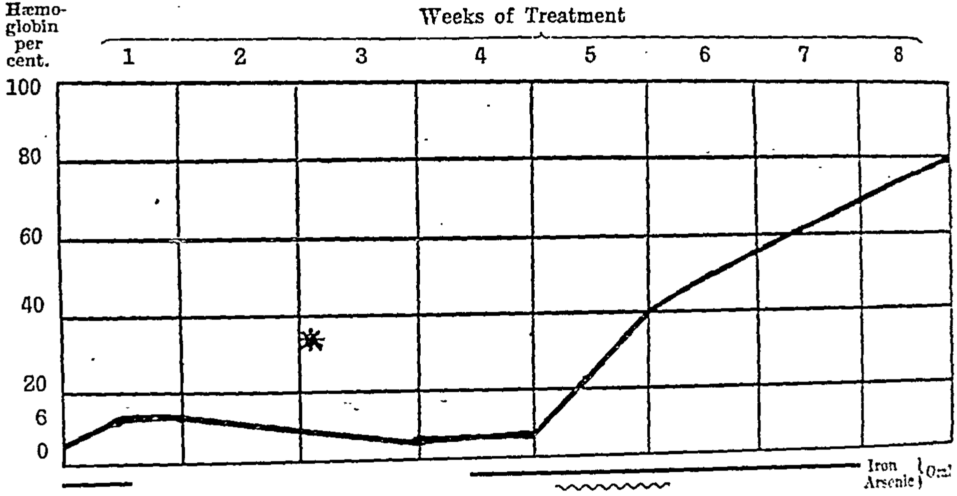
When iron is given from the first, any rise in hæmoglobin value is a most useful guide to the expulsion of the worms. A halt on the upward curve generally means that worms still remain and that further anthelmintic treatment is necessary as shown in Chart IV.

Methods of giving Iron.

The organism quickly responds to iron as a rule, and the form in which it is presented makes but little difference. Comparative tests in my series showed that the stronger forms are well taken and give the most satisfactory results. Thus reduced iron, ferric perchloride, and ferrous sulphate yield an average hæmoglobin increase of from 9 to 15 per cent. weekly, the difference depending largely on individual powers of recuperance. The carbonate of iron (Blaud pills) and the ammonio-citrate are slightly inferior in action, perhaps owing to their styptic properties.

Organic compounds present no advantages over the simple forms of iron. Preparations of hæmoglobin are generally useless; any improvement that may occur under their administration would seem to occur equally well without. Manganese is similarly ineffective as in chlorosis.[4] By the courtesy of Dr. J. Lyn Dimond[5] and of Messrs. Oppenheimer, of London, I was enabled to test a colloid preparation of iron. This was ineffective in the very small doses that can ordinarily be given hypodermically, although large doses like those of citrate have some effect. However, since oral medication is so satisfactory in ankylostoma anæmia, special methods of administration of iron are uncalled for.

CHART III.

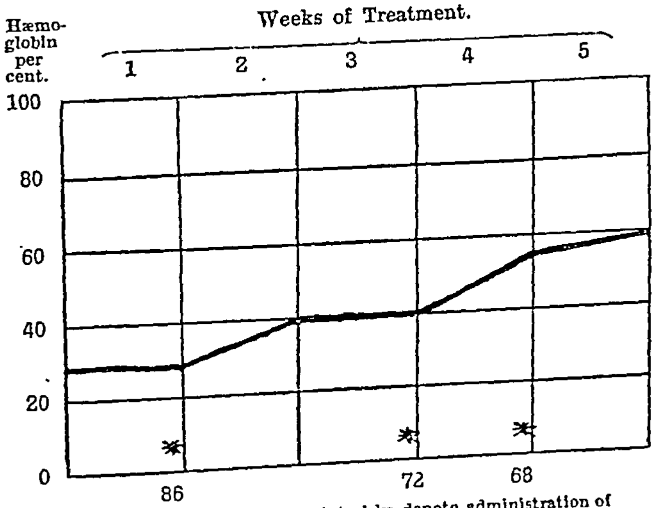


Case No. 211.—Male, aged 25, severely ill with much œdema but no albuminuria. Asterisk shows date of complete expulsion of worms. Lines below denote administration of hæmatinics.

Eosinophilia.

The anæmia characteristic of ankylostomiasis has already been described briefly; a few remarks may be added on the eosinophilia which is nearly always present. This is a characteristic feature of worm infections in general, and occurs in response to the absorption of their products. When worms live free in the intestine the absorption of this material by their host is often small, and eosinophilia may be slight. But when the worms live in the tissues of the host (e.g., trichiniasis, bilharziasis) the absorption is much greater and the eosinophilia pronounced. It then varies directly with the number of living worms present, and inversely with the degree of anæmia existing at any time.[6] In ankylostomiasis, when the worms are settled in the intestine, their relation to the host is intermediate between these two classes. There is usually a high eosinophilia in the early weeks of infection, which falls when the responsive powers of the marrow are impaired by chronic anæmia. On treatment by vermicides the eosinophilia, if high, falls with expulsion of the worms; but if the eosinophilia be low it may increase when the anæmia improves. Thus in many cases the eosinophilia may fall at first following expulsion of worms and rise again later owing to the improved reaction of the marrow to any that remain. Persistent eosinophilia lasting for months or years after the complete expulsion of worms is not uncommon, and is probably due to the presence of larvæ from dermal infection, which may remain for years arrested or wandering in the tissues, and never reach the intestine.

CHART IV.



Case No. 33.—Male, aged 35. Asterisks denote administration of vermicide; the figures give the pulse-rate. At the end of the second week ova were still found in the stools.

Other Symptoms.

The rapid improvement in the blood condition brought about by successful treatment is followed by a disappearance of the various subjective symptoms, such as headache, neuralgic and joint pains, palpitation, and epigastric pain. But while the anæmia may be quickly relieved the symptoms commonly continue for some weeks afterwards. Such organic changes as fatty degeneration of the heart muscle, for instance, take months rather than weeks for recovery.

My assistant, Dr. Garas, kindly estimated the blood pressure in a series of cases under treatment. He found a distinct rise to follow the rise in hæmoglobin value (Chart I.). Another good sign of progress is the reduction in a rapid pulse-rate, as is shown in Chart IV. In cases of "ankylostoma kidney," where there is profound anæmia, general anasarca, and deficient urinary excretion with little or no albuminuria, striking results may be obtained. Such a case is seen in Chart III., where the daily amount of urine rose from 500 c.c. to 5000 c.c. during the rapid improvement in the anæmia.

Refractory Cases.

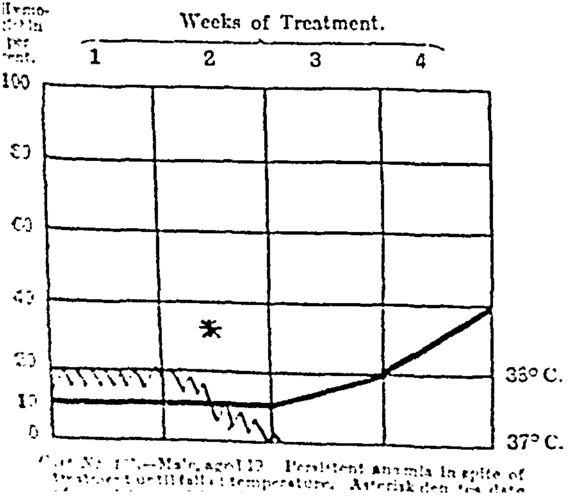
In a certain proportion of chronic cases of ankylostomiasis which have undergone the routine treatment by vermicides and iron improvement may be wholly absent or may be only partial. A somewhat slow rise of hæmoglobin to about per cent. is often obtained with no sub- uent improvement. The causes of total or tial failure generally come under the following ds:—

a) *Persistence of worms.*—After worms have been pelled, their non-appearance in the stools after eated doses of vermicide is no proof of a com- te clearance. Careful examinations of the ols for ova, as already described, are necessary make certain. A few male worms may of course ape detection, or there may be immature forms sulting from dermal infection arrested in the sues, but it is tolerably certain that these are productive of anæmia.

(b) *Complicating diseases.*—Of these, chronic arrhœa (generally due to intestinal bilharziasis) d parenchymatous nephritis are, in this country, e most serious complications that aggravate æmia. *The constant drain on the system is* t sufficiently relieved by the removal of anky- stoma worms to permit of a good recovery. ellagra, endemic cirrhosis (Egyptian splenomegaly), d bilharziasis commonly complicate ankylosto- iasis in Egypt, but do not retard recovery unless ey have reached a very advanced stage.

(c) *Fever.*—So long as there is fever rising over 00° F. from any cause the administration of hæma- nics is powerless to affect the anæmia. In some ases the fever is due to a specific cause such as alaria, while in others it appears due to secondary nfection at the sites of bites in the intestine. This atter variety seems relatively more common in hildren, and is best treated by anthelmintics. o soon as the fever subsides a satisfactory improve- nent is the rule, as shown below.

CHART V.



[illegible]—Male, aged [illegible]. Persistent anæmia in spite of treatment until fall of temperature. Asterisk denotes date [illegible]

these patients have comparatively few worms present, so that absorption of a toxin produced by the worms cannot explain an anæmia persisting after their removal. The theory of hæmolysis due to a secondary bacterial infection at the sites of the bites rests on no secure foundation of clinical or post-mortem evidence,[7] [8] and the blood changes are essentially different in nature and progress from those characteristic of pernicious anæmia. In this connexion the condition of the hæmopoietic system is of fundamental importance, and I am greatly indebted to my colleague, Professor Ferguson, for the following statement.

Note by PROFESSOR FERGUSON.

"The bone marrow of the body exhibits, during the period covered by the earlier stages of ankylostoma infection, a notable degree of erythroblastic and leucoblastic activity. This can, as a general rule, be observed to extend into the marrow of the long bones, and it undoubtedly occurs, though probably it is of shorter duration, in cases of very severe infection. The marrow of the femur shaft becomes transformed into a compact, firm, solid tissue of brownish-red colour throughout the length of the medullary cavity. Little or no trace of the marrow fat is in many cases visible. Examined microscopically, this hyperplastic marrow is specially rich in normoblasts and eosinophiles, examples of active mitosis being frequently observed in the latter class of cell. The marrow eosinophiles at the beginning of this phase of activity are well formed and highly charged with characteristic granules.

"The period of this hyperplastic phase is difficult to determine. Evidence is not wanting to show that in cases of moderate severity it may persist for a considerable time. But in severe cases sooner or later it gradually passes off, the marrow becoming paler, and finally reaching a condition of gelatinous atrophy. This decline in myelic activity is apparent first of all in the long bones, but later also in the ribs. At this latter stage the precursors of the red cells and the eosinophiles are notably reduced. A feature of significance in connexion with the latter is that, with an imperfectly lobulated nucleus, their cytoplasm is very insufficiently supplied with eosinophilic granules. We are fairly warranted in regarding such a condition of the marrow as one of exhaustion, and while regeneration is yet actually possible, a very considerable time will be required for its realisation. It is significant in this connexion that the blood in chronic severe cases of ankylostomiasis frequently contains eosinophile cells of imperfectly matured type and scanty granular content, comparable in all respects to those described above as existing in the marrow."

became an increasingly serious incubus. He had undergone a yearly cure at Harrogate and always with a certain amount of benefit, and various methods of treatment had been used at different times under Dr. Crawford Watson's direction, including cataphoresis and vaccine treatment. He was unable to ride; indeed, he had not been on a horse for three years. This was a very serious disability, since it prevented him from controlling the management of his large farm. He could walk half a mile with pain and difficulty. The pain lasted for some time after the exercise was over, and was so severe that it made him perspire freely. He could with difficulty put on his left boot. At night he was unable to lie on his left side owing to the pain which pressure produced in the hip. If in the night he rolled over during his sleep this pain awoke him. Apart from pressure, there was no spontaneous pain in the joint at night. His general health was good. He had not suffered from rheumatism in the other joints, except slightly in the big toes, and he had had occasional attacks of lumbago.

Stereo-skiagrams of the joint were taken by Dr. W. Hope Fowler, of Edinburgh. They showed marked lipping of the articular surface of the femur, together with a certain amount of lipping of the acetabulum. The normal concavity of the upper edge of the neck of the femur was replaced by a convexity. There was some blurring of the cartilage interval, but it was still present, so that disorganisation of the joint had not proceeded far. Dr. Davidson considered, and I agreed with him, that the skiagrams indicated a state of affairs which would be greatly improved by cheilotomy. This impression was confirmed by an examination of the patient. Flexion of the hip was possible to a right angle, while abduction and rotation were exceedingly limited, though not absolutely absent. There was slight wasting of the thigh to the extent of about one inch in circumference. An examination of the patient showed him to be in sound general health. He was, however, rather stout, and this added to the difficulty of the operation.

The patient came to London in August, 1913, for the operation, and on the 27th I operated. The anæsthetic was given by Mr. Herbert Charles, and the operation was a prolonged one owing to the stoutness of the patient and the depth of the wound. The hip was approached by a Kocher's posterior incision, and the capsule being opened the buttresses at the upper posterior and anterior aspects of the head of the femur were removed piece by piece. The capsule was sewn up with stout silk. The patient made a good convalescence, although the wound continued to ooze serum for about a week. Passive movements were begun after the first few days.

On Sept. 20th the patient left the nursing home, walking with the aid of a stick. His limping was much less than before the operation, and he could comfortably stride a capsized chair as wide as a horse's back, and could lie all night on the affected hip without being waked by pain—a fact which struck him particularly. There was free rotation of the joint. Abduction was fair but limited by some remaining muscular spasm. A week after his return home Dr. Davidson wrote to me that the patient had stood the journey well and that he was steadily improving. His letter goes on: "He has quite a big range of movement now and can abduct almost to the normal extent. He walks quite well and any limp that appears is more due to habit than anything else. His pain has disappeared entirely, and his spirits have risen in consequence. To-day for the first time in three years he got on horseback and rode round his farmyard without difficulty. His nurse and I are giving him daily movement and will continue to do so for some time yet. On the whole, you are to be congratulated on making a big success of this case."

In November the patient went to Harrogate for some massage and exercise and to take the water to keep down his weight, which since the operation had been increasing rather inconveniently. Dr. Crawford Watson wrote to me at this time: "I must congratulate you upon the result of the operation. He has much more movement and I should think he would be able to ride. He has been on a horse cantering and walking, but has not tried trotting yet."

On several occasions since his operation the patient has written to me. On Dec. 27th last year he says: "I can now walk fully a mile with the help of a stick, but when I try without I can proceed very slowly and only for a short distance, but I think I am gradually going in the right direction, if slowly. My health is good and I have put on 2 st. 2 lb. since I left the nursing home, which is worse for the leg to carry." I wrote to inquire about his riding, and he replied that by using a riding block which reached up to within a foot of the stirrup iron he could get on and off the horse without assistance and without difficulty, that he had no trouble in riding at a walking pace, and that he intended to try the trot in a short time. He still felt matters improving.

The patient reported himself to me on March 10th of this year in excellent general health. With increasing activity his weight has come down to its normal level. He is now living an ordinary life, and can stand about all day without being conscious of any pain or weakness in his hip. By my advice he has not attempted to walk long distances, but he can walk a mile at a fair pace without any discomfort either at the time or subsequently. A slight limp is still perceptible in his gait, which, however, is now active and strong. Since the operation he has had no pain whatever in the hip, a point on which he joyfully insisted. He is now able not only to mount and dismount a horse, but to trot and canter. In trotting, however, he finds some difficulty in rising in the stirrups, and has to help himself up with a hand on the front of the saddle. Cantering he finds quite easy.

On examination I found slight muscular wasting still persistent, the right thigh measuring an inch less round than the left one, and the right calf half an inch less. Abduction was perfectly free to the full extent; it appeared, in fact, actually rather more free on the side operated upon than on the other side. Rotation also was free. No muscular spasm existed. Flexion was free up to a right angle, as before the operation. This is now the only movement of the joint in which he is conscious of any abnormal restriction. His only present complaint is of slight pain in the adductors after any unusual exertion. This probably depends on slight shortening of these muscles during the period when abduction was in abeyance. He expressed himself as fully satisfied with the result of the operation, which has restored to him a life of full activity.

New Cavendish-street, W.

A COMMON MODE OF DEFERRED DEATH AFTER TRACHEOTOMY FOR LARYNGEAL DIPHTHERIA: THE RELATED TREATMENT.

By JOHN BIERNACKI, M.D. GLASG.,
PHYSICIAN-SUPERINTENDENT, PLAISTOW HOSPITAL.

AFTER temporarily successful tracheotomy there may be a return of obstruction due to loose membrane in the trachea—an issue not necessarily dangerous and in any case outside the scope of this paper. Again, a further growth of membrane in the main air passages below the tracheal incision may be responsible for secondary obstruction of a serious kind, but antitoxin treatment has materially altered the course of laryngeal diphtheria in this respect. Under present conditions it nearly always happens in cases of deferred death that severe lobular pneumonia develops. Death is usually attributed to the pneumonia, but this view requires qualification.

In most cases of the kind, if allowed to run their ordinary course, it is more directly the outcome of suffocation by a plug of desiccated mucus and inflammatory discharge located in the neighbourhood of the tracheal bifurcation, as is proved by the immediate relief of obstruction and marked general improvement which frequently ensue when the plug is removed with forceps after such cases have become serious or are even moribund. A plug that forms early may be partly composed of loose membrane, but often none is present. In order to reach the plug a sand-bag or rolled-up towel, sufficient in size, is placed under the patient's shoulders to throw back the head and extend the neck. Inserted closed, the points of the forceps are opened as the bifurcation of the trachea is approached; they are then advanced a little farther, closed again, and withdrawn. As a makeshift, sinus forceps will serve, the points being bent on the flat to a wide angle two-thirds of an inch from the end. However, this instrument is hardly safe, as the sharp points may excoriate the tracheal mucous membrane, and it is sometimes difficult to obtain an effective hold on the plug with them. At Plaistow Hospital the forceps used are broad and bulbous at the point. With either instrument it is easy to search the whole trachea downwards, and even the entrances of the bronchi, given that the head and neck are in proper position. Only a small portion of the plug may be brought away at a first attempt; it may have to be removed piecemeal until what remains is coughed up towards the tracheal incision and can be extracted. Unfortunately the obstruction nearly always recurs; at first the interval may be as long as 12 hours, but it tends to become shorter until extraction gives less relief and then none. Failure to relieve may depend on plugging of the two main bronchi, other factors being the extension of the pulmonary affection with widespread occlusion of the bronchioles.

Many illustrative cases could be cited, but the two following will suffice.

CASE 1.—The patient, a male aged 2 years, was admitted to Plaistow Hospital on March 16th with laryngeal diphtheria and urgent obstruction. Tracheotomy relieved the latter completely, and a comfortable night resulted. Then the discharge from the tube became scanty and the child increasingly restless, with some recession. Towards evening his condition was considered sufficiently grave to justify the use of forceps, and a mass of mucus mixed with membrane was extracted. The obstruction and distress largely subsided. An alkaline spray was prescribed. About midnight the patient expelled a large piece of membrane through the tube. In the morning his condition was evidently worse. He was restless and had some cyanosis and a poor pulse. Ground continued to be lost, and at 2 P.M. a plug of desiccated and inflammatory discharge about two-thirds of an inch in length was withdrawn bodily from the trachea with forceps. Breathing immediately became freer, but the general condition showed less improvement. Throughout the following night and day the restlessness varied in degree. At noon, and again at 6 P.M., plugs were extracted from the trachea. A better night was thereafter passed, although little discharge came away except when the child coughed after spraying. The tracheotomy tube was taken out at 11.30 A.M., and was not replaced despite some restlessness and slight recession. The discharge was becoming looser and more of it was coughed up. Having disappeared for a time the recession returned in the ensuing night, and next day a rubber tube with a dorsal opening was inserted. Four days later the tube was dispensed with. It had to be used again after two days and through the following three nights, from which time the patient made a rapid recovery.

CASE 2.—The patient, a boy aged 3 years, was admitted to Plaistow Hospital on June 17th with marked dyspnœa and recession due to diphtherial croup. The case was of the rather rare septic type. Tracheotomy did not completely relieve the obstruction. Very little discharge was expelled, and a restless night followed. At 11 P.M. a plug of the usual kind was extracted and some relief obtained. Spraying was begun. Next day the child was more comfortable and coughed up a fair amount of thick discharge. By midnight, however, distress had become marked again. On the extraction of a plug there was a change for the better, maintained on the whole through the following day, except that the discharge was offensive—an ominous sign. In the evening cyanosis, modified by pallor, became definite. At 11 P.M. recession was increasing and some thick muco-purulent discharge was extracted. Forceps had to be used again for severe obstruction after a very restless night and day. The relief was less. Oxygen inhalation was begun, but the patient did not react satisfactorily. It was plain that the heart was failing. At 1 A.M. extraction was attempted without success, as only a little discharge was brought away. The child died next day at noon.

Recovery is exceptional once obstruction develops to a degree which makes extraction vital. Nevertheless, life is occasionally saved by clearing out the trachea. Further, the fact that asphyxia largely due to the plug is likely to anticipate death from the pneumonia *per se* must give weight to measures directed against its formation. These considerations indicate a line of treatment which has been well tested at Plaistow Hospital.

1. While dry cases—those generally in which lobular pneumonia is established at the time of operation—are far more liable to tracheal plugging, the latter may take place although the patient's condition is at the outset quite satisfactory. For this reason I feel that the present system of treating straightforward cases without steam cannot be upheld. In my opinion it is safer to place every tracheotomy case in steam for at least a week if the tube is required for that time. Short of this, steam will, of course, be employed at the first sign of dryness. It hinders desiccation of the discharge and is beneficial when lobular pneumonia threatens or is established.

2. If obstruction returns after an interval and is not due to loose membrane, and at the same time the patient is not coughing up discharge freely or the discharge is very tenacious, a spray of sodium bicarbonate is prescribed (10 gr. to the ounce of water). The efficacy of this treatment depends partly on the expertness of the nurse. Using a rather coarse, intermittent spray, she

compresses the ball, say, three times with the nozzle *directed into the mouth of the tracheotomy* tube. This she does during successive inspirations. The patient will probably then begin to cough, and the spraying fluid mixed with more or less discharge may be driven up to the inner end of the tube or out of it. To sop up the fluid and discharge, the nurse makes a thin swab by wrapping cotton wool round the point of sinus forceps bent to the angle of the tube. New swabs are inserted until one comes away dry. Then she repeats the whole process, perhaps three or four times. Not *uncommonly the patient in the end coughs up a* quantity of partly desiccated discharge, so that the formation of a plug may be delayed or possibly averted. If definite plugging occurs the sodium bicarbonate is increased to 20 gr. to the ounce.

3. Extraction should be postponed until it is certain that spraying alone will *not dissipate* the plug and the obstruction has become immediately dangerous. *Great care is needful in inserting the* forceps; if they are opened too soon or too wide or force is used the wall of the trachea may be injured. Streaking of the discharge *by blood* not referable to the operation wound may reveal such injury, the result of which may be that obstruction returns earlier and proves less amenable to treatment. The forceps should be inserted no farther than is necessary to grip the plug. Extraction is discontinued in improving cases whenever this can be done without undue danger of suffocation. Some risk may have *to be run. Throughout the spray* may be serviceable.

4. Oxygen when used is always passed through water. *Straight from the cylinder it rapidly absorbs moisture and thus dries up* discharge.

Wimpole-street, W.

ARTIFICIAL PNEUMOTHORAX:

FUNDAMENTAL DEFECTS IN THE ACCEPTED TECHNIQUE OF INDUCING PNEUMOTHORAX, AND HOW TO REMEDY THEM.

By W. PARRY MORGAN, M.A., M.B. Cantab., B.Sc. Lond.,
ASSISTANT IN THE DEPARTMENT FOR THERAPEUTIC INOCULATION, ST. MARY'S HOSPITAL.

Treatment by means of artificial pneumothorax is still comparatively rarely applied even in suitable cases of unilateral phthisis. An obvious reason for this is to *be found in the difficulties and dangers* incident to the accepted method of operating. The difficulties will be appreciated when we remember that the operator is required to carry down his needle to a point at which it will separate the parietal and visceral pleuræ which *are in apposition* at an unknown depth, and also to verify that it has reached its proper position between these before gas is allowed to flow in. The dangers which have to be taken into account are the possibility of injuring the lung, and the risk of allowing gas to pass into places other than the pleural cavity. It has not been thought necessary to take any *great precautions* to prevent the puncturing of the lung, but on the other hand measures are regularly taken to verify the proper position of the needle, it being laid down that the gas shall not be allowed to flow until it has been *inferred, from the estimation of the intrapleural* pressure and its variations, that the needle is in the pleural cavity. *Thus it is recognised that it is,* at any rate for the purpose of ensuring that the gas *shall not* pass anywhere except into the pleural cavity, absolutely necessary *to record the intrapleural* pressure and its variations. And in point of fact the problem of inducing pneumothorax with safety practically resolves itself into the problem of devising the most suitable way of arriving at the *pressure at the point* where the eye of the needle rests.

I propose in this paper to discuss two ways in which this can be done. The first is the *one* in general use. In it the intrapleural pressure is given directly by the reading of a manometer connected through a T-piece with the tube which carries gas from the reservoir to the needle. This may be called the *direct method*. The second is brought forward here for the first time, and is designed to remedy the defects of the direct method. In it a *resistance in the form of an adjustable throttle* is introduced into the tube which connects the reservoir and the needle, and the intrapleural pressure is then obtained indirectly from the readings of two manometers inserted into the *connecting tube on either side of the throttle*. This may be called the indirect method.

I will deal first with the direct method, and show that it is seriously defective in that it will not furnish records of the intrapleural pressures until the lung has been punctured *and* gas leaks into the pleural cavity.

We may begin with a discussion of the mechanics *of the manometer* as applied to the recording of the intrapleural pressure. It will be recollected that in the ordinary procedure, as a *preliminary*, the reservoir is shut off from the manometer by means of a clamp before the needle is inserted into the chest wall. The manometer will then record atmospheric pressure, and will continue to do so as the needle is passing through the tissues, but as soon as the orifice enters the pleural cavity the gas will, on account of the negative intrapleural pressure, be aspirated *into* the pleural cavity from the connecting tube, and in consequence water will be sucked from the open into the closed *limb of the manometer*. The resulting difference in the levels of the fluid in the manometer will then indicate the negative pressure. It is now presumed that, if at this point the needle is in proper position in the cavity, movements *corresponding to the* respiratory movements will be communicated to the manometer by the gas passing in and out through the *needle*. If these movements do not appear in the manometer the needle is usually pushed *forward* and *drawn* back until they do. But *consideration* will show that movements of respiration cannot be communicated to the manometer unless there is gas in the pleural cavity which can be driven back through the needle, and so the *question* presents itself whether the amount of gas *which* has been aspirated from the connecting tube and manometer into the pleural cavity will suffice, and whether *it* will be available for this purpose.

In connexion with the former issue we will recognise that, *inasmuch* as the intrapleural pressure never differs much from the atmospheric pressure, and since in consequence any gas drawn *into the cavity* will not be appreciably rarefied, the volume of gas which will have passed *from the* connecting tube *into the* pleural cavity will be practically equal to that of the fluid which will have passed from the *open to the closed* limb of the manometer. This volume would, when the negative pressure stands at 15 cm. of fluid in a manometer tube of 0·3 cm. bore, measure less than 1 c.c.

Again, when we ask ourselves whether the gas which has been drawn in will always find a free passage back through the needle, we see that if the quantity of gas in the pleural cavity is insufficient to keep the lung off the needle—and for this purpose 1 c.c. will be quite insufficient—the visceral pleura will, as soon as the intrapleural pressure rises during expiration above that in the manometer, be flapped back upon the eye of the needle, and gas will then be prevented from returning to the manometer. Any subsequent rise in the intrapleural pressure will not be recorded, and the level of the fluid in the manometer will therefore remain the same until, with the return of inspiration, the intrapleural pressure again falls below that recorded by the manometer and the valve opens again.

Now I have shown in a previous paper[1] that gas in the pleural cavity tends to take up a position opposite the consolidated portions of the lung, and so in general the gas aspirated from the manometer will move away from the needle and the valve close earlier with each successive expiration, until after a few respirations it will remain closed during the whole of the expiratory period. The pressure[2] then recorded will correspond to the lowest which is reached during inspiration; in effect the manometer will become a minimum pressure manometer.

This, then, is the train of events which will necessarily follow an attempt to induce pneumothorax for the first time, unless the operator by his manipulations brings about other conditions which prevent valve action and allow respiratory movements to be communicated to the manometer. In other words, the valve action of the lung will prevent the recording of the intrapleural pressures, unless the operator introduces into the pleural cavity more gas than that which is aspirated from the apparatus. There is only one source from which the necessary additional gas can come. It must obviously be drawn in from the alveoli through punctures made into the lung.

This is confirmed by the fact that I had distinct evidence of the establishment of "spontaneous" pneumothorax in a case where I had abandoned the attempt to induce "artificial" pneumothorax and had withdrawn my needle without allowing any gas to pass in from the reservoir. Again a radiograph of the chest taken after a first operation usually shows evidence of more gas in the pleural cavity than has been introduced from the reservoir. While it is a common experience of those using the direct method, that gas can be detected in the pleural cavity by radiography after 200 or 300 c.c. have been introduced, it is our experience since we have adopted the indirect method, a method which, as will be shown below, makes it possible to take records of the intrapleural pressures without first puncturing the lung, that it is rarely possible to detect gas in the pleural cavity until considerably more than 300 or 400 c.c. have been introduced. In point of fact after the change of method was adopted in this hospital, Dr. G. H. Orton, to whom I am indebted for all my X-ray records, found it difficult to believe that such large quantities as 300 or 400 c.c. had been introduced in these cases until he had seen the method in operation.

When we ask ourselves in this connexion under what conditions gas in the pleural cavity would be demonstrable by radiography, we see that its detection would be dependent on the fulfilment of the following conditions: (1) There would have to be established between the lung and the chest-wall a considerable gap through which rays would pass without meeting any obstacle; and (2) the margin of the lung would have to be dense enough to cast a well-defined shadow on the screen. Here attention may be called to the fact that when the lung is still almost normally dilated the shadow cast by its margin is more or less indefinite, but when, as with a large pneumothorax, it becomes retracted, or when it is consolidated, many more rays are interrupted by it, and thus the margin thrown on the screen becomes better defined. Now inasmuch as the gas in a pneumothorax will, unless it becomes localised, tend to spread out as a thin layer, it is unlikely that the introduction of 400 c.c. will cause the development of a sufficiently wide gap, and also unlikely that it will at the same time cause enough retraction of the lung to show up the margin clearly in profile. And, further, it must be remembered in this connexion that where the rays have to pass through one and the same amount of lung substance and one and the same amount of gas it makes no difference to the picture whether that gas is outside or enclosed in the lung.

Thus it would seem that radiographic evidence of gas in the chest could hardly be obtained after the introduction of so small a quantity of gas as 200 or 300 c.c., and we have justification for the conclusion that radiographic demonstration of a pneumothorax after the introduction of such a quantity of gas is achieved only by this being largely supplemented by leakage from the lung.

I will now pass on to the consideration of the indirect method. This method enables us to obtain a record of the respiratory movements and of the intrapleural pressures by the aid of gas supplied from the reservoir instead of from the punctured lung; also to obtain an uninterrupted record because the continuous flow of gas from the reservoir prevents any valve action.

The essential features of the apparatus by means of which this can be achieved will be understood from the following description. The gas in its passage from the reservoir to the pleural cavity encounters two resistances, the adjustable throttle and the needle. Before gas passes through the throttle its pressure (see Fig. 1, P_1) is recorded by the manometer next to the reservoir, and this will be the reservoir pressure; then again, after the gas has passed through the throttle, and before it reaches the needle, its pressure, which has now fallen, is again recorded, this time by the manometer next to the needle. It will be appreciated that so long as this "intermediate" pressure is maintained above the intrapleural pressure, gas flows into the pleural cavity, and the valve action cannot be called into play. Also that when the respiratory movements are taking place, corresponding oscillations will be produced in the manometer next to the needle, but not in the other, because this will continue to register the reservoir pressure. Moreover, from the relation between the reservoir pressure and the mean intermediate pressure given by the "reservoir" and "intermediate" manometers respectively, we can, as I shall show, readily estimate the mean intrapleural pressure, provided always we have at the outset adjusted the throttle

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[1] THE LANCET, July 5th, 1913, p. 18. On the Possibility of Achieving by Partial Pneumothorax the Advantages of Complete Pneumothorax.

[2] This pressure is usually much lower than the lower limit recorded when the oscillations are not interfered with by the valve action. The reason for this will be understood when we remember that the negative pressure is due, not only to the elastic tension of the lung, but also to such passive resistances as are called into play only when the inspiratory muscles are acting. The existence of these passive resistances will be best appreciated when we recall to mind conditions in which they are considerably increased. For example, very considerable resistance to inspiration is developed when the lung becomes less expansile, as in the case of congestion or consolidation, or, again, when in connexion with an extensive pneumothorax the expansile lung resists expansion on account of the alveolar walls becoming sealed up. Now such passive resistances called into play at the outset of the movement fall off toward the end when the muscular effort ceases, and then the negative pressure becomes wholly due to the elastic tension. It is therefore explicable that the intrapleural pressure should be lowest when this passive resistance is great; that is, before the end of inspiration and before the manometer which necessarily lags has time to record it. On the other hand, when the valve action makes it impossible for the manometer pressure to rise, the absolute minimum pressure only will ultimately be recorded.

FIG. 1.

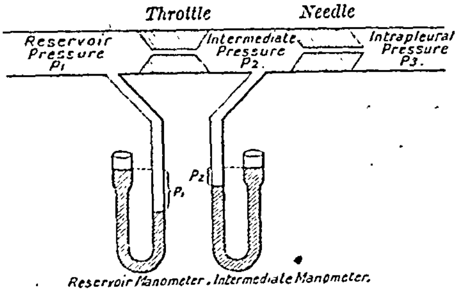

Throttle
Needle
Reservoir Pressure P_1
Intermediate Pressure P_2.
Intrapleural Pressure P_3.
P_2
P_1
Reservoir Manometer. Intermediate Manometer.

Diagram showing the scheme of the apparatus.

so that its resistance bears a known ratio to that of the needle. (Hereafter the mean of the intermediate pressure, which is a fluctuating pressure, will be spoken of as the "intermediate pressure" (P_2). Likewise the mean of the intrapleural pressure as the "intrapleural pressure" (P_3), and the mean readings of the manometers as "the readings.")

The relation which subsists between P_1, P_2, and P_3, will depend on the fact that the ratio of the pressure which is driving gas through the throttle to that which is driving gas through the needle is equal to the ratio of the resistance of the throttle to that of the needle (the resistance ratio, r). Now the pressure which is driving gas through the throttle is the difference between the pressures above and below—that is, the difference between the reservoir and the intermediate pressures (P_1–P_2). Likewise, the pressure which is driving gas through the needle is the difference between the intermediate and the intrapleural pressures (P_2–P_3). Hence the ratio of the differences $\frac{(P_1-P_2)}{(P_2-P_3)}$ is equal to the resistance ratio (r)—i.e.:—

$$r = \frac{P_1-P_2}{P_2-P_3} \quad \dots\dots\dots\dots \quad \text{(i.)}$$

$$\text{and} \quad P_2-P_3 = \frac{P_1-P_2}{r} \quad \dots\dots\dots\dots \quad \text{(ii.)}$$

—i.e., the difference between the intermediate and intrapleural pressures ($P_2 - P_3$) is obtained by dividing the difference between the reservoir and the intermediate pressures ($P_1 - P_2$) by the resistance ratio. From this it will be seen that the intrapleural pressure is given by the formula—

$$P_3 = P_2 - \frac{P_1-P_2}{r} \quad \dots\dots\dots\dots \quad \text{(iii.)}$$

—i.e., the intrapleural pressure is obtained by subtracting from the intermediate the difference between the reservoir and the intermediate pressures divided by the resistance ratio. Again, it will be seen that if the needle opens into the atmosphere the pressure P_3 is zero, and from formula i. we have—

$$r = \frac{P_1-P_2}{P_2}$$

$$\text{or} \quad r = \frac{P_1}{P_2} - 1 \quad \dots\dots\dots\dots \quad \text{(iv.)}$$

—i.e., the resistance ratio can be calculated when the needle is in the air by dividing the reservoir reading by the intermediate and subtracting unity. If the needle is in the pleural cavity and we do not know the resistance ratio, we may obtain it from readings given for two positions of the water bottle (*vide infra*). Thus, if P'_1 and P'_2 are second readings of the manometers—

$$P_3 = P_2 - \frac{P_1-P_2}{r} = P'_2 - \frac{P'_1-P'_2}{r}$$

$$\text{and} \quad P_2 - P'_2 = \frac{1}{r}\left\{(P_1-P_2)-(P'_1-P'_2)\right\}$$

$$= \frac{1}{r}\left\{(P_1-P'_1)-(P_2-P'_2)\right\}$$

$$r = \left\{\frac{P_1-P'_1}{P_2-P'_2}\right\} - 1 \quad \dots\dots\dots\dots \quad \text{(v.)}$$

—i.e., the resistance ratio is obtained by dividing the difference between two reservoir pressures by the difference between corresponding intermediate pressures and subtracting unity.

Having described the essential features of the indirect method, I will point out that, as compared with the direct method, it has also the following very great advantages. (*a*) A mere glance at the manometers tells us at once whether gas is flowing into the chest. Gas is flowing in as long as the intermediate manometer indicates a lower pressure than the reservoir manometer, and it has ceased to flow in when they indicate the same pressure. On the other hand, it will be remembered that in the case of the direct method, before we can be sure that gas is actually passing into the chest we have to note the level of the water in the reservoir, and then to wait, often for a long time, to see whether there is a change in that level. (*b*) It is no longer necessary, as is the case with the direct method, to clamp off the reservoir and suspend operations every time we wish either to verify the position of the needle by obtaining manometric oscillations or to take a reading of the intrapleural pressure. (*c*) We avoid the risk of fluid being sucked back into the needle when the manometer pressure sinks below the intrapleural. Such an accident might easily cause permanent and complete blockage of the needle.

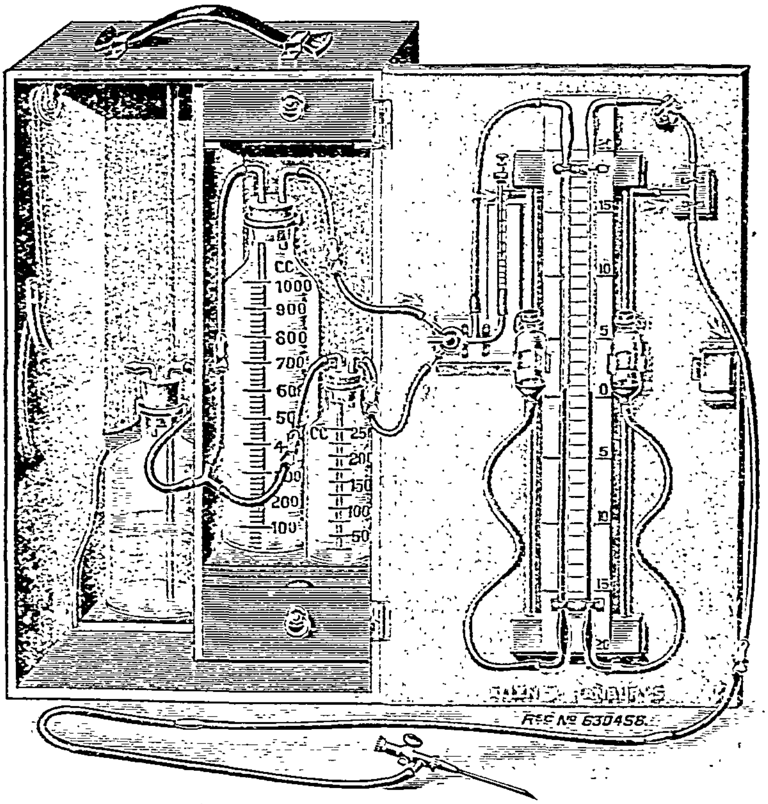
The Apparatus.

I will now describe the apparatus which has been devised by me for the application of the indirect method, and made for me by Messrs. Allen and Hanburys. It will be seen from Fig. 2 that the component parts are contained in a box, and include the following: (1) the water bottle; (2) two graduated glass cylinders which act as reservoirs—the large for nitrogen and the small for oxygen; (3) a three-way tap; (4) the throttle; (5) two manometers; (6) various connecting tubes; and (7) the needle.

We have in the left compartment of the box, standing in a cage whose height can be adjusted by a string passing over a pulley, the water bottle from which water can be siphoned across into either the oxygen or the nitrogen reservoir which stand in the right-hand compartment. According as the three-way tap is adjusted oxygen or nitrogen is driven through the system of tubes and out through the needle. As gas passes onwards from the tap it communicates first by means of a lateral branch of the tube with the left-hand or reservoir manometer; it then passes through the throttle, which is presently to be described. It now passes behind the manometers, and finally, after communicating by a branch with the right-hand or intermediate manometer, courses through a flexible tube provided with a clamp, the "outlet" clamp, and out by the needle.

The manometers are constructed on a U-tube pattern, the fluid used being methylated spirit coloured by an anilin dye. The limb which communicates with the gas stream consists of an upright glass tube of 0·25 cm. bore, provided at its ends with safety bulbs and fixed against a centimetre scale, while the other limb consists of a flexible tube ending in a reservoir which opens to the air and can be moved up and down on a supporting rod. The calibre of the reservoir is made so large compared with that of the upright tube that when fluid passes from one into the other the change of level in the wider is negligible compared with that in the narrower. When for atmospheric pressure the level of the fluid is adjusted to zero on the scale, the working range of pressure is from 20 cm. to −20 cm., but we may record a pressure of 35 cm. by raising, −35 cm. by lowering, the manometer reservoirs. With a view to damping excessive oscillations in the intermediate manometer when an average reading is required, the rubber tube which connects the manometer with the gas stream is provided with a screw clamp. This works upon a pledget of cotton wool, which is placed inside the tube and prevents the communication between the manometer and the gas stream being completely cut off.

FIG. 2.

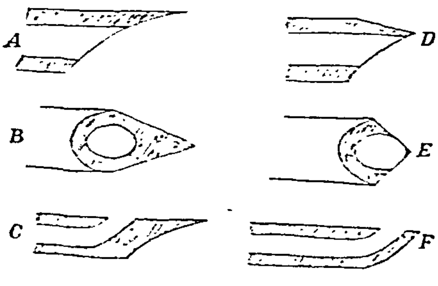


Apparatus for the induction of pneumothorax.

We may now return to the adjustable throttle which is introduced into the path of the gas between the two manometers. This consists of: (1) An outer vertical glass tube about 10 cm. long, with a lateral branch near its upper end; (2) an inner tapering tube of not more than 0·2 cm. bore, fused by the rim of its wider upper end to the inner surface of the outer tube just below the lateral branch; and (3) a plunger in the form of a piston rod of uniform gauge which passes down through an air-tight cover in the upper end of the outer tube into the inner tube. The obstruction which the throttle offers to the flow of gas is determined by the distance to which the plunger is driven down into the inner tube, this being recorded by the aid of a divided scale inscribed on the wall of the outer tube.

The account of the apparatus may be concluded by describing the needle. This differs from the ones in general use in the following respect. While in the ordinary needle (Fig. 3, A and B) the actual point is, by the fact that the dorsal wall is cut across obliquely from within outwards, carried well beyond the orifice, in the one I use (Fig. 3, D and E) the point does not project appreciably above the upper edge of the orifice. This is arranged by grinding the dorsal aspect so as to give, instead of a single ventral facet of the ordinary needle, a trocar whose facets would be the truncated ventral facet and two smaller latero-dorsal facets. If it is thought better to employ a lateral-eyed needle, I would suggest the form shown in Fig. 3, F, instead of the usual form shown in Fig. 3, C.

FIG. 3.



Directions.

First adjust the manometers. To do this turn off the three-way tap so as to shut off communication with the gas reservoirs. Then draw up the plunger of the throttle and open the outlet clamp. Now adjust the manometer reservoirs so that the levels of the fluid in the straight limbs stand at zero on the scale. (Readings above this will represent negative and readings below positive pressures.)

Next we have to fill the reservoirs with gas. To do this first disconnect the reservoirs from the three-way tap, and having filled the water bottle with water, allow this to syphon across so as to fill up the reservoirs. Take the tube which previously connected the large reservoir with the three-way tap and fit it to a nitrogen cylinder. Let gas pass in until all the water is driven back into the bottle. Then re-establish the connexion between the nitrogen reservoir and the three-way tap. Go through the same procedure with the small reservoir, using here oxygen instead of nitrogen. Now replace the air in the rest of the apparatus by oxygen. To do this open the three-way tap to oxygen, raise the water bottle and allow some of the gas to flow through the needle. Then apply the outlet clamp and let gas now bubble through the manometers. Finally, lower the water bottle so that fluid runs back again into the straight limbs.

The throttle has now to be adjusted. For this purpose raise the water bottle until the reservoir manometer reading is about 12 cm. Then adjust the plunger so that the reading of the reservoir manometer is three times that of the intermediate. By reference to formula iv. it will be seen that the ratio of the resistance of the throttle to that of the needle is now 2.

We are now ready to insert the needle into the chest. This is done as follows. First adjust the water bottle so that the reservoir pressure stands between 0 and 1. Oxygen now flows very slowly through the needle. Then perform paracentesis in the same way as is done when the direct method is used. From the moment the needle enters the tissues, the manometers must be unremittingly watched for the indications which the movements in them afford. By means of these we must be able to recognise whether gas is flowing, and if it is to estimate its approximate rate; also, we must be able in the case where there is no flow to find out what prevents it, and in the case where gas is flowing to determine the position of the eye of the needle.

Concerning the flow, it has already been pointed out that there is none when the two manometers indicate the same pressure—that is, when the fluid in both stands at the same level. Again, there is a flow when the level of fluid in the intermediate is higher than that in the reservoir manometer, and the rate of flow is proportional to the difference between these levels. In the case where there is no escape of gas the obstruction may be due to either of two causes: (1) the needle may be embedded in tissue; and (2) the eye of the needle may be blocked. To distinguish between these, shut off the reservoir and forcibly compress the connecting tube so as to drive gas toward the needle. If the needle is patent gas will now be driven into the tissues and consequently a negative pressure, which will be indicated by the manometers, developed in the tube when it is released. If, on the other hand, the eye of the needle is blocked, our manipulations will leave the fluid in the manometers unaffected.

In the case where gas is flowing into the chest we can determine the bearings of the needle only by keeping watch on the mean pressure of gas at the orifice. If the eye of the needle is safely lodged in the pleural cavity, and there is already sufficient gas present to prevent any valve action, we may obtain this pressure by the direct method by closing down the throttle and reading off the intermediate manometer. The mean of the readings will then indicate the mean intrapleural pressure. If, however, there is a possibility of the valve action taking place we must apply the indirect method. The procedure will then depend on whether the needle is quite patent or has become partially obstructed. Such an obstruction will be recognised by raising the water bottle, and noting whether the rise which this produces in the reservoir pressure is as much as three times that produced in the intermediate. If it is as much the needle is quite clear, but if it is less the needle has become obstructed (cf. formula v.).

In the case where the needle is quite clear the pressure at the eye is obtained as follows. Take the reading of the reservoir manometer, then the reading of the intermediate, and from the second reading subtract half the difference between the first and the second (*vide* formula iii.). Thus, if 8 and −2 were the readings, the difference would be 10 and the intrapleural pressure

$$-2-\frac{10}{2}=-2-5=-7.$$

In the case where the needle has become partially blocked it becomes necessary to estimate the altered resistance ratio. This is done as follows. Take the readings of the manometers for two positions of the water bottle. Divide the difference between the reservoir readings by the difference between the intermediate readings and subtract unity (*vide* formula v.). Example:—

	Reservoir pressure.	Intermediate pressure.
First readings	12	3
Second readings	2	−1
Differences	10	4

$$\text{Resistance ratio} \ldots \ldots \quad \frac{10}{4}-1=\frac{6}{4}=\frac{3}{2}.$$

In order now to get the pressure at the eye of the needle proceed as follows. Take the readings of the two manometers and divide their difference by the new resistance ratio obtained above. Now take this result and subtract it from the reading of the intermediate manometer. This gives us the pressure at the eye of the needle (*vide* formula iii.). For example, we may take the readings given above for estimating the resistance ratio. Thus, taking the readings 12 and 3, the difference is 9, and this divided by the resistance ratio is 6. Subtracting this 6 from the reading of the intermediate manometer 3, we have −3 for the required pressure. When we use the other readings 2 and −1 and proceed as before we obtain the equation $-1-\frac{2-(-1)}{3/2}=-3$. This will be seen to be the same result as that obtained from the first readings.

It will be noted that if the needle becomes partially obstructed, and we do not in estimating the pressure take into account the change in the resistance ratio, the rule would give us too high a value for the pressure. Thus in the examples above, where the first readings were 12 and 3 and the others 2 and −1, the estimated pressure, assuming the resistance was still 2, would be in the first case $3-9/2=-1\frac{1}{2}$ instead of −3. In the second case $-1-3/2=-2\frac{1}{2}$ instead of −3.

These examples show that the lower the reservoir pressure the smaller the error, and hence if we ensure this pressure being less than atmospheric pressure, we may when estimating the pressure at the eye of the needle neglect any slight block.

Having obtained records of the mean pressure at the eye of the needle, we may now deduce the position according to the following rules: 1. When the mean pressure remains constant and does not exceed −5 cm., the needle is in the pleural cavity. 2. When the mean pressure stands at the outset at −5 cm., and afterwards rises rapidly, the needle is in a pocket bound down by adhesions. 3. When the mean pressure is approximately equal to atmospheric pressure, the needle is in the lung. 4. When the values of the pressure do not conform to any of the above types, the needle is probably misplaced. In these circumstances the gas must be immediately cut off.

When we have inferred from the estimations of the pressure at the eye of the needle and the oscillations in the intermediate manometer that the needle is safely lodged in the pleural cavity, and that in consequence we need no longer fear accidents from the introduction of nitrogen gas, turn on this gas and allow it to flow. As the level of the water in the reservoir rises, raise the water bottle so as to maintain the reservoir pressure. All the time that the gas is flowing, the manometers must be carefully watched so that any irregularities shall be at once noticed. The question of how much gas shall be introduced is of course a matter for the discretion of the operator, but in cases in which it is desired only to maintain a partial pneumothorax I would suggest leaving off while the intrapleural pressure is still negative.

These instructions will have to be modified in the case where gas is introduced into the pleural cavity to replace a pleural effusion. In these circumstances it is necessary to connect the needle with an aspirating apparatus, and this is effected by means of a socket on the needle holder. The needle one would employ should be considerably larger than that used for the operation just described, and its resistance correspondingly less. On the other hand, the throttle resistance should be about the same. In such a case the resistance ratio would be so great that the intermediate pressure would be practically the same as the intrapleural. Before performing paracentesis connect up the apparatus with the aspirating pump and apply the outlet clamp. Then raise the reservoir pressure above any likely intrapleural pressure. This will prevent fluid passing into the connecting tube. Now introduce the needle into the pleural cavity and aspirate some fluid. This done, shut off the aspirator and release the outlet clamp. Gas will then commence to flow and the intrapleural pressure can be estimated. Now regulate the reservoir pressure so that it is not more than 5 cm. above the intermediate. By alternately aspirating fluid and allowing gas to flow, we may ultimately leave the pleural cavity containing a known quantity of gas at a suitable negative pressure without subjecting the lung to the rapid distension which would occur with aspiration only.

Before concluding this paper I will describe what has been common and striking experience in using this apparatus, experience which seems to me to put beyond question the points which have been already emphasised in connexion with the recording of the intrapleural pressures by the direct method.

I have frequently passed the needle into the chest, have satisfied myself by estimations of the intrapleural pressure and its variations that the eye of the needle was safely lodged in the pleural cavity, have passed quantities of gas varying from a few c.c. to over 100 c.c., and have then found, on cutting off the supply of gas from the reservoir and so applying the direct method, that the respiratory oscillations gradually became smaller and smaller and finally stopped, the pressure recorded by the manometer sinking to a minimum. In some of these cases, on the patient taking a deeper breath than usual, the recorded pressure has fallen still lower. Again, when the gas has been once more turned on, it has been the rule for the oscillations to recommence, but in some cases in which they have failed to appear I have afterwards found the needle blocked.

Although the conclusions to be drawn from these observations have been already embodied in the earlier part of this paper they are so important that I will restate them. They are as follows: 1. Gas introduced into the pleural cavity will often move away from the needle. 2. If it moves away and gas does not flow in from the reservoir, the valve action of the lung comes into play, cutting off the manometer from the pleural cavity. 3. If the direct method comes into application in such cases oscillations of the manometer are obtained by the aid of gas which continuously leaks out from punctures made into the lung.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

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A NOTE ON A CASE OF RATTLESNAKE BITE.

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BITES of snakes, other than adders, are so rare in this country that the following instance is of interest.

On June 26th, at noon, a keeper, aged 20, at the Zoological Society's Gardens, while transferring a rattlesnake just arrived from Texas from its travelling box to a cage, incautiously inserted his fingers to displace the glass front. In an instant the snake struck at his hand, inflicting superficial wounds on the first and second fingers immediately below the nail, drawing blood. The curator at once tied ligatures round the two fingers and a handkerchief about the upper part of the forearm, and then made incisions across the dorsum of the fingers on the proximal side of the wounds. The patient was placed on a mattress and kept quiet all day. He felt faint and weak but thought he might have been able to walk if necessary. Solid potassium permanganate was applied to the bites and incised wounds within a few minutes. At about 7 P.M. a general stiffening of the limbs occurred, with swelling in the throat, causing difficulty in swallowing and some dyspnœa. During the night vision became dimmed. The bowels and bladder were relieved. Prostration was more marked, and attempts were made to rouse the patient. Pain occurred in the back and on movement of the limbs. There was very little sleep, but no headache or vomiting.

On the morning of the following day the patient felt better, but experienced double vision and the arm was painful, aching up to the shoulder. Both arms were flexed across the body, and attempts to extend them caused pain. There was some rigidity of the neck.

On admission to the Middlesex Hospital about midday the man seemed languid and lay on his back with the eyes half open. His face was white and perspiring, and there were some swelling and drooping of the eyelids. Pulse, 120; respiration, 28; temperature, 98° F. The right arm was swollen, red, and painful; there was some sloughing about the cuts on the fingers which were blackened by the permanganate, and a gland could be detected in the

—congenital coarctation of the aorta, obesity, and various diseases of the skin. Room has also been found for a notice of Ohm's interesting attempt to obtain graphic records of the heart sounds and pulse tracings simultaneously, which was described at the International Congress of Medicine held in London last year.

To praise this text-book seems almost needless; since its first edition came out nearly 25 years ago it has been the familiar friend of many successive generations of medical students, and its several editions have always presented its readers with a sound and trustworthy account of the medical practice of the day. The commoner diseases receive the fullest consideration, while the rarities of medicine are given brief but adequate notices. In this way Dr. Taylor's volume continues to afford a very happy contrast to the many medical text-books that appear to have been written for what may be called examination purposes, and give more space to a rarity like syringomyelia than to a commonplace of medical practice such as rickets.

A few errors that have crept into the text may be noted in order that they may be removed in the issues inevitably to follow: the name "Médin" on p. 135 should be Medin; the description of the electrocardiograph (p. 607) is erroneous in some particulars; the hybrid term "polyglandular" on p. 923 should surely be replaced by "pluriglandular"; and "goître" might well be now spelt "goitre" throughout, in accordance with modern usage.

The Surgery of the Stomach: A Handbook of Diagnosis and Treatment.

By HERBERT J. PATERSON, M.A., M.C., M.B. Cantab., F.R.C.S. Eng. New and revised edition, with plates. London: James Nisbet and Co., Limited. 1914. Pp. 342. Price 15*s.* net.

Mr. Paterson has written so well on the surgery of the stomach that we are not surprised that a new edition of his work has been called for only a short time after the appearance of the previous issue. The time that has elapsed has not been sufficiently long to make any startling change in the surgery of the stomach, but the author has been enabled to make many alterations in his book, If most of them are not of great importance, this is a proof of original foresight on his part, and it is worth while to notice some of them.

In the earlier edition the operation of gastro-jejunostomy was illustrated with a number of photographs; in the present edition the photographs have been reproduced in pairs for use stereoscopically, and when the stereoscope is employed the details are much more clearly visible. A further change has been the introduction of a number of plates illustrating the value of radiographs in the diagnosis of abdominal lesions. The plates have been made from radiographs prepared by Dr. A. C. Jordan, who has had a very large experience of X ray work of the abdomen.

Mr. Paterson is known to hold the opinion that except in cases of real pyloric obstruction the benefit of the operation of gastro-jejunostomy is due to physiological changes, rather than to the mere formation of a direct passage from the stomach to the jejunum. Some further investigations which he has made have been embodied in the chapter on the physiological effects of the operation. Most surgeons believe that the operation is purely mechanical, but it is not easy on this theory to account for the benefit of the operation in cases where there is no pyloric stenosis, for we know from the evidence provided by radiography that in many cases the food continues to leave the stomach by the pylorus even when the operation has conferred great benefit on the patient. Mr. Paterson holds that the presence of bile in the stomach after the operation is almost if not quite the rule, for he has found that in 99 per cent. of the cases there is an increase of the mineral chlorides in the gastric contents, and he believes that this is due to the mineral chlorides of the bile and pancreatic juice, which gain access to the stomach after the operation. In those rare cases in which gastro-jejunostomy has been "undone" he has noted a decrease in the amount of mineral chlorides. These contentions are supported by a series of analyses and there is certainly much to be said for the view. A further striking effect of the operation is a marked diminution of the total acidity of the gastric juice; this the author ascribes partly to the neutralising effect of the bile and pancreatic juice, but partly to a diminution in the amount of gastric juice secreted.

The book is the product of a careful and experienced surgeon and an original thinker, and this new edition will more than maintain the place in surgical literature which was gained by the first edition.

Local Anæsthesia.

By Dr. ARTHUR SCHLESINGER (Berlin). Translated by F. S. ARNOLD, M.B. Oxon. Illustrated. London: William Heinemann (Rebman, Limited). 1914. Pp. 209. Price 5*s.* net.

THIS well-printed, nicely bound little book contains the best exposition of the action of local anæsthetics that we have read. The fact of its being a translation is only evidenced here and there, mainly by the use of expressions such as a "parulis," not commonly employed in ordinary English text-books.

We are interested to see that Dr. Schlesinger does not hold with the belief that cocaine is always harmless when merely painted on mucous surfaces. There is an excellent discussion of Schleich's infiltration method, and the author shows good reason for dissenting from Schleich's explanation of the way in which his process of obtaining analgesia actually attains its object. Dr. Schlesinger is fully alive to the limitations of local anæsthetics. Discussing the use of local methods in head cases he says with much good sense: "It is, however, not everyone who can bring himself to let his skull be chiselled open while he is fully conscious. One of my patients told me that, though he suffered no pain, the sensations of hammering and boring were so horrible that he would much prefer to be put under chloroform." Similarly for almost all abdominal operations Dr. Schlesinger pronounces against local methods. He is opposed, moreover, although he does not advance his reasons, to the "combined anæsthesia" of local and general agents; so presumably Crile's "anoci-association" would not receive his support, although he does not specifically mention this system. For minor surgery generally Dr. Schlesinger recommends conduction anæsthesia by means of novocaine in 1 or 2 per cent. solution, to which he adds suprarenin solution to the extent of 1 to 4 drops of a 1 in 1000 solution to each 10 c.c. of novocaine solution. There is a curious misprint of infra for supra orbital when anæsthesia of the upper jaw and face is under discussion. Dr. Schlesinger states that inflammatory processes heighten insensibility, particularly of the parietal peritoneum. We wonder whether this is borne out by the general experience of other observers.

We can strongly recommend this book as a guide to the practice of local analgesia.

The Early Diagnosis of Tubercle.

By CLIVE RIVIERE, M.D. Lond., F.R.C.P. Lond., Physician to Out-patients, City of London Hospital for Diseases of the Chest, Victoria Park; Physician, East London Hospital for Children. London: Henry Frowde. 1914. Pp. 260. Price 6*s*.

TOO much stress cannot be laid on the importance of the early diagnosis of tubercle, but in order to arrive at a correct conclusion the greatest care is needed, and considerable experience is required before the necessary technique can be adequately acquired. To arrive at a diagnosis from one symptom or from one sign only is to court disaster, and in each individual case a careful study of all phenomena presenting themselves is absolutely essential.

In the volume now before us Dr. Clive Riviere gives a good description of the various procedures necessary in examining patients—adults and children—in order to ascertain the presence or absence of tuberculous disease, especially of the pulmonary variety. His object has been to present shortly and clearly the points whereby an accurate technique in the various methods may be acquired. He very rightly lays stress on such aspects of the normal as are likely to suggest or simulate disease, and he points out where pitfalls are likely to arise. In many works on diseases of the chest sufficient emphasis has not been laid on the importance of recognising the physiological variations which may occur in the character of the breath sounds, and unless these be recognised errors in diagnosis may easily arise. Dr. Riviere draws attention to these points, and especially to the altered characters that may be apparent beneath the right clavicle. He discusses the diagnostic use of tuberculin at considerable length. We entirely endorse his views that the subcutaneous test should only be employed by those whose special knowledge of this branch of work fits them duly to avoid the dangers and correctly to interpret the results. The value of the temperature chart is also noted, and the significance of the opsonic index is duly considered.

The book is well written, and forms a good manual on the subject of the early diagnosis of tubercle.

Physiologie Normale et Pathologique des Reins.

Par L. AMBARD, Chef de Laboratoire de Chimie de la Clinique des Voies Urinaires à l'Hôpital Necker. Préface de M. le Prof. F. LEGUEU. Paris: F. Gittler. 1914. Pp. 329. Price 15 francs.

THE author points out that this is not a complete treatise on the physiology and pathology of the kidneys, as the title might lead one to suspect—e.g., intentionally he has left out the consideration of the renal secretion in cardiac and febrile disease, while albuminuria is almost entirely omitted. Somewhat less than one-half of the text is taken up with an account of renal physiology. The author, besides numerous observations on man, records many of his experiments and of those of his collaborators on the dog. He points out that the kidneys are really "concentrating" organs. Substances which are found in very small quantities in the blood are excreted in a highly concentrated form in the urine—e.g., urea. He devotes many pages to what he calls the "concentration maxima," each substance having its own maximum under certain conditions. Very elaborate tables and numerous experiments are given to show this for urea, sodium chloride, water, and glucose. The concentration maximum is a function of the quality of the renal parenchyma. But the kidneys have another function; they regulate the limits of excretion. The technical methods used for estimating urea, glucose, and sodium chloride are given. "Débits," or the quantities of any substance excreted in a given time, are next dealt with, and the relation between the amounts of the several urinary constituents, as well as the elimination of such substances as ethylic and methylic alcohol and glycerine. The nervous system is regarded as affecting urinary secretion in addition to its purely vaso-motor effects.

The latter half of the monograph deals with nephritis. First there is nephritis with œdema, and other forms without œdema. There are also mixed forms, and, what is important for the clinician, there is a very careful exposition of the prognosis in the various forms of nephritis, as well as an admirable résumé of the effects on the organism of defective renal activity. The last chapter, on the exploration of the renal functions in surgery, is thoroughly practical, and includes a description of the chief methods to be used by the surgeon—e.g., the elimination of methylene blue, phloridzin glycosuria, cryoscopy of the blood, and experimental polyuria, as well as the concentration maximum of urea.

We can cordially commend the study of this interesting and practical monograph to clinicians and surgeons alike who have to deal with renal disease. It is an admirable clinical and scientific contribution to the study of urology.

The History of St. George's Hospital.

By G. C. PEACHEY. Parts III. and IV. Price 5*s*. Parts V. and VI. Price 5*s*. London: Bemrose and Sons.

AFTER the issue of the first two of the 12 parts in which this history was projected, the health of the author became so seriously impaired that the remaining parts were postponed for a considerable period. Now they have been resumed; and, indeed, the four which have lately been added to the series have appeared two at a time. Parts I. and II.[1] dealt with the general conditions of medical science and the relief of the sick poor in the London of the early eighteenth century, and with the circumstances which led up to the foundation of St. George's in 1733, following the schism at the Westminster Infirmary (now Westminster Hospital). Parts III. to VI. contain a most minute and valuable account of the first 20 years' working of the institution. These sections are packed with interesting details which illustrate very vividly the life and the practice of medicine of the second quarter of the eighteenth century. They include, also, painstaking biographies of all the members of the medical staff who served during that epoch. The labour represented by these accounts of old-time physicians and surgeons has obviously been very great; Mr. Peachey has spared no pains to gather every detail which might throw light upon their careers and has brought an honourable enthusiasm to an onerous task.

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[1] See THE LANCET, June 11th, 1910, p. 1624 (Part I.); and Jan. 21st, 1911, p. 173 (Part II.).

The early admission books of the hospital have been lost beyond all hope of recovery; but, fortunately, a practice prevailed during the first two years of the existence of St. George's of entering in the minute books, not only the names of those who recommended patients for admission, but also the names of the latter, the diagnosis of their diseases, and the results of their treatment. Thus an analysis has been rendered possible of the in-patients treated in 1733–1735. They were 1502 in number, and the list includes consumption, 185 cases; rheumatism, 154; ulcers, 128; intermittent fever (possibly malaria from the Chelsea marshes was one of the diseases thus diagnosed), 124. These were the principal groups; lesser ones were dropsy, 59 cases; palsy, 45; nervous disorders, 40; tumours, 35; rupture, 25; fractures, 19; obstructions, 19; ophthalmia, 18; epilepsy, 22. Two other and very interesting items from this list are scurvy, 47 cases; and "leprous," 13 cases. It is impossible to guess whether these last 60 cases would nowadays be diagnosed as they were then; but even if nine-tenths of them fell into other categories, the residue would still indicate a very different prevalence of those two diseases from that which exists at present. Another noticeable feature is the scarcity of all kinds of tonsillitis and sorethroat. This was evidently not due to any refusal to admit infectious cases, since one case of scarlet fever and one case of chicken-pox are among the 1502; but strange to say not a single case of acute faucial angina (with the exception of the scarlet fever case just mentioned) appears to have been admitted to the hospital, unless the 21 unclassified cases of "pain" included some.

In 1749, we learn, the question of burial-ground accommodation led to the purchase by the hospital trustees of a piece of garden land at Brompton for about £500. Here those who died in the hospital were interred, and here also the widow of the gardener grew vegetables which she supplied to the governors for the use of the patients. This burial ground is of interest in that in 1825 it was sold for the erection of Holy Trinity, Brompton, which with its churchyard occupies the whole of the old St. George's burial ground. Many more instances of the curious and antiquarian lore which fills this history could be quoted, but those who are interested in either the state of the medical profession, or of the management of voluntary charities, or of the details of the history of St. George's during the 20 years following 1733, will do well to read Mr. Peachey's pages for themselves.

LIBRARY TABLE.

Tierische Immunität. By Dr. WERNER ROSENTHAL. Braunschweig: Friedr. Vieweg und Sohn. Pp. x.–330. Price 6.50 marks; bound, 7.20 marks. —This book, which forms Band liii. of Die Wissenschaft Series, is intended not for the specialist but for students of medicine and those practitioners who have not made themselves familiar with the comparatively new subject of immunity. It has been written in a popular style, and the author has been careful to distinguish facts from theories and to point out the direct applications of the work on this subject. Though he has not gone deeply into the question of technique the book has been well brought up to date, and we can say that it carries out the original idea of the author in an able manner.

Festschrift des Institut Medical der Al Hayat Kompagnie in Helouan.—This pamphlet of 130 pages was published recently in connexion with the visit of a medical and scientific expedition sent from Berlin to investigate the circumstances of Helouan as a health resort, and particularly to inquire into the alleged benefits to be derived from its desert climate and its thermal springs. Helouan is largely frequented by English, German, and Russian invalids, and a German company, with characteristic business enterprise, has provided hotel accommodation, a sanatorium, and a medical institute for its compatriots. The pamphlet, which is of course in German, comprises five separate articles, two of them being written by Dr. Wilhelm Preminger, chief of the Helouan Medical Institute; the first giving some observations on the results of the treatment of nephritic cases at Helouan, the second dealing with gout in the knee-joint and the effects of treatment by the local sulphur baths. Dr. Max Loewy, a nerve specialist, who apparently divides his time between Marienbad and Helouan, writes on hypnotic suggestion and the limits of hypnotic influence. A short paper with a series of charts or curves is contributed by Dr. Theimert, showing the variations in the amount of albumin, urea, and chlorides excreted by certain patients under treatment in the medical institute, of which he is assistant medical officer. These four papers just mentioned take up 58 pages, but the last paper, written jointly by Dr. Preminger and Dr. Loewy, occupies the remaining 72 pages of the pamphlet, and is entitled "The History and Development of Helouan as a Health Resort." The winter climate of Helouan is dry, warm, and invigorating. The medicinal springs are of three kinds, sulphur, saline, and chalybeate, and can be used internally or externally. The cases which seem to benefit most are those of renal disease, neurasthenia, anæmia, chronic respiratory troubles, gout, and rheumatism. The publication of this last paper seems to have been the main object of the *Festschrift*, which is printed at Cairo by the Société Orientale de Publicité.

Ionic Medication. By LYTTON MAITLAND, M.D. Lond., formerly Assistant in the Electrical Department, Charing Cross Hospital. London: The Scientific Press, Limited. 1914. Pp. 102. Price 1s. net.—This is a small volume on the theory and practice of ionic medication, apparently meant for clinical assistants and those working under the direction of a physician. A good deal of the space is taken up with theoretical considerations, but practical matters are dealt with fully and yet concisely. It contains a large amount of sound information within a small compass, and the little book will be found very useful by those taking up the study and practice of this increasingly important branch of treatment.

Das Freilufthaus: ein neues Bausystem für Krankenanstalten und Wohngebäude. By D. SARASON, H. C. NUSSBAUM, H. BECHER, and N. BARDSWELL. With 6 plates and 32 figures in the text. Munich: J. Lehmann. 1913. Pp. 122. Price, paper, 5 marks; bound, 6 marks.—In 1901 Dr. Sarason devised a system of building sanatoriums and homes for tuberculous patients, with the special object of supplying each floor with an open-air balcony. The main idea, which he claims as a novelty, is that each floor shall be stepped backwards 8 ft. or so on its southern aspect, so as to give each floor a balcony 8 ft. wide; thus the ceiling of the ground floor is 8 ft. wider than that of the first floor, 16 ft. wider than that of the second floor, and so on. He appears to contemplate the erection of sanatoriums five or six storeys in height. Many of his rooms and passages appear to be unduly airless and dark. In one of his wards with 16 beds the washing arrangements consist of three basins and a bath tucked away in one corner. Most of his bathrooms are fitted up as water-closets also; some of his bathrooms and water-closets appear to ventilate into reading-rooms or passages, but to have no outlet to the external air. The book will be of interest to architects and specialists in tuberculosis, but the buildings described hardly appear suitable for erection in this country.

Extraction of Teeth. By F. COLEMAN. Second edition. With 57 illustrations. London: H. K. Lewis. 1914. Pp. 167. Price 3*s.* 6*d.*—The second edition of this book has been largely rewritten, and the author includes some instructive and practical illustrations. The operation of tooth extraction is, we fear, too often undertaken by those possessing practically no knowledge of the parts involved, with the result that although the tooth is removed an undue amount of damage of the hard and soft tissues is caused. In this volume Mr. Coleman deals in an able manner with the whole question, and we strongly recommend the book to those medical practitioners who are from time to time called upon to perform the operation of tooth extraction.

MISCELLANEOUS VOLUMES.

HE is a bold man who attempts to translate "Pierre Loti." The clear, concise, almost rhapsodical French of M. Viaud is very difficult to render into English. So with some success the renderer of *Morocco*, by PIERRE LOTI (translated from the French by W. P. BAINES, with 12 illustrations in colour and tone. London: T. Werner Laurie. Pp. 335. Price 7s. 6d. net), has kept very closely to the French style, frequently only transferring individual words from one language to the other. This volume is a charming account of a French diplomatic mission's journey to Fez in 1889, long before the beginning of that systematic subjugation of Morocco which is being completed to-day. As we might expect, we have afforded us a glowing and vivid picture of a country which was 20 years ago more Oriental than the East. To gauge Morocco from Tangier alone is like gauging Egypt from Port Said or Cairo. If, as Pierre Loti says, the sense of translation into anterior times strikes the visitor to Tangier, far more does it strike those who land in the towns of the Atlantic coast—Salee, Mazagan, Mogador, Arzila—and more still those who penetrate to Fez or Marakesh. The immense antiquity of Morocco must impress itself on the reader, as it has on the author. The southern capital of the country had water supplied in pipes to every house centuries before any European city and when the aqueducts of Rome had been all broken down. There are excellent illustrations to this volume, in no degree too bright in colour. Everyone who can should visit Morocco as soon as possible, for the accessible parts of its large area will probably rapidly be de-orientalised in the next few years.

In the *House on Wheels* (London: Chapman and Hall, Limited. 1914. Pp. 150. Price 2*s.*) Dr. ELIZABETH SLOAN CHESSER writes most entertainingly—e.g., the incident of the paraffin and the pie (p. 52)—and also instructively of her "trek through Kent" in a caravan. It is not until we arrive at Chapter VI. that we begin to realise the *arrière pensée* of the book—for there we learn that "the modern caravanner belongs to one of three types, the holiday maker, the gipsy, or the propagandist"—and though we ought perhaps to have had our suspicions aroused at the outset by the name of the caravan, the "Florence Nightingale," only now do we realise that this caravanning expedition, which we have been so heartily enjoying, was no mere holiday jaunt, but part of the praiseworthy campaign of the Women's Imperial Health Association. From here on we begin to get glimpses of that work in the experiences related. An appendix gives a few hints on caravanning, and directs the reader's attention for further information on that subject to the Caravan Club, whose quarters have been removed since this book was published to 108, Long-acre, W.C.—There is a literary charm in the direct conversational style of *Autolycus in Arcady*, by HERBERT W. TOMPKINS, F.R.Hist.S. (London: George Allen and Co., Limited. 1914. Pp. 248. Price 3*s.* 6*d.* net). His discursive remarks "from the journal of a wandering bookman, set down between Guildford and New Romsey," to quote the title page, on men and things, books and authors, Pepys, Boswell, Montaigne, and Lamb make delightful reading. On a rambling tour a more pleasant partner than Autolycus would be hard to imagine, but, failing that gentleman's personal presence, we must be content with the reminiscences that he has gathered for us on his wanderings, and the book itself will prove an enjoyable companion either in an arcadian shady nook when the days are long or by the fire on winter evenings.

In *The History and Economics of Indian Famines*, by A. LOVEDAY, B.A. (London: G. Bell and Sons, Limited. 1914. Pp. 163. Price 2*s.* 6*d.* net), which is an enlargement of the Le Bas prize essay of last year, with some modifications, the author quotes the records of the earlier famines, deals shortly with the great disaster in Bengal and Orissa in 1770, and the methods of relief adopted by the East India Company, and in more detail describes the organisation and protective measures adopted at the present time. There are few generalisations applicable to the whole of India, but one is that over two-thirds of its population are occupied in an industry "almost wholly dependent upon a sufficient and well-distributed rainfall." Another important point is the poverty of the cultivator—that is, of the majority of the population. The income per head was estimated at £2 per annum in 1880, and it is not thought to have much increased since. The native is nevertheless extravagant, and is consequently to an enormous extent in the hands of the moneylenders. The old custom of hoarding grain to carry the people through a bad year has largely gone out with increased facilities for transport. The Government (by financial decentralisation and by instituting the Famine Insurance Fund of 1877) and private charity (by the Indian Peoples Famine Trust) have done a great deal towards guarding against disaster in the future; but the ultimate solution lies, as Mr. Loveday insists, in individual frugality, and this depends on carrying out the principle of coöperation in agriculture, as in other industrial pursuits.

We have rarely read a more temperate and restrained, and at the same time cogent and forcible, appeal for a wise consideration of the whole subject of the White Slave Traffic and the social aspects of the venereal diseases than *The Social Disease and How to Fight It* (London: Longmans, Green, and Co. 1914. Pp. 87. Price 1*s.* net), by LOUISE CREIGHTON. It is admirably balanced against either extreme. While recognising that the first need is for knowledge, Mrs. Creighton realises that, as everyone cannot know everything at once, selection is requisite, not only between who shall know, but also to decide how much each should know, for "it would be foolish to deny that there are dangers in the indiscriminate distribution of knowledge." Ignorance, she says, has proved so dangerous that it cannot be allowed to go on, but it is well that each should know only just so much as is useful to him. "There is no need to know all the details of disease in order to avoid it; there is no need to dwell upon its horrors, still less to speak about them. ...... All are not called upon to study disease as if they were doctors." The author insists on the need for dethroning the double standard of morality, but she realises that that can be done only by leading men and women to fight and work together to that end. "The mistake of so much that has been said lately on this subject is that it has been treated as if it were a woman's question, a matter in which women had to fight against men to maintain the rights of their sex." In this struggle, as she rightly says, women have not got to fight against men, but to win more men to fight with them. But while there must be a fight and all must take part in it, all are not called to take the same part. In teaching girls about the dangers they may run she points out that care must be taken that the teaching does not arouse panic, the nervous fear that goes out to meet dangers or the hysteria that imagines them. Above all, "those who want to work for purity must be careful about the purity of their own souls." The book ends on a hopeful note. It should be widely read.——A series of admirable lectures on *How to Keep Fit* (London: Jarrold and Sons. Pp. 131. Price 1*s.* net) can also be warmly commended. They are as follows: Alcohol in Relation to Health, by Mr. W. McAdam Eccles; Diet, by Sir Robert W. Burnet; Clean Mindedness, by Sir Dyce Duckworth; The Value of Discipline in the National Life, by Sir R. Douglas Powell; Dress, by Mr. James Cantlie; and Chastity, by Sir Francis H. Champneys. It would be possible, perhaps, to find a few statements here and there with which all would not agree, but, speaking generally, the lectures are models of their kind. The paper of Sir Francis Champneys deserves special commendation. It is a plain-spoken, yet entirely reverent, treatment of the sexual difficulty. The articles generally are characterised by directness, moderation, and sound sense.

That greater diffusion of knowledge as to the many evils which result from the undisciplined use of the sexual instinct is needed will not be denied, but how such diffusion should be effected is a question upon which there may be a marked difference of opinion, for many who will agree with Mrs. Creighton on her general thesis would differ perhaps from her in the places where limitations to knowledge and its spread should begin. Mr. FRANK G. LAYTON, M.R.C.S. Eng., the author of *Philip's Wife*, a play in three acts (London: A. C. Fifield. 1914. Pp. 64. Price 1*s.* net), is probably well within the mark when he says in his preface that it is unlikely the play will be produced in England—at any rate for a long time, though, as he also says, "the play is not improper." Philip's wife, who gives the title to the play, is the daughter of a clergyman who is much opposed to any teaching concerning sexual matters, and who is antipathetic to medical men. Philip, the son of a worldly and socially ambitious merchant, has been "indiscreet" in his college days. Anxious for an early marriage and urged by his father he scorns medical advice and becomes the victim of a quack. The result of this defiance of medical authority in the supposed interests of social position is well told. The bigotry of the clergyman is perhaps a little overdrawn, while the conversations between the practitioner and the consultant do not ring quite true, but the play is eminently readable, though the subject is somewhat unsavoury. Mr. Layton states in his preface that his play was written before he had ever heard of Brieux's famous *Les Avariés* (*Damaged Goods*. Same publishers and price. Pp. xxiii.-65), of which a new translation by JOHN POLLOCK has just appeared, with interesting preface and foreword by Mr. G. Bernard Shaw and Mrs. Bernard Shaw respectively.

JOURNALS AND MAGAZINES.

Jahreskurse für Aerztliche Fortbildung. Munich: Lehmann. Price 18 marks per annum.—The May number is devoted to a review of neurology and psychiatry. Professor Marburg writes on the recognition of operable tumours of the spinal cord, including localised spinal meningitis serosa. Amongst other signs mentioned are the albuminous and often yellowish character of the cerebro-spinal fluid, the radicular distribution of the pain, paræsthesia, and palsy, and the Brown-Séquard dissociation of sensation. It is pointed out how accurately all the symptoms may be mimicked by spinal meningitis serosa, either diffuse or circumscribed in the form of cysts by adhesions, but fortunately the treatment is the same, namely, laminectomy. The indications for Förster's operation of posterior rhizotomy are then discussed, and a general summary of recent advances in neurology follows. The articles on mental diseases include one on prognosis, with especial reference to general paralysis of the insane treated by salvarsan given by various means; great improvement is reported in some cases. The prognosis in dementia præcox and other conditions is also debated. The pathological anatomy of various forms of mental disorder has received much attention lately, and some important findings are discussed, such as the demonstration of spirochætæ in the brain in parasyphilitics. The final article deals with serology in mental disease.—Diseases of children form the topic in the June number, and the great bulk is devoted to a consideration of the heart in childhood, by Langstein and Putzig. The normal condition of the heart in infancy is first described, including the electrocardiogram and X ray findings. Then follows a discussion of the import of deviations from the normal rhythm, such as extrasystoles, tachycardia, gallop rhythm, and heart-block; next, the writers deal with hypertrophy, dilatation, and congenital heart disease. Skiagrams appear to be used extensively in making the diagnosis of hypertrophy. Pericarditis and affections of the myocardium and valves are also considered. The usual general review of children's diseases follows. There is mention of what German observers are calling "spasmophilia," including tetany of alimentary origin and the allied spasmodic affections. Cow's milk and calcium salts constitute the best treatment.

The American Journal of Tropical Diseases and Preventive Medicine, Vol. I., No. 10 (the official organ of the American Society of Tropical Medicine).—This number contains three editorials and three original articles in addition to the usual notes and comments and the reviews of current literature. The first of the editorials is signed by Dr. C. C. Bass, of Tulane University, and deals with hookworm disease, which is characterised as a world-disease of long duration, and one "which destroys hundreds of thousands of lives yearly, and leads to the loss of countless millions of money through the reduced efficiency of its victims." Dr. Bass calculates that out of the 1,600,000,000 of people inhabiting the globe more than 4,500,000 are at present suffering from ankylostomiasis. Even now, he says, "man is pouring daily into the ever-empty stomach of this blood-sucking parasite a veritable river of his life-blood." The second editorial deals with preventive medicine and syphilis, while the third discusses prostitution in Europe, and is signed by Dr. Isadore Dyer, one of the two joint editors of the journal. The first of the original articles is also on the subject of hookworm disease or ankylostomiasis, and is illustrated by two plates. It is contributed by Passed Assistant Surgeon C. M. Fauntleroy, of the United States Public Health Service. Incidentally he mentions that during an investigation of the disease in some rural districts of the Southern States no fewer than 21,308 houses were found which had no privy at all. It is, therefore, not surprising that the infection has become widespread in that region. Dr. Fauntleroy remarks that an estimate of more than 2,000,000 of cases of ankylostomiasis in the United States is probably not an exaggeration. The second article is on beri-beri, by Dr. Paul G. Woolley, of the University of Cincinnati, and in it he gives a fairly good résumé of the present state of our knowledge of this important disease. The third article is on preventive vaccination against typhoid fever, and is contributed by Professor A. Chantemesse, of Paris; it has already been published in *Le Monde Médical*, and has been translated for the journal by Dr. Charles Chassignac, of New Orleans. Professor Chantemesse, like many more experts, prefers a heated monovalent vaccine to a polyvalent one.

Æsculape (Paris: 41, Rue des Ecoles. Foreign subscription 15 francs; single number 1.50 francs).—The June number of this illustrated review of the arts and letters in relation to medicine and science contains some interesting items. Professor Félix Regnault discusses the medico-psychologic characteristics of some of the work of Michael Angelo—the tombs of Julian II. and Lorenzo dei Medici, the Aurora, and the Twilight.—Dr. Bonnette gives some interesting details of the health and medical attendants of the great Napoleon.—Dr. P. Barutaut begins an article on the legends of the sirens, illustrating it with examples of symmelus sympus, the condition on which the siren conception is based.—Dr. E. Sirard gives a first instalment of a biographical account of Théophraste Renaudot of Montpellier.—The article by Dr. Lucien Libert deals with the cultus of St. George and the treatment of insanity among the Greeks, and pays special attention to the monastery of St. George on Prinkipo, in the Sea of Marmora.—Dr. P. Finet publishes sonnets on François Helme and Robert Marquézy, and Dr. Jean Avalon gives an account of Yong-Fou, a courtesan of Peking; of Joyau Céleste, the favourite of the emperor; and of "M. de Pekin," the executioner of Peking, with a description of the revolting atrocities perpetuated on Fou-Tchou-Li, the attempted assassin of a prince.—There is also an account in the supplement of Mme. de Miramion, whose hôtel, now the central pharmacy of the hospitals, as was mentioned in the February number (reviewed in THE LANCET of April 4th), it is desired to acquire for a Museum of the History of Medicine in Paris.

The Hospital Gazette.—The June issue is a special number devoted to historical and constructional accounts of the Birmingham hospitals. It seems that Birmingham is possessed of almost as great a variety of institutions as London. Mr. Howard J. Collins describes the General Hospital and Mr. Arthur Hulme the Queen's Hospital. The Free Hospital for Sick Children, the Eye Hospital, the Hospital for Women, the Ear and Throat Hospital, and the Hospital for Skin and Urinary Diseases, all of which have "Birmingham and Midland" as part of their titles, are described by their secretaries, as also are the Royal Orthopædic and Spinal Hospital, the Birmingham Dental Hospital, the Birmingham and Midland Counties Sanatorium, and the Moseley Convalescent Hospital for Children. The number closes with a history of the convalescent homes of the Birmingham Hospital Saturday Fund at Tyn-y-Coed (men) and Marle Hall (women), Llanrhos; the Red House, Great Barr (children); and the Romsley Hill Home (Sir William Cook memorial) for Consumptives.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.

THE annual meeting of this association took place on July 2nd at Burnley. The MAYOR (Alderman J. Sellers Kay), in welcoming the members in the council chamber of the Town-hall, alluded to the dispute which had been going on in Burnley for some 18 months between the Poor-law medical officers and the Poor-law authorities. He held no brief for either party, he said, and if as Mayor he could be of any assistance in bringing about a settlement, he would be pleased to render that assistance.

Surgeon-General G. J. H. EVATT, President of the association, then took the chair, and spoke first of the pleasure with which he had inspected the Poor-law hospital in Burnley. He had also visited the general hospital, and as far as he could see the Poor-law hospital was the better. The council of the association, he said, regretted that friction should have taken place between the Poor-law medical officers and the authorities, and thanked the Mayor for the offer of help.

Mr. A. E. BIRD, honorary secretary of the Burnley Division of the British Medical Association, extended a welcome to the meeting.

After the minutes of the last annual meeting had been read, confirmed, and signed by the chairman, the annual report of the council and their report on the Poor-law Institutions Order were unanimously received and adopted, and the honorary secretary was instructed to send a copy of the latter to the Local Government Board. The balance sheet for the year was then considered by the meeting, and its details were explained by the honorary secretary, and it was unanimously approved. Surgeon-General Evatt, president, and Dr. Major Greenwood, honorary secretary, were re-elected to their posts for the ensuing year with acclamation. Mr. A. A. Napper was re-elected treasurer and Dr. A. Withers Green auditor. Mr. D. B. Balding was also re-elected chairman of council. The following were elected members of council for 1914–15:—Mr. W. Holder (Hull), Mr. J. B. G. Gidley-Moore (Fyfield), Dr. Lloyd Brown (Tunbridge Wells), Mr. P. Withers Green (London), Mr. George Jackson (Plymouth), Dr. A. Drury (Halifax), Mr. C. Biddle (Merthyr Tydfil), Dr. C. Thackray Parsons (London), Dr. W. Brown (Bristol), and Dr. A. P. Agnew (Burnley).

Mr. C. E. BYGRAVE, clerk to the guardians of the Blackburn Union, then read a paper on Recent Legislation Affecting the Duties of Poor-law Medical Officers. He attributed the diminution in the number of persons in receipt of out relief between 1910 and 1911 to the removal of old-age pensioners from the outdoor relief. The need for institutional medical treatment did not seem to be diminished as a result of the National Insurance Act.

Dr. MAJOR GREENWOOD read a paper on the Future of the Poor-law and the Poor-law Medical Service. He believed, he said, that in the future the work would develop more and more on institutional lines, and all indoor Poor-law medical officers would tend to become whole-time officers. Unions might combine to create a common infirmary, or the Poor-law infirmary might become a State institution and be utilised in connexion with State schemes for changes in the general medical practice of the country. The National Insurance Act was considered by many to be a step in that direction.

In the evening the annual dinner was held at which Surgeon-General Evatt presided over a good assembly, having the Mayoress (Mrs. Sellers Kay) on his right hand and the Mayor on his left.

MEDICINE AND THE LAW.

Proceedings under the Apothecaries Act, 1815.

AT the Bow county court on June 29th the Society of Apothecaries recovered a penalty of £20 against John Charles Purdue, described as a medical herbalist, of 28, Roscoe-street, Canning Town, for a breach of the Apothecaries Act, 1815, in that he had acted and practised as an apothecary or medical practitioner in attending and medically treating the infant daughter of Arthur Thompson, of 21, Scott-street, Canning Town, whose death in January last was the subject of an inquest conducted by the local coroner. It appeared from the evidence that the child had become ill on Tuesday, Jan. 27th, and was taken by her mother to the defendant's shop, who examined her and said that she was suffering from pneumonia. He further gave the mother medicine for the child and oil to rub her chest with. He was again summoned by the mother to see the child on the same afternoon, and then administered further medicine, also using the stethoscope and taking the child's temperature with a clinical thermometer. The defendant attended the child further on the Wednesday, Thursday, and Friday, on the evening of which day the child died. The defendant was paid the sum of 2s. in respect of his medicine and attendance. It appeared from the medical evidence given at the inquest that the child actually died from meningitis. At the hearing of the case the defendant's counsel endeavoured to argue that he was protected by a statute of Henry VIII. sometimes called the Herbalists Act. The county court judge held that the statute was inapplicable and that there had been a clear breach of Section 20 of the Apothecaries Act, 1815, and he consequently gave judgment for the society with costs on the higher scale.

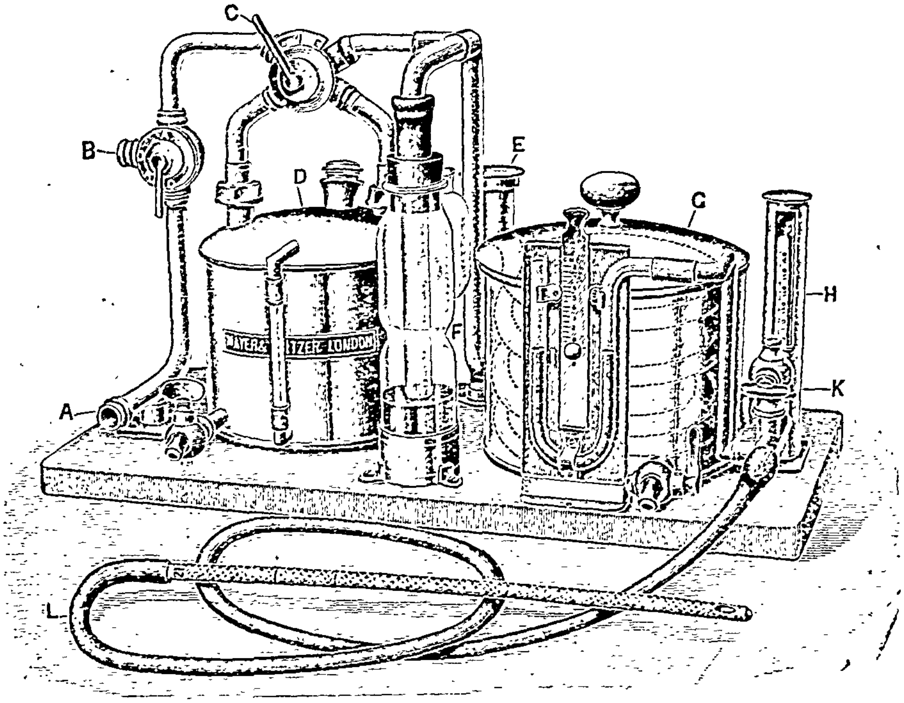
THE PANAMA-PACIFIC INTERNATIONAL EXPOSITION AT SAN FRANCISCO.—This exposition, which will be opened on Feb. 20th, 1915, in view of the fact that the canal could not have been successfully carried out but for the aid rendered by medical and sanitary science, will devote much attention to medical matters. Among the exhibits will be hospital wards in the tropics, a huge model of a mosquito by Philip Rauer, to demonstrate the dangers of the insect, a model emergency hospital, civic and health exhibits from the Urban Exhibition of Lyons, and the whole of the British exhibit from Ghent, as well by Argentina, Japan, France, Germany, the Philippines, and 30 other countries. Large industrial concerns will display their health and human welfare and life protecting methods. The Rockefeller Foundation will display measures for the eradication of hookworm. Other bodies taking part are the Russel Sage Foundation, the Carnegie institutions, the Social Survey, the American Academy of Medicine, the National Commission on Mental Hygiene, several special medical organisations, antituberculosis societies, the International Congress of Nurses, and many others. There will also be a dental congress.

New Inventions.

APPARATUS FOR INTRATRACHEAL ANÆSTHESIA.

THE principles and advantages of intratracheal insufflation are now well known. Apart from its use as a method of artificial respiration and in thoracic surgery, it has been found, for example, to be invaluable in the surgery of the head and neck, and more especially in operations on the thyroid, mouth, pharynx, and nasal passages. Various apparatus have been devised, and the description of one which I have used for 18 months appeared in the *British Journal of Surgery* for July, 1913, and in the *Bristol Medico-Chirurgical Journal* for December following. Alterations in this have been made from time to time, and with the object of still further reducing cost and weight the present apparatus has been made for me. It is compact, light, portable, and easy to manipulate. It can be used either with a foot pump or with an electric motor and pump. (Fig. 2.) The former is provided with an air filter, which serves the double purpose of freeing the air from dust, &c., and of converting the intermittent air stream into a constant one. The foot pump does not give such a regular anæsthesia as a mechanical device, such as a motor, and entails rather hard work upon the anæsthetist during a long operation, but it is a very fair substitute. Where the motor is used, a foot pump should always be at hand in the rare event of a failure of the electric current.

FIG. 1.

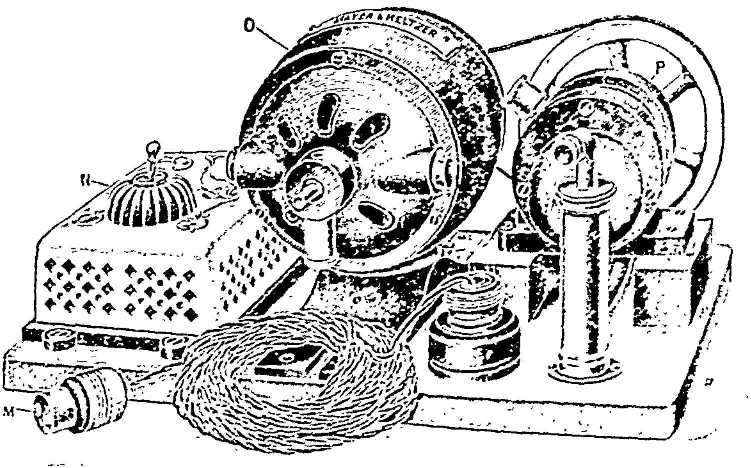


The ether apparatus (Fig. 1) has all its parts readily accessible, and the ether chamber D, made of metal, can be easily detached and cleaned. There are very few rubber connexions to get out of order, and the apparatus can deliver a very concentrated ether vapour. The air stream enters at A and mixed with oxygen, if necessary, by means of the tap B, can be made to pass by a turn of the regulating tap C either wholly over the ether or in any desired proportion, or wholly to miss the ether. The air-ether mixture, or air alone, then passes along to the moistening chamber E, thence to the warming vessel G, and so on to the catheter L. A manometer, I, and mercury safety valve, F, are placed in the circuit, the latter being designed with an overflow cup to catch any mercury blown up when the pressure exceeds, e.g., 20 mm. Hg. The safety valve can also be set to blow off at other pressures. The temperature of the outgoing stream of air and ether can be ascertained by means of the thermometer H. A tap, K, is provided for reduction at regular intervals in the volume of the air stream. The water in the warming chamber can be readily kept warm (usually 120° F. is the right temperature) by renewing it at intervals of about 10 minutes. An electric heater has not been supplied because of the additional cost; a spirit lamp is probably quite safe if properly guarded, but I have not cared to run any risk with so much ether close at hand. This part of the apparatus weighs just over 9 lb. and is carried in a light case made of 3-ply wood.

The motor (Fig. 2, O), of 1/16 h.p., must be chosen to suit the special voltage. In my own practice, I have found it a convenience to use a motor of 105 volts continuous current, with a carbon lamp in the circuit, so that the apparatus can be run on any continuous current from 100 up to 250 volts. The motor drives a rotary pump, P, which sends a constant stream of air through the filter R. The speed of the motor and strength of the air blast are regulated by the resistance N. A plug, M, is for connexion to the electric main.

My thanks are due to Messrs. Mayer and Meltzer, of Great Portland-street, London, W., for the care and trouble they have taken in making this apparatus, the special catheter, and the direct laryngoscope, which is a modification of Hill's well-known pattern.

FIG. 2.



Queen Anne-street, W. FRANCIS E. SHIPWAY, M.D. Cantab.

The Value of Albulactin in Augmenting the Colloid Element in Cow's Milk.

While the action of reversible colloids in preventing irreversible colloids from coagulation has been understood only in recent years, it has long been known that certain substances prevent the casein of milk—an irreversible colloid—from coagulating in large, thick curds when used for infant-feeding.

Recent investigations have shown that the reason why human milk forms soft, highly-comminuted flakes in the infant's stomach is because it contains much reversible or protective colloid in the shape of milk-albumin. Cow's milk contains very little of this substance, hence the large, tough curds it forms in the infant's stomach.

More than this, the problem of artificial infant-feeding is further complicated by the fact that by far the largest proportion of proteid in human milk exists as milk-albumin, while there is relatively little in cow's milk. Dr. Still's analysis proves this strikingly.

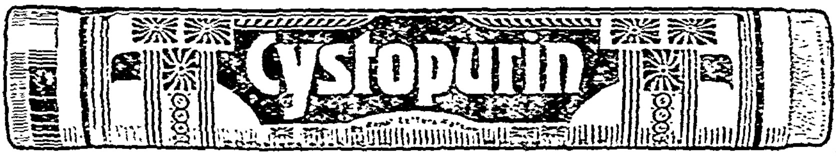
Dr. G. F. STILL'S Analysis is:

	HUMAN MILK (2% Proteid)	COW'S MILK (4% Proteid)
Casein	0·6	3·25
Milk-albumin	1·4	0·75

When cow's milk is diluted to make the total proteids agree in quantity, the child gets 1·6 per cent. of casein and only 0·37 per cent. of milk-albumin, or nearly three times more casein than it ought and only a quarter of the milk-albumin.

If the milk is further reduced to make the casein proportion correct, the milk-albumin is reduced to about one tenth of what it ought to be. The solution of the infant-feeding problem, therefore, resolves itself logically into the addition of sufficient milk-albumin to supply the necessary protective colloid and to furnish enough easily-digested proteid. This is best done by Albulactin, which is simply pure, sterile, soluble milk-albumin, and is being extensively used by the Profession.

Samples and literature on application to A. Wulfing & Co., 12, Chenies Street, London, W.C.



A Reliable and Effective Drug in

Gonorrhœa and Septic Diseases of the Bladder.

THIS is a *new drug*, consisting of a double salt of Hexamethylene-tetramine with Sodium Acetate and water of crystallisation.

A Surgeon, writing in *The Lancet*, Aug. 2, 1913, says: "**Cystopurin can be employed freely, safely, and effectively in all affections of the urinary tract,** whether of toxic or bacterial origin. It has the particularly satisfactory result of clearing away septic conditions associated with tuberculosis of the kidneys."

Cystopurin diminishes the amount and thickness of the discharge in Gonorrhoea, it relieves the pain and promotes free diuresis, and if used sufficiently early, the disease is localised to the anterior urethra, complications are prevented, and the duration of the attack is shortened.

In all diseases wherein the urine is septic, turbid and evil-smelling, Cystopurin has proved of the greatest clinical value after the failure of other urinary antiseptics.

The action of Cystopurin does not, however, depend upon any assumed liberation of Formic Aldehyde in the urine, but is due to the specific effect of Hexamethylene-tetramine which is hurried to the bladder, before it becomes decomposed, by the diuretic action of the Sodium Acetate.

Dr. Loose (*Deutsch. Med. Woch.*, 1907, No. 2) says: "Cystopurin is a chemical substance able to influence the lymph stream in the areas with which it comes in contact, and is one which cures by a process similar to that seen in artificial hyperæmia."

From *The Lancet*, Aug. 23rd, 1913.

"Cystopurin has been [illegible] very favourably in the treatment of tuberculosis of the urinary tract. . . . The presence of sodium acetate in the molecule appears to secure a specific effect, whether the urine is ammoniacal, alkaline or neutral. The diuretic action of the [illegible] is an obvious advantage."

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THE LANCET.

LONDON: SATURDAY, JULY 11, 1914.

yal Commission on Venereal Diseases.

Commissioners appointed to inquire into
evalence of venereal diseases in the United
om, a strong and well-chosen body, have been
evidence now for eight months as to the
upon the health of the community of these
ions and as to the means by which such
can be alleviated or prevented. Short,
mes very short, abstracts of this evidence
een regularly published in THE LANCET, so
ur readers are already familiar with the
ons which the inquiry has so far taken. It
nderstood that no return to the policy or
ions of the Contagious Diseases Acts of 1864,
r 1869 was to be regarded as falling within
ope of the inquiry, but with that limitation
mmission has made an extremely all-round
igation.

interim report of the proceedings up to
6th has now been issued. Up to that
the Commissioners had held 32 meetings
xamined 36 witnesses, with the result
hey found the branches of inquiry involved
e terms of reference to be so numerous,
a some cases so closely interrelated, that it
mpossible to deal with them separately,
eting one branch before entering upon
er. Many lines of investigation are still in-
ete, and evidence is required from Government
tments, as well as from private individuals
o speak with expert knowledge, before any
al or special conclusions can be arrived at.
tics are being prepared for the Commissioners
rtain hospitals and institutions which will
to be taken into serious count by the Com-
oners before they can commit themselves to
ecommendations. But they are unanimously
inion that it may be an advantage to the
if the minutes of the evidence taken between
7th, 1913, when the Commission held its first
g, and April 6th, 1914, were now issued to the
c, a point of view with which we are heartily
cord. The sittings of the Commission were
privately, with the idea presumably that
ble witnesses might be embarrassed by
city when striving to assist the inquiry in
of its phases. There is no indication in the
im report that this trouble would have arisen.
an appeal to the proprietors of responsible
als, made when the sittings commenced, would
probably removed apprehension on this score. The objections to the policy of closed doors are, however, largely removed by the publication in accessible form of the proceedings.

We recommend to all our readers the perusal of the interesting evidence given by well-selected witnesses which is appended to the first interim report.[1] When the conclusions of the Royal Commission are arrived at, and the consequent suggestions come under the consideration of Government, the procedure adopted will necessarily have a direct medical bearing. The public will expect the medical profession to give advice as to the value or practicability of any legislative steps that may be taken. The prevention of the ravages of venereal diseases is a subject in which at last the inhabitants of this country are seriously interested. The brief abstracts of the evidence taken by the Royal Commission which have so far appeared have helped to spread and also to intensify that interest, and we may be certain that the termination of the labours of the Commission will be the signal for the introduction of legislation of the greatest importance and also of the greatest delicacy. The difficulties surrounding both notification and the institution of clinics for treatment, which have to be faced, are certain to lead to the expression of strong opinions, and it is to the medical profession that the public will look for guidance.

Artificial Parthenogenesis and Fertilisation.

RÉAUMUR, BONNET, and other naturalists of the eighteenth century established the fact that plant lice bring forth live young without pairing. In 1845 the observations of DZIERZON on parthenogenesis aroused the greatest interest. He was led to the conclusion that male bees—the drones—arise from unfertilised eggs, workers and queens being the issue from fertilised eggs. When a queen bee after the so-called nuptial flight lays an egg in the larger drone cell, the egg passes through the oviduct without any sperm being pressed out from the receptaculum seminis; but if laying an egg in a worker cell, a trace of sperm is pressed out on the egg and so the egg is fertilised. Parthenogenic phenomena have been known through many observations to occur in certain butterflies, but it was the investigation of the natural parthenogenesis of the Bombyx mori, or silkworm, which formed the starting point of artificial parthenogenesis, with its array of facts and suggestions that may come to be of high significance in medicine.

The next step was taken when HERTWIG about 1892 observed that the unfertilised eggs of certain sea urchins may show the beginning of even cell division if they remain long enough in water. In the same year Professor LOEB began his now classic

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[1] Appendix to the First Report of the Royal Commission on Venereal Diseases (Minutes of Evidence). London: Wyman and Sons, Limited. Price 3s. 6d.

investigations on artificial parthenogenesis, employing chiefly the eggs of certain sea urchins. In his admirable volume, which has recently appeared,[1] he gives us step by step the evolution of his ideas on this subject and shows how he put them to the test of experimental investigation, and by this means opened up an entirely new field. First arose the idea whether it were not possible to cause unfertilised sea urchin eggs to develop into larvæ after altering the constitution of sea water, such as by the addition of salts, acids, or alkalies. This was shown to obtain. There is but one criterion which enables us to decide whether the agent has an effect upon the egg similar to the spermatozoon, and that is development of the egg into a larva. The mere initiation of cell division is not sufficient. Professor LOEB gives an insight into the physico-chemical nature of the process of development, and his book is intended not only for the zoologist, but more especially for the pathologist, and chemist. The unfertilised egg dies in a very short time—hours or weeks; the fertilised egg lives indefinitely, and Professor LOEB shows that for the "mysterious complex" called a living spermatozoon there may be substituted well-known chemical and physical agents. The spermatozoon causes two kinds of effects—one development and the other transmission of the paternal characteristics to the developing embryo. It is probable that these effects are connected with quite different materials in the sperm. It is possible with heterogeneous fertilisation to obtain only the developmental result. Without oxygen the fertilised egg can neither segment nor develop. The formation of a fertilisation membrane round an egg is one of the fundamental facts of egg development. In 1905 Professor LOEB found that a short exposure of an egg to a solution of a fatty acid—e.g., butyric—in sea water led to the formation of a typical fertilisation membrane, as do many other substances, and indeed all hæmolytic agents—to quote his words, "all hæmolytic agencies effect the activation of the unfertilised egg, and this activation consists in a cytolysis of the cortical layer of the eggs." Another process is still required, a corrective process, since the membrane formation alone tends to rapid disintegration of the egg. This second process consists in submitting the egg for a short time to a hypertonic solution containing oxygen or for a longer period to sea water free from oxygen. The most surprising fact, however, in our present knowledge of artificial parthenogenesis is that the blood even of mammals and the tissue extracts of many different species will cause the fertilisation of the unfertilised egg of the sea urchin (and other animals) to form a fertilisation membrane, which will develop if subsequently treated with a hypertonic solution, while the blood and tissue extracts of their own species have no such effect. The efficacy of blood serum may be increased by the addition of $SrCl_2$ to the serum.

The subject of heterogeneous hybridisation, the effects of radium on the sperm, the combination of artificial parthenogenesis and fertilisation with sperm in the same egg and the conditions for maturation of the egg are all subjects of importance to scientific medicine, now that the need for a better understanding of heredity is generally recognised. Professor LOEB supplies also an extensive array of facts on artificial parthenogenesis in the eggs of starfish, annelids, molluscs, and frogs, and also in plants; he describes the preservation of the life of the egg by the act of fertilisation and the relations between artificial parthenogenesis and heredity, and discusses the question as old as the time of LEEUWENHOEK, Can an embryo develop from a spermatozoon?—a question that he finds cannot yet be answered in the affirmative. It would be difficult to estimate the far-reaching effects of the results of his experiments. They mark a new era in the study of fertilisation, as well as give a new impetus to those who see in so-called vital phenomena a large field which day by day is gradually becoming more circumscribed as the facts of physics and chemistry are seen to apply to the elucidation of many phenomena hitherto recognised as vital. We have to thank Professor LOEB for a brilliant and suggestive monograph—a monograph that will prove a good argument for those who desire to see our medical students equipped with a thorough knowledge of the facts of physics and chemistry that bear directly on the problems of biology. Professor KING's admirable translation brings Professor LOEB'S work within the general scope.

◆

Joseph Chamberlain.

BY the death of JOSEPH CHAMBERLAIN at the end of last week, after a practical retirement for eight years, the country has been generally stirred. Admiration at his achievements has been in no way stifled by the fact that in certain obvious directions the country eventually refused to follow his course; the singleness of purpose, the courage and tenacity, the incisiveness of speech and action of this great man, have been vividly recalled to us by his final removal from the scene of his activities. It would not be easy for either practised historian or political contemporary to prophesy exactly what position JOSEPH CHAMBERLAIN will occupy in the minds of posterity as a statesman, but as the greatest of Colonial Secretaries he will be remembered, and in this capacity medicine will always do him honour.

Only so recently as June 23rd the Secretary of State for the Colonies, Mr. LEWIS HARCOURT, unveiled at the Albert Dock Hospital of the Seamen's Hospital Society two bronze portrait reliefs of JOSEPH CHAMBERLAIN and his son, Mr.

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[1] Artificial Parthenogenesis and Fertilisation. By Jacques Loeb, Member of the Rockefeller Institute for Medical Research. Originally translated from the German by W. O. Redman King, Assistant Lecturer in Zoology at the University of Leeds, England. Supplemented and revised by the Author. London: Cambridge University Press; Chicago: The University of Chicago Press. 1913. Pp. 312. Price 10s. net.

AUSTEN CHAMBERLAIN, in commemoration of their magnificent services in the cause of tropical medicine and preventive hygiene, and more especially in the establishment of the London School of *Tropical Medicine*. This school, to which the adjacent Albert Dock Hospital affords opportunities for clinical work, was founded and endowed chiefly through the efforts of JOSEPH CHAMBERLAIN, who as Secretary of State for the Colonies early realised that one of the bitterest difficulties in imperial administration, and one of the chief obstacles to the development of the tropical and subtropical dependencies under the British flag, lay in the devastations caused by diseases peculiar to the regions. The proof that malaria was not an inherent factor of tropical residence, but due to an avoidable cause, led him at once to grasp the probability that most, if not all, of the chief tropical diseases might be avoidable as the result of especially directed research. The propagation of malaria by the bites of an infected insect might have its other pathological counterparts. Taking counsel mainly with Sir PATRICK MANSON, at that time medical adviser to the Colonial Office, he determined on the organised prosecution of such research, and with the energy that marked his prosecution of political ends at once set about realising his plans. In May, 1899, he presided at a banquet organised in behalf of the endowment of tropical research when there was raised the sum of £15,000, with which in a few months laboratories were erected in the neighbourhood of the Albert Dock Hospital, and the London School of Tropical Medicine was opened, in which 70 students enrolled themselves. By 1905 the school, whose utility had been apparent from the first, had become an established success, and had outgrown its accommodation. In that year CHAMBERLAIN again came forward and raised a further £10,000, which provided a library, a museum, and a special tropical ward, whereby the number of beds for clinical study was raised to 50. His efforts attracted private donors, while grants were made by the Treasury, and an annual contribution of £850 towards the working expenses was sent by the Crown Colonies in appreciation of the benefits conferred by the school. We need not expatiate on the value of the work done by the London School of Tropical Medicine, but every development of that work has been a stone in CHAMBERLAIN'S memorial pillar. Commissions and research workers were soon sent out to various parts of the world to prosecute special researches on the spot. Malaria, sleeping sickness, sprue, guinea worm, tropical dysentery, and ankylostomiasis have all undergone continuous investigation with great gain to the health and saving in the lives of those whose duty calls them to labour in tropical climates. What better evidence can be adduced of this gain than the fact that the death-rate of the West Coast of Africa, of erstwhile terrible notoriety, has fallen from 23 to 8 per 1000, while the number of officials annually invalided has dropped from 62 to 28? The number of students in the London school is now nearly 200; 1800 have had their training there, and of these some 700 are bringing the special knowledge thus acquired to the service of their country in the Colonial Medical Service. That the country is now fully alive to the great benefits conferred on it by the London school is shown by the fact that within a few months Mr. AUSTEN CHAMBERLAIN has been able to raise a further sum of £73,000 for endowment of the school.

In CHAMBERLAIN'S achievements in the field of tropical medicine are clearly to be discerned all the qualities of personal character which lift the statesman above the politician—a spaciousness of view to envisage a problem as a whole, insight into the underlying factors of success or failure, knowledge of men to select those most competent to work effectually in the attainment of the end, forcefulness to attach them to his aims, clarity of expression to communicate his visions to the world at large, and a whole-hearted and single-minded devotion to the highest and widest aims untinctured with mere Chauvinism or self-seeking. As his field of endeavour widened from municipal to national, from national to imperial, from imperial to world-wide betterment, his ideals expanded without changing their essential character. The principles and methods he had successfully proved in more restricted fields were adapted to wider issues. He was, in truth, the great Elizabethan of our age.

Annotations.

"Ne quid nimis."

BOVINE TUBERCULOSIS.

THE Board of Agriculture and Fisheries has issued an amended Tuberculosis Order relating to the compulsory slaughter, with compensation, of bovine animals affected with certain degrees of tuberculosis. The new Order, which comes into operation at once, simplifies the basis of the compensation to be paid, which is now to be the estimated market value of the animal, while a circular which accompanies the Order states that the Treasury contribution to the expense of the local authorities concerned will in future be on the basis of three-fourths of the compensation money instead of one-half, as previously authorised. The animals which are subject to notification and compulsory slaughter are those with emaciation due to tuberculosis, those with a chronic cough and showing definite clinical signs of tuberculosis, and cows with tuberculosis of the udder or giving tuberculous milk. As in the case of the 1913 Order, the notification of any one of these forms of tuberculosis entails a visit by the veterinary inspector of the local authority under the Diseases of Animals Act, who is required to extend his examination to other bovine animals on the premises. It does not appear, however, that this further examination is to be made with the object of applying the tuberculin test to detect early tuberculosis, or of advising or assisting the farmer to separate the reacting animals from the rest of the stock, and so ultimately to obtain a herd free from the disease; the Order and circular endeavour to limit the inspector's activities as much as possible to the detection of the advanced cases for which compensation is payable. There is thus some risk that the ease with which the animals with advanced tuberculosis can be disposed of, and substantial compensation obtained, will reconcile the cow-keeper to allowing tuberculosis to spread in the dairy herd without taking measures to detect and separate cases of incipient tuberculosis or to rearrange his cowsheds so as to minimise cow-to-cow infection. Among other matters which are left in a somewhat uncertain state by the Order, we note that the local authority is directed to dispose of the carcass of the animal to the best advantage, and in cases where the carcass or a portion thereof is likely to be saleable for human consumption to obtain the removal of the animal to a slaughter-house for the purposes of slaughter. It is advised that the local authority for the purposes of the Order, which is not necessarily the sanitary authority, should confer with the latter body so that steps may be taken to guard against the use in such cases of diseased meat for human food; but it is not clear how this dual responsibility can be effectively discharged in the case of private slaughter-houses in the country, and many difficulties seem likely to arise unless a more definite instruction is given. The Order, like its predecessor, will be welcome from the side of public health to the extent that it aids in the early removal of cows giving tuberculous milk from the milk-supply, and is not merely used to get rid of the "piner" or "waster" when its value for milking has almost ceased. At present its administration by local authorities seems to be practically independent of the information obtained by public health authorities as a result of their examination of milk for tubercle bacilli, but it is to be hoped that the Milk and Dairies Bills for England and Scotland will soon be enacted and enable the necessary adjustments to be made and secure that the large sums to be paid from national funds are expended with satisfactory results to the consumer of milk as well as to the cow owner.

THE PRESCRIBING OF NARCOTIC DRUGS.

In connexion with the International Opium Convention events are so shaping themselves that it will be necessary before long for all the Powers concerned to complete their plans for the passing of domestic legislation to give effect to the provisions of the Convention. For some time our own Foreign Office and other departments have had the matter under consideration, and with the object of obtaining expert opinion on various points have consulted representative medical and pharmaceutical bodies. The Government will be bound by the provisions of the Convention to enact such regulations as will prevent, as far as possible, the illicit distribution of opium, morphine, cocaine, and other drugs having similar properties; but there appears to be nothing in the articles of the Convention to compel the Government to amend the law as to the sale of poisons in such a way as to alter existing practices in connexion with the prescribing and dispensing of the narcotic drugs in question. Nevertheless, it may be found expedient, in order to enforce the spirit of the Convention, to do things which its actual terms do not require to be done; and it is evident from the nature of the inquiries that the authorities are causing to be made that the question of placing some sort of limitation on the currency of prescriptions for narcotic drugs is being seriously considered. Thus the Under Secretary for Foreign Affairs has asked the opinion of the Council of the British Medical Association on the suggestion to lay down that a medical practitioner should state in his prescription the number of times it may be dispensed and to require pharmacists to comply with this limitation under penalty. The Under Secretary has been informed that the Association has long recognised the dangers arising from the ease with which persons in this country can obtain powerful drugs by means of a medical man's prescription, and that it is of opinion that legislation should be introduced to provide for the limitation of such prescriptions in the manner suggested. This is sound advice, and the only difficulty that can be foreseen is that practitioners might occasionally forget to write the necessary instructions on their prescriptions, which could then be dispensed an unlimited number of times, as at present. This difficulty, it may be suggested, could be overcome by framing the regulations so as to require that prescriptions for narcotic drugs must only be dispensed once unless the contrary is stated in writing. The principle of the limitation of the currency of prescriptions is wholly commendable, and if it can be enforced without inconvenience in other countries there appears to be no reason why it could not be adopted in the United Kingdom.

SUBCUTANEOUS INJECTIONS OF AIR IN FIBROSITIS AND ALLIED AFFECTIONS.

In the *New Zealand Medical Journal* for March is published a paper, read at the recent Australasian Medical Congress in Auckland, on the subcutaneous injection of air in fibrositis and allied affections by Dr. A. Douglas. The method is of French origin and appears first to have been employed by Cordier in the treatment of neuralgia and sciatica. He stated that in 25 cases of the latter he had only two failures. Dr. Douglas finds that the method, which he has used some hundreds of times, is simple and safe, and gives prompt relief. A hollow needle, which for convenience should be larger than an ordinary hypodermic needle, is used. A platino-iridium exploring needle is very suitable and can be quickly sterilised in a flame. A bulb and tube, such as are used for a throat spray, are attached to the needle. A wisp of wool was originally inserted into the tube, where it was attached to the needle in order to filter the air, but experience has proved this precaution to be unnecessary, as infection never occurs. After sterilising the needle the skin and fat are picked up and the needle is thrust well into the cellular tissue, as in giving a subcutaneous injection. The needle is then withdrawn a little so as to avoid the least risk of inflating a blood-vessel, and air is pumped into the cellular tissue. An emphysematous swelling is produced and the air can be seen to course through channels under the skin, which vary greatly with the individual and site. As the air is slowly pumped in the left hand manipulates and distributes it throughout the affected area. The amount of air used must be judged by experience. In the lumbar region the swelling should be as large as that produced by a pint of saline solution. It is desirable that

mpanitic note over the whole of the affected
be obtainable, and in the case of a big
or thigh a considerable quantity of air is
essary. After withdrawing the needle it is good
tice to massage vigorously for a few minutes
is to distribute the air thoroughly, moving it
wards and forwards through the tissues. It is
etimes necessary to introduce the needle in
e than one place on account of deep attach-
its of the fascia limiting the injected air. Such
ndaries are well marked in the middle of the
. Little pain beyond that of introducing the
dle is produced, and the patient almost invari-
experiences immediate relief and moves with
h greater freedom. The air remains for several
s and is gradually absorbed. Dr. Douglas
s that sciatica is less amenable to the
itment than is lumbago. He thinks this
be due to the fact that in a large
portion of cases of sciatica there is arthritis
the hip-joint. The explanation of the mode of
on is not obvious. Dr. Douglas suggests that
air stretches the nerve terminations in the
ular tissue and acts somewhat like nerve
etching in sciatica. The following are two
mples. A man, aged 30 years, subject to
ibago, had an attack in which he could not
ve. Air was injected, and in a few minutes he
ld stand and pick up articles from the floor. A
n, aged 32 years, was subject to sciatica, which
netimes continued for months. He had under-
ie various treatments, including high-frequency
rents and electric baths. For the last few
irs he always returned for the air treatment,
ich was the most effectual.

ELIOTHERAPY IN SURGICAL TUBERCULOSIS.

THOUGH the value of heliotherapy in surgical
berculosis was pointed out many years ago by the
ench surgeons, Bonnet, Ollier, and Poncet, it has
come a recognised method on the Continent only
recent years. In this country a beginning has
arcely been made. In the special tuberculosis
umber of the *Interstate Medical Journal* Dr. G.
insdale has described the treatment on the French
ast and in the Swiss Alps. As far back as 1857
adame Duhamel, who cared for scrofulous children
Berck-sur-Mer, had them wheeled twice a day to
e beach, and after bathing them and washing
eir sores she refused to clothe them completely,
idently with the idea that the unobstructed
posure to sun and air would hasten their
covery. Now at this great French resort for the
berculous free access of sunlight is deemed the
sential feature of the treatment. The long
lleries or balconies at the Marine Hospital are
nstructed for the purpose of completely exposing
e body to sunlight. Here in summer the patients
nclothed spend the whole time from 6 A.M. to 5 or
P.M. Operation wounds are exposed from the
fteenth day, but operations are exceptional and
erformed only as a last resort. In Switzerland
he greatest impulse to heliotherapy has been given
y Rollier, whose remarkable results at Leysin have
ttracted much attention. He carries heliotherapy
stage further than his predecessors, who exposed
nly diseased parts to the sun. He exposes the
whole body. This he accomplishes gradually.
According to the gravity of the case he allows
rom three to ten days after arrival in the mountains
o elapse before beginning exposure. No matter
what the seat of the disease—hip, spine, or cervical glands—he begins by exposing the feet to the sun for five minutes at intervals of an hour five times on the first day; on the second day similar exposures of the legs are given; on the third day the thighs are also exposed; on the fourth day the abdomen; and on the fifth day the chest, when the precaution is taken of covering the heart with a damp cloth. If the condition of the patient permits the back is also exposed to the sun. Finally, on the sixth or seventh day the head and neck are exposed. As the skin becomes pigmented the duration of the exposure is increased. Hand in hand with the pigmentation the tuberculosis is cured. Rollier has succeeded in training his patients, both children and adults, so that they live almost nude in the open air of the Alps quite comfortably. Sunlight has considerably more actinic power in the mountains than at the sea level, but heliotherapy can be successfully practised at the latter.

PLAGUE CLOUDS IN THE WEST.

AT the present time plague clouds are appearing on the horizon and threatening to approach the United States. Although some of these clouds may as yet seem small and at a considerable distance away, they cannot be altogether disregarded. We have already on many occasions called attention in these columns to the danger arising from the protracted and extensive epizootic of plague among the hordes of ground squirrels which inhabit a large part of the State of California. American as well as other epidemiologists have long recognised the risks of a human epidemic originating at any time by extension of infection from ground squirrels to local rats, which often share the same burrows, and from rats through the agency of fleas to man. From time to time sporadic human cases of plague are reported in the affected districts of California, and these instances are invariably associated with infected ground squirrels; the last reported case of the kind occurred this year in May, and was fully confirmed by bacteriological examination. To the north of California, and separated from it by Oregon, is the State of Washington, abutting on the Pacific. On the coast of this State is the rising port of Seattle, on Puget Sound, not very far from the Canadian frontier, having important connexions with the interior by means of the Northern Pacific and other railways, and having also a considerable coasting as well as trans-Pacific trade. At the end of last year plague-infected rats were discovered along the water front of this city, and notwithstanding the strenuous local efforts to suppress the epizootic, other infected rodents have been found since then, week by week, up to the present time. Only one suspected fatal case in man has so far occurred, but so long as the rat population of Seattle remains infected so long will there be danger of the disease extending to man. A few days ago information reached us that on June 28th two persons in New Orleans had been attacked by plague; since then three more attacks have occurred with two deaths. Whether the two first cases were imported or were due to existing infection smouldering unrecognised in that city it is not possible as yet to say. Unless the sanitary condition of New Orleans has been greatly improved since 1912[1] it is hardly in a satisfactory state to resist the invasion of plague. The disease has also been occurring, in a dropping fire of cases, in the West Indian island of Cuba, which is under the protection of the United States, and with which it carries on a considerable commerce. Up to the middle of June, the date of the last reports, some 22 cases had been notified in Havana, the capital of Cuba and its chief seaport; the infection had been carried thence to the town of Artemisa, 35 miles south-west of Havana, and recently an epizootic of plague in rats had been discovered in the town of Jaruco, situated 26 miles south-east of the capital. It is possible that the two first cases in New Orleans may have been associated with the plague infection now existing in Cuba, as there is much trade between these ports. Lastly, it may be mentioned, in view of the increasing connexions now being established between the United States and the Isthmus of Panama, that plague, said to be of the pneumonic type, has been for some time and is still manifesting itself in Colombia, of which State the Panama Canal zone at one time formed part before its transfer to the United States. The correctness of the diagnosis of plague in the Colombia cases has been denied, but it has to be remembered that many of the South American Republics make a practice of denying point blank the existence of plague and yellow fever within their borders in order to escape the inconveniences of quarantine. On the other hand, from a trustworthy source comes the definite statement that the diagnosis of plague has been confirmed by bacteriological examination both of the sputum and the blood of several patients. It is also asserted that "cases of pneumonia of an infectious kind," nearly all of them fatal, have been occurring along the Colombian coast of the Caribbean Sea for more than a year, their true character and their relationship to plague not having been recognised until now. In the face of these facts it can scarcely be disputed that there are plague clouds threatening the United States, and it would appear that this has been officially recognised. Several articles on plague have lately been published in our American contemporary, *Public Health Reports*, the official organ of the United States Public Health Service, and in one of them the danger arising from the infected ground squirrels in California and the plague-stricken rats at Seattle is freely admitted, as also the advisability of giving exact information concerning the disease as far as practicable to all persons who may at very short notice be called upon to take their part in a comprehensive anti-plague campaign. For this purpose one of the articles, under the title of "Fleas and Plague," gives an account of the important series of experiments carried out by Bacot and Martin, of the Lister Institute, under the direction of the Commission for the Investigation of Plague in India, the results of which have added so materially to our knowledge of the mechanism of the transmission of plague by the rat-flea, and to which we have already directed attention in our issue of April 4th, 1914, p. 975. Another of the articles in *Public Health Reports* deals with some of the difficulties met with in the diagnosis of plague, mention being specially made of cases in which plague has been mistaken for filariasis; and an instance is quoted where a patient really suffering from filarial lymphangitis was thought to have genuine bubonic plague. The attention of practitioners in regions such as the West Indies, where filariasis occurs, was specially called to these cases. The Public Health Service of the United States has in its ranks a large number of highly trained and competent medical officers many of whom possess special experience of plague gained in various parts of the world. The services of these experts would at once be available in the event of the disease showing any tendency to extend beyond its present limits. Against this, however, is the assertion, made by those who apparently know, that some of the towns and districts likely to be invaded, if the infection spreads, are hardly in a satisfactory sanitary condition such as would enable them to repel successfully the insidious onset of plague. Perhaps the present season of the year is not altogether favourable for the immediate spread of plague in North America, but there is always the risk that the infection may gain a footing in one or more places where, under favouring conditions, later on it may break out with renewed virulence and spread to more populous districts in the interior.

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[1] See THE LANCET, August 10th, 1912, p. 394.

THE PARALLELISM OF CAUSES OF DEATH.

THE comparative constancy of the death-rate from various diseases is suggested in a remarkable manner by a table issued by the New York Life Insurance Company. This table gives the causes of death of 8549 of the company's insured who died during the year 1912. We have received from the company a similar statement for the year 1913, and it is the close parallelism in the ratio of deaths from particular causes to the total death-rate that is of interest. We quote the figures in parallel columns:—

Causes of Death among 8549 Insured People who Died during 1912 and 8793 who Died during 1913.

	1912.		1913.
Heart disease	1060	......	957
Consumption	905	......	957
Bright's disease...	870	......	931
Pneumonia	700	......	673
Cancers and tumours	631	......	650
Apoplexy	603	......	641
Accidents	458	......	493
Diseases of digestive organs	309	......	289
Diseases of arteries	305	......	271
Paralysis	283	......	286
Liver disease	222	......	193
Bronchitis, pleurisy, &c.	179	......	209
Diabetes	176	......	155
Typhoid fever	154	......	140
Blood poisoning, anæmia, &c.... ...	144	......	148
Spinal disease	131	......	107
Appendicitis	116	......	117
Old age...	64	......	63
Nervous prostration, congestion of brain, &c.	40	......	29
Rheumatism	34	......	36
All other causes...	1165	......	1419
Total	8549		8793

The extra 244 deaths in 1913 are all accounted for in the last item, all other causes, which exceeds in 1913 by 254 the number under that heading in 1912. Some of the correspondences are very remarkable—e.g., rheumatism 34 and 36, appendicitis 116 and 117, blood conditions 144 and 148, paralysis 233 and 286. But throughout the table the parallelism is remarkable, and it is particularly worthy of notice that old age accounts for only 64 and 63 deaths respectively in the two years. Among the special infectious diseases it is noteworthy that only consumption, which is second on the list, with ratios of 11·7 and 10·9, and typhoid fever, with ratios of 1·8 and 1·59, are especially classified, from which is fair to conclude that none of the others have a ratio sufficiently large to justify their removal from the class of all other causes. The same remark applies to the venereal diseases. These causes of death, of course, are the immediate causes; it is only natural to suppose that rheumatism and perhaps other fevers and syphilis were remotely responsible for some of the large number of deaths from heart disease and some other conditions.

THE CLINICAL AND SEROLOGICAL EXAMINATION OF SYPHILITIC FAMILIES.

THE latest number of the *Deutsche Zeitschrift für Nervenheilkunde* is a *Festschrift* contributed by former and present assistants in honour of the jubilee of the well-known General Hospital of Hamburg-Eppendorf, and edited by Professor Dr. Nonne, in whose division of the hospital these assistants have worked. It contains a variety of papers of considerable neurological interest, of which a number, as might be expected from the fact of Dr. Nonne's superintendence, deal with syphilitic disease of the nervous system. Dr. Nonne himself contributes an article on the significance of examination of the cerebro-spinal fluid for the prognosis of cases where the only clinical symptom is an affection of the pupil. There is a paper on the earliest diagnosis of syphilitic invasion of the central nervous system, by Dr. Hauptmann, and another on syphilis as an antecedent in dementia præcox, by Dr. Meggendorfer. Attention may be drawn in detail to a contribution by Dr. Wilhelm Raven, on the serological and clinical investigation of syphilitic families. No fewer than 117 families have been examined, of each of whom at least one member was at one or other time an inmate of the hospital. In as many of the parents and children as could be reached a complete routine serological investigation and clinical examination were made. Not more than 27 members of these 117 families were completely normal; expressed in other words, only in 23 per cent. of the families subjected to examination was the syphilitic infection found to have been strictly confined to the individual first infected. In 77 per cent. it had been communicated to others of the family. To take the condition in the parents first: in 65 families where only one parent originally suffered from syphilis, 64 of the parents originally infected (father or mother) showed syphilitic disease or gave a positive Wassermann reaction in the blood. Of the parents not originally infected (mother or father as the case might be) 30, or 46 per cent., suffered from syphilitic nervous disease, 16, or 24 per cent., had a positive Wassermann reaction in the blood, while only 19, or 29 per cent., were normal. The condition of the children was investigated in 82 families: 8 out of 90 families were sterile. In these 82 families the results of 350 pregnancies were obtained. 47·7 per cent. ended in miscarriages or premature births and deaths in infancy; 52·3 per cent. children lived; of these, only 16·5 per cent. were fully normal, while 35·8 per cent. were pathological. Dr. Raven has obtained evidence to show that the more severe the syphilitic infection of the parents the less severe is the form it will take in the children; and *vice versâ*, where one parent (mostly the mother) has remained healthy, there the largest percentage of diseased children has been met with. These data do not agree with the findings of Hochsinger and others. They may be taken to suggest that the virulence of the syphilitic virus diminishes with its passage through the parents; the more intensive that passage, the less potent the effect of the virus on the descendants. Another interesting set of statistics concerns the matter of the bearing of paternal as opposed to maternal infection on the health of the progeny. This question was investigated in 72 families. In 52 the father was originally infected, and 154 pregnancies were recorded in the group; 17·5 per cent. were healthy children, 34·4 per cent. had signs (somatic or serological) of syphilis, 23·3 per cent. were stillbirths or died in infancy, and 24·6 per cent. were miscarriages. On the other hand, in the remaining 20 families the mother was originally infected; 74 pregnancies were in this group, of which only 5·4 per cent. resulted in healthy children, 20·2 per cent. were pathological, 32·4 per cent. died in infancy or were deadborn, while 41·8 per cent. were abortions. Thus about one-half of the children of the diseased fathers lived, but only about one-quarter of the mothers'; about one-third of the fathers' children that lived were healthy, but only about one-fifth of the mothers'. Speaking generally, the first, second, and third children of the infected families were more severely hit by the inherited disease than any others that might follow. However, not a few exceptions to this generalisation were noted. A healthy child, as Fournier said, is no guarantee for the health of the next arrival. Of a totality of 119 children of infected families, 10 per cent. suffered from organic nervous disease or were mentally abnormal; 37 per cent. showed various stigmata of degeneracy, and an additional 10 per cent. with stigmata had also a positive Wassermann reaction in the blood; 11 per cent. had a positive Wassermann reaction only, while 30 per cent. were normally healthy. Up to about the sixteenth year after parental infection congenitally diseased children may appear; thereafter any children born of the marriage are less likely to reveal any somatic or serological defect. The figures given by Dr. Raven are of value and deserve careful consideration. The conclusions are that persons who suffer from syphilitic nervous disease—spirochæta carriers—are actively infective; that syphilis is no less dangerous during a so-called latent period; that the presence of a positive Wassermann reaction in the blood can never be other than a serious indication of disease and of the necessity for treatment; otherwise syphilis will continue to descend upon the children to generation after generation.

THE Home Secretary, acting upon the recommendation of the Prison Commissioners, has appointed Miss Selina Fox, M.D., at present superintendent of the Bermondsey Medical Mission, to be Lady Superintendent and Deputy Medical Officer of the institutions for women at Aylesbury, comprising the female convict prison, the Borstal Institution for Females, the State Inebriate Reformatory for Women, and the Preventive Detention Prison for Women.

DEATH OF A VETERAN PRACTITIONER.—Mr. Henry Richard Foquett, M.R.C.S. Eng., L.S.A., of Portland-street, Ilfracombe, died on June 24th, from the result of a cycle accident, in his eighty-fifth year. Mr. Foquett, who qualified in 1852, practised in Ilfracombe for about 50 years, but retired from active work some years ago.

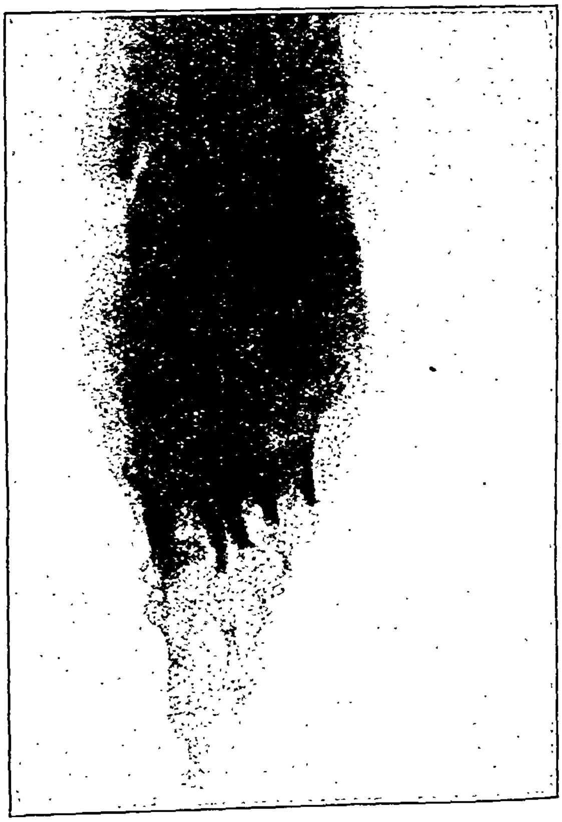
THE BOUND FEET OF THE CHINESE WOMAN.

The accompanying skiagrams were taken in Shanghai, and have been sent to us by the operator on the recommendation of Dr. F. M. Neild. We publish them with pleasure, as it is not at all easy to get a Chinese woman to submit to photographic processes, while the skiagrams well reveal the distortion caused by bandaging the feet.

The practice of binding the feet of Chinese women is still very prevalent among the better classes, in spite of all that is being done by the "Anti-footbinding Association." The spread of foreign ideas and familiarity with medical science have had some effect, but the barbarous custom still holds its own. The origin of the custom is put down by some people to the desire to emulate a certain club-footed Empress of China, and by others simply as a device of the Chinese men to prevent their women-folk from running away from home. Either motive is so consonant with Chinese ideas that it is quite likely that both have had their influence.

The feet are bound at the age of five or six years with strips of strong cotton material, eight or nine yards in length and about four inches wide. The bandages, once on, are not removed for some years.

Fig. 1.



Reproduction of photograph of Chinese woman's bandaged foot from the front.

Frequently the child suffers terribly, especially at night, when the feet swell with the warmth induced by sleep. Medical information on any sequelæ that may follow the treatment is not at all voluminous. That gangrene may be induced in a certain number of instances is obvious.

Women on becoming Christians usually unbind their feet, and they have stated that this process is more painful than that of binding. The lady to whom we owe the chance of publishing the skiagrams of a bound foot sends the following communication with them:—

> A Chinese woman of high rank lately went to an English medical practitioner in Shanghai, saying that she had heard that small feet were no longer fashionable, so she wished her feet to be made into their proper shape again. It was impossible to convince her that it could not be done. The process of unbinding has to be done very gradually, and signs of mortification are not unknown.

The pictures tell their own story, showing clearly how some bones have been compressed by bandaging, while others appear abnormally enlarged owing to their want of adaptation in their artificial positions. The owners of small feet are extremely reticent about them, and it is considered to be the height of immodesty to let a stranger see a bare unbound foot. The woman to whom the foot here shown belonged was an amah or children's nurse in an English family, and somewhat inured to European ideas, but she required a great deal of persuasion before she allowed the picture to be taken, and was afterwards looked upon with horror by her friends as a woman who had disgraced herself by her action.

Mr. Muirhead Little, to whom we submitted these illustrations, writes:—

> Since the discovery of the Roentgen rays a certain number of radiographs of Chinese women's feet have been taken, and I had one in my possession for some years, but none of them, I believe, have been representative of the highest degree of distortion. As a really small bound foot renders its owner almost incapable of locomotion, it follows that only the well-to-do can afford this doubtful luxury, and as a fact it is only in the wealthiest and most distinguished families that such feet are found. As your correspondent suggests, such ladies will not allow their feet to be examined, still less photographed, and all the radiographs have been taken from women of the working-class whose feet are only moderately deformed, allowing them still to carry out the duties of domestic service.
>
> Until recently, when the Anti-footbinding Association has made great progress, a Chinese woman with natural feet was considered disreputable, and the normal foot was associated with all that is vile. Sensible Chinese parents recognised the evils of the custom, which they dare not depart from for fear of the social ostracism of their daughters. Mr. Archibald Little[1] wrote some 30 years ago: "Mine host appeared with his little daughter .... She was a little *chétive* thing of 10 years, but from her size looking much younger, and so pale that I asked her father whether there was anything the matter with her. He said, 'No, but she was suffering from her feet.' .... Hers were bandaged up until they looked more like those of a doll than the feet of a human being, and the poor child never attempted to walk without holding on to someone's hand, and was always carried up and down the flights of steps which led from one courtyard to the other. My host, like other Chinamen with whom I have conversed on the subject, agreed that it was a pity for the children that such a custom existed. ....With the exception of the boatwomen in the south (the Han-shui-mei), and the aboriginal tribes in the west, as also perhaps a few beggars and outcasts, all the women of China, poor as well as rich, are crippled in this barbarous fashion." At the same time it must be remembered that the women of the Imperial family of China, and those of the Manchu nobility

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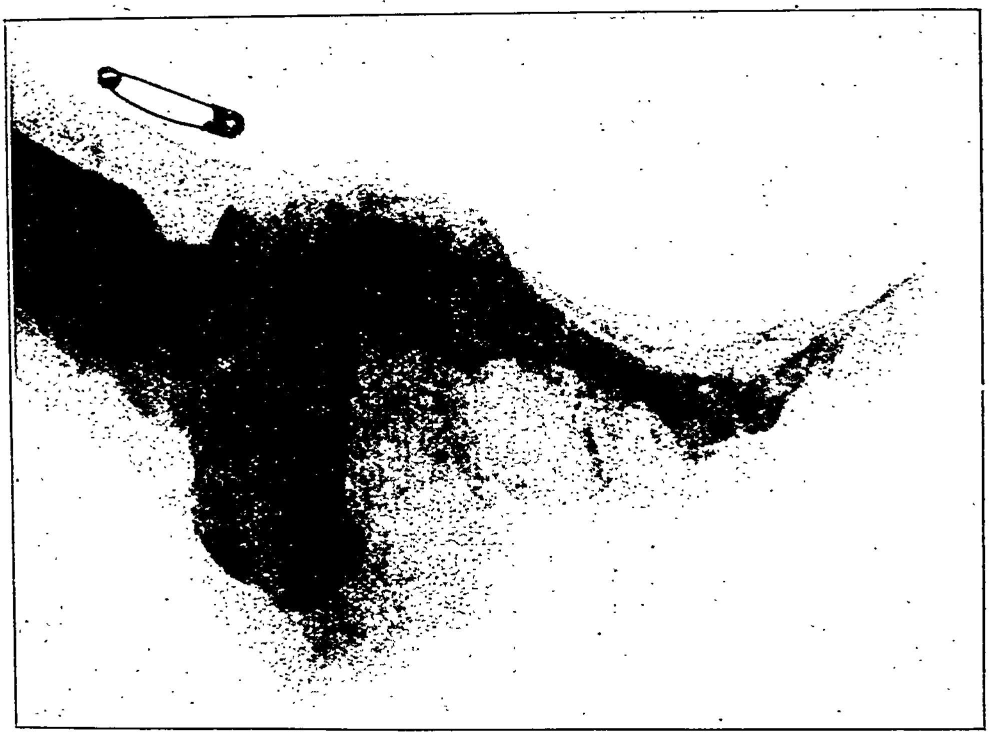
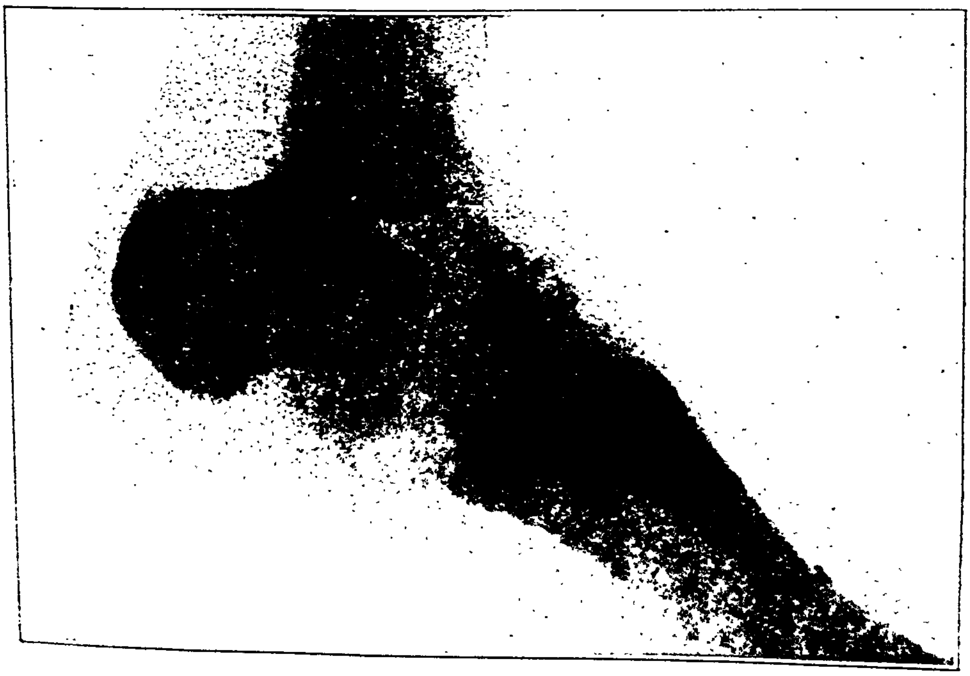
[1] Through the Yangtse Gorges, second edition, London,

FIG. 2.



Chinese woman's bandaged foot in profile. The subject was resting on her back with her foot protruded in front of her.

FIG. 3.



Foot of an English woman, showing proper position and relation of bones to each other.

who are allied to them by race, have never bound their feet. When in 1644 the Manchu Tartars conquered China they imposed the Tartar pigtail on the Chinese, but although they obliged the subject race to copy their head-dress they did not themselves adopt the ancient Chinese custom of foot-binding. As the Manchu garrison was designedly kept apart and made into a noble caste, the difference in the feet of the women no doubt helped to mark the gulf between conquerors and conquered, but it is remarkable that the Chinese should have been devotedly loyal to more than one Empress, whose unbound feet in one of their own ladies would have been horribly disgraceful and indecent. Flattery and imitation do not always go together, at least not in the Far East.

The effect of footbinding on health, and the contrast between the "slender listless appearance of young Chinese girls" and the "robust sturdy look of a Manchu family" whose acquaintance he made in Western China, very much struck Mr. Archibald Little before he noticed their feet, and he was at first at a loss to account for it.

Although the Manchu women's feet are not bound, they often wear shoes with very high heels placed right under the middle of the foot. These seriously hinder walking; and I am informed by an eye-witness that the late notorious Dowager Empress was so crippled by her shoes that she always rested both hands on the shoulders of her attendants when she had occasion to move about the audience hall.

As the skiagrams show, compression of the feet is obtained by producing two main distortions: In the first place, the foot is shortened by acute plantar flexion, chiefly at the transverse tarsal, but also at all the other joints of the tarsus and at the tarso-metatarsal articulations; thus the foot is forced into a position of talipes calcaneus. In the second place, the foot is compressed laterally, and the four outer toes are folded under the sole so that the end of the little toe may project beyond the inner (median) border of the metatarsal bone of the great toe. The proper dorsal surface of the outer toes will thus look downwards in the erect position and be exposed to pressure in walking. Obviously this must be a source of pain and cause of disability.

The reference to gangrene reminds me of an incident related by Dr. Kerr, for many years a medical missionary at Canton. A Chinese lady consulted him about her feet "Both .... had mortified off through binding; she had, however, brought them with her—*in spirits*—and now wanted the foreign doctor who could do such wonders to fasten them on for her again." [2]

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[2] In the Land of the Blue Gown, by Mrs. Archibald Little, London, 1912.

FOURTEENTH FRENCH CONGRESS OF MEDICINE.—This Congress will be opened at Brussels on Sept. 30th in the afternoon, under the patronage of H.M. the King of the Belgians. Professor Henrijean will preside. In the evening there will be a presidential reception. The subjects on the programme are:—Oct. 1st: Cardiovascular Syphilis (M. Bayet, Nantes; M. Etienne and M. Spillman, Nancy; M. Vaquez and M. Laubry, Paris); Vaccinotherapy in General and the Special Vaccinotherapy of Cancer and Typhoid Fever (M. O. Gengou, Brussels; M. Chantemesse, Paris; M. Bruschettini, Genoa; M. Vincent and M. Doyen, Paris). Oct. 2nd, general session: The Therapeutic Value of Artificial Pneumothorax (M. Burnand, Leysin; M. Derscheidt and M. Geeraerd, Brussels; M. Dumarest, Hauteville; M. Kuss, Angicourt; M. M. L. Rénon, Paris). Sectional communications by M. Bernheim and M. Jaworsky, Paris. In the evening there will be a rout at the Hôtel de Ville de Bruxelles by the Communal Administration. Oct. 3rd, general session: The Lipoids in Pathology (M. Edg. Zunz, Brussels; M. Chauffard, M. Guy Laroche, and M. Grigaut, Paris; M. Linassier, Vichy; M. J. Bordet, Brussels; M. N. Waterman, Rotterdam). In the afternoon various communications will be offered. On Sunday, Oct. 4th, there will be an excursion to Spa. The subscription for attendance at the Congress by medical non-members is 20 francs, for students 10 francs. The usual reduction of 50 per cent. will be made on the French railways. The treasurer of the Congress, to whom subscriptions should be sent, is Dr. Godart Danhieux, 9A, Rue Montoyer, Brussels, and the general secretary is Professor René Verhoogen, 22, Rue Joseph II., Brussels.

"THE LANCET" HYGIENIC TEST FOR GAS FIRES.

JUDGING from the considerable correspondence which we have received from various well-known makers of gas fires, the test originated in THE LANCET Laboratory for arriving at the hygienic efficiency of these fires and described for the first time in these pages on Feb. 7th, 1914, has met with general approval and wide acceptance. In a report subsequently published in THE LANCET of April 4th, 1914, the results of the examination by this test of a number of gas fires then upon the market were presented. The list of gas fires examined was a very representative one, but we stated at the time that any omissions would be repaired in a subsequent article if the makers would submit any new designs claimed to be an advance on existing types.

This invitation was accepted, and within a week of the publication of the report Messrs. John Wright and Co., of Essex Works, Aston, Birmingham, submitted to us 12 of their 1913 pattern stoves, which, as the following results show, passed the requirements of THE LANCET test perfectly, even when no flue length was attached to the flue nozzle. There was no forward escape of combustion products at all. In the following table the straight lines represent the rim of the canopy of the stove, which was tested at five different points. The lines are only drawn straight for diagrammatic purposes and for the convenience of printing, and do not necessarily represent the shape of the canopy, which may have a straight or curved rim, as the case may be. Where the sign "o" occurs it signifies no leakage; in the event of leakage the sign + is used.

"THE LANCET" TEST OF GAS FIRES (John Wright and Co.).

Name of fire	*Standard.*	*Swastika.*	*Forum.*	*Druid.*
Without elbow ...	o o o o o	o o o o o	o o o o o	o o o o o
2-ft. elbow attached	o o o o o	o o o o o	o o o o o	o o o o o

Name of fire	*Herald.*	*Sorcerer.*	*Merlin.*	*Talisman.*
Without elbow ...	o o o o o	o o o o o	o o o o o	o o o o o
2-ft. elbow attached	o o o o o	o o o o o	o o o o o	o o o o o

Name of fire	*Warlock.*	*Stadium.*	*Mascot.*	*Wizard.*
Without elbow ...	o o o o o	o o o o o	o o o o o	o o o o o
2-ft. flue attached ...	o o o o o	o o o o o	o o o o o	o o o o o

Further experience of the test shows that certain precautions are necessary in applying it. It proves to be very delicate, and a gas fire which gives absolutely negative results with it has passed through a severe ordeal. Occasionally a leakage is shown at the extreme ends of the canopy, which often proves to be due to a slight external draught. In order to obviate this disturbance it has been found necessary to protect the stove from such outward disturbances by placing it within a three-way screen, the wings of which keep draughts away from the field of combustion or from the exit nozzle. This accounts for a discrepancy in the previous report, in which apparently the Merlin stove of Messrs. John Wright showed a slightly increased leakage after a 4-ft. length of flue had been attached, whereas with a 2-ft. flue, which should render less assistance to the ventilation of the combustion products, the results seemed to be better. In either case, however, the leakage was so small as to be hygienically negligible, and the fact that it was only occasional pointed to an external disturbing factor. During the test, therefore, the fire should be protected from draughts. In the test, it may be remembered, an absorbent pencil, made, for example, of chalk, is soaked in carbon tetrachloride and placed near the air inlet of the gas fire. Traces of carbon tetrachloride are thus drawn into the burners, with the result that on combustion hydrochloric acid is produced, which, although present in small proportion, is readily detected by coming into contact with ammonia, forming dense fumes of ammonium chloride. If, therefore, the products of combustion are "by-passing," this will instantly be shown by fumes being produced when an open tube containing strong ammonia solution, or a sponge soaked in the solution, is placed at various points along the rim of the canopy.

We have also received from Messrs. Arden, Hill, and Co., of Acme Works, Birmingham, four gas fires for test. The results are given in the following diagram. They show, again, that these fires are so constructed as to permit of no escape of combustion products at all except by way of the flue nozzle, and the attachment of a 2-ft. length of flue was not necessary in any case.

"THE LANCET" TEST OF GAS FIRES (Arden, Hill, and Co.).

Name of fire	*Gnome.*	*Loka.*	*Olak.*	*Kalo.*
Without elbow ...	00000	00000	00000	00000
2-ft. length attached	00000	00000	00000	00000

These results justify our expressed conclusion that "the present attitude of the gas fire industry towards all questions of improvement is a most satisfactory one, and our inquiry shows that we may fairly expect in the near future an encouraging and hopeful issue." Progress in the direction indicated will mean that no reproach based on hygienic considerations against the radiant system of gas heating can remain. We are still conducting tests with fires received from other makers, and we shall publish the results from time to time as the experiments are completed.

ST. MARY'S HOSPITAL. — The annual old students' dinner in October next will be presided over by Sir Almroth Wright.

THE PARLIAMENTARY COMMITTEE ON FOOD AND HEALTH AND THE MILK AND DAIRIES BILLS.—At a meeting of the Parliamentary Committee on Food and Health, held at the House of Commons and presided over by Mr. Charles Bathurst, M.P., the following resolution was moved by the chairman, seconded by Sir W. Phipson Beale, M.P., and carried unanimously:—

> The Parliamentary Committee on Food and Health cordially supports the Milk and Dairies Bill and Milk and Dairies (Scotland) Bill as measures designed to secure to the community an unrestricted supply of pure milk with the minimum amount of interference with the producer. While recognising them to be capable of improvement in some details, it earnestly deprecates the insistence on drastic amendments as calculated gravely to imperil the passage of Bills long overdue and of vital importance to the health of the people and especially of the children. The committee trusts, however, that a clause sanctioning the sale of "certified milk," which in the United States has played so important a part in raising the milk standard and in forming public opinion in favour of clean milk, will, by general consent and in the interests alike of producers and consumers, be included in both measures.

Additional copies may be obtained by forwarding a stamped addressed envelope to the secretary, 178, St. Stephen's House, Westminster, S.W.

SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE (LONDON, 1913).

A FINAL meeting of the organising committee was held at 11, Chandos-street, Cavendish-square, W., in the rooms of the Medical Society of London, on Tuesday, July 7th. The President and 19 other members were present. The minutes of the last meeting were read and confirmed. Letters of regret for absence from several members were read. The following report of the finance committee was received, adopted, and ordered for entry on the minutes.

Report of the Finance Committee.

A subscription list towards the general expenses of the Congress was opened on Nov. 20th, 1910, and this list continued open until the date of the meeting in August, 1913.

Subscriptions thereto were received from 1613 individual members of the profession. Contributions were also generously made by the Royal College of Physicians of London, the Society of Apothecaries of London, the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, the Proprietors of THE LANCET, the Worshipful Companies of Merchant Taylors, Goldsmiths, Clothworkers, and Salters, also by Lady MacCormac, and Lady Butlin.

The total sum of £5418 5*s.* 7*d.* received from these sources was further augmented by £2834 4*s.* 4*d.*, the profit derived from the Congress Exhibition, and a sum of £195 3*s.* 11*d.* accruing from various sources, such as the sale of materials temporarily employed in the organisation of the central office and museum, and the interest on money placed upon deposit with the bankers.

To the above sums remains to be added £6494 11*s.* 9*d.* received in membership fees. Thus in all a grand total of £14,942 5*s.* 7*d.* was obtained.

An estimate of probable receipts and expenditure submitted by the honorary treasurers to the finance committee at an early date proved practically accurate as far as the expenses of organisation and the various sources of income are concerned. With regard, however, to the matter of entertainment, it should be noted that the reception committee undertook only a single evening conversazione, and that as on previous occasions the executive committee was largely indebted to the generosity of private individuals and public bodies for the highly successful social gatherings which took place. Mention of the various public bodies who gave invaluable help, both in affording accommodation for the meetings of the sections and in the exercise of hospitality, has already been made in the preface to the general volume of the Transactions. The estimate assumed further that, as on previous occasions, the sum received by payment of fees by members would suffice to meet the expenses of printing, publishing, and distributing the volumes of the Transactions of the Congress. When, however, the great mass of material afforded by the original papers and the discussions thereon came into the hands of the editors, a provisional estimate was asked for from the publishers as to the cost of printing and distribution. From that estimate, as submitted to the finance committee, it appeared obvious that the balance lying to the credit of the honorary treasurers would prove insufficient for the purpose for which it had been reserved. This insufficiency depended not only on the great mass of material to be printed, but also on the heavy cost to be entailed by the distribution of the volumes to members, so large a proportion of whom reside either on the continent, in America, or in the dominions beyond the seas.

The finance committee therefore decided to make an appeal to the officers of each section and subsection, and thus endeavour to raise from each an additional sum proportionate to the size of the section or subsection concerned, and to the expense incurred in printing and distributing its volume of the Transactions. The ready help afforded by all the sections (excepting those of orthopædics and dermatology, from whom no contributions have been received) towards meeting the expected deficiency resulted in the collection of £646 0*s*. 6*d*. In consequence, however, of editorial curtailment of some of the papers and discussions, and the unexpected receipt of a sum of £347 0*s*. 7*d*. by sales of the Transactions (up to date), the publishers' provisional estimate proved to have been excessive, with the result that the honorary treasurers found themselves with a balance of £337 19*s*. 8*d*. at the bank, as well as with a credit balance with the publishers of £59 2*s*. 4*d*. Since the sum realised by the special appeal was subscribed for the exclusive object of completing the Transactions, the finance committee decided that the balance of the money should be returned to the respective donors in proportion to the amount subscribed, and this decision has been already carried into effect. It may be noted that in spite of considerable curtailment the volumes of Transactions extend to the formidable total of 12,498 pages. The finance committee wishes to draw special attention to the remarkable promptitude and success with which this great undertaking has been carried out by the editorial secretaries of sections and the editorial committee, and also to the excellence with which the volumes, printed in three languages, have been produced, in a space of little more than six months, by the Oxford Press.

Now that all expenditure has been met, a sum of £49 1*s*. 2*d*. lies in the hands of the treasurers, which may still be slightly augmented by the sale of further copies of the Transactions, and it remains for the general committee to decide what shall be done with the eventual balance.

Mr. D'ARCY POWER moved, and the GENERAL SECRETARY seconded, and it was resolved that the following gentlemen be nominated as members of the National Committee of Great Britain and Ireland for the purposes of the International Congresses of Medicine, with power to add to their number: Dr. Theodore Dyke Acland, Sir Clifford Allbutt, K.C.B., Professor F. W. Andrewes, Sir Charles Ball, Bart., Mr. C. A. Ballance, M.V.O., Professor H. G. Barling, Sir James Barr, Dr. E. F. Bashford, Sir A. A. Bowlby, C.M.G., Mr. Stanley Boyd, Sir J. Rose Bradford, K.C.M.G., Dr. Mitchell Bruce, Sir Lauder Brunton, Bart., Dr. Dudley Buxton, Sir John Byers, Sir Francis H. Champneys, Bart., Sir Havelock Charles, G.C.V.O., Mr. Arthur Cheatle, Sir W. Watson Cheyne, Bart., C.B., Sir T. S. Clouston, Mr. Treacher Collins, Sir James Crichton-Browne, Sir Anderson Critchett, Bart., C.V.O., Sir Halliday Croom, Sir Bertrand Dawson, K.C.V.O., Dr. J. Gordon Dill, Professor A. F. Dixon, Sir Dyce Duckworth, Bart., Sir Frederick Eve, Mr. Hurry Fenwick, Sir David Ferrier, Dr. Magee Finny, Sir J. Kingston Fowler, K.C.V.O., Professor Sir Thomas Fraser, Dr. Galloway, Dr. Garrod, Sir Alfred Pearce Gould, K.C.V.O., Dr. Dundas Grant, the Director-General of the Medical Department of the Navy, the Director-General of the Army Medical Service, the Medical Adviser to the India Office, Dr. de Havilland Hall, Dr. C. O. Hawthorne, Sir Wilmot Herringham, Sir F. W. Hewitt, M.V.O., Mr. W. H. H. Jessop, Dr. Robert Armstrong-Jones, Mr. Robert Jones, Sir Alfred Keogh, K.C.B., Dr. Percy Kidd, Mr. Ernest Lane, Sir Arbuthnot Lane, Bart., Mr. J. B. Lawford, Colonel Sir William B. Leishman, Professor J. A. Lindsay, Professor Alexander Macalister, Sir Donald MacAlister, K.C.B., Sir Wm. Macewen, Sir John McFadyean, Mr. G. H. Makins, C.B., Professor Howard Marsh, Dr. Mercier, Sir J. W. Moore, Sir Henry Morris, Bart., Sir Malcolm Morris, K.C.V.O., Dr. F. W. Mott, Sir Berkeley G. A. Moynihan, Sir Shirley Murphy, Professor G. R. Murray, Sir T. Myles, Dr. Newsholme, C.B., Sir Thomas Oliver, Sir William Osler, Bart., Sir George Hare Philipson, Mr. D'Arcy Power, Sir James Reid, Bart., G.C.V.O., K.C.B., Professor Arthur Robinson, Dr. Rolleston, Sir Ronald Ross, K.C.B., Dr. Amand Routh, Dr. F. M. Sandwith, Professor R. Saundby, Sir Edward Schäfer, Mrs. Scharlieb, Sir Felix Semon, K.C.V.O., Sir Seymour Sharkey, Professor S. G. Shattock, Professor Sherrington, Professor T. Sinclair, Dr. Percy Smith, Dr. Herbert Spencer, Dr. Squire Sprigge, Professor Starling, Dr. G. F. Still, Dr. G. A. Sutherland, Mr. Charters Symonds, Dr. Fred. Taylor, Professor Alexis Thomson, Professor Arthur Thomson, Sir StClair Thomson, Professor Thorburn, Sir John Tweedy, Mr. E. F. White, Dr. Hale White, Professor Sinclair White, Sir Arthur Whitelegge, K.C.B., Sir William Whitla, Dr. Dawson Williams, and Sir Almroth Wright.

President: Sir Thomas Barlow, Bart., K.C.V.O. Secretaries: Dr. Clive Riviere, 19, Queen Anne-street, W., and Mr. H. J. Paterson, 9, Upper Wimpole-street, W.

The following resolutions were passed by the meeting arising out of the report:—

1. That it be left to the officers of the Congress to decide how the eventual balance from the general funds should be disposed of.
2. That the Royal Society of Medicine be asked to deposit the minute books and other records of the Congress in their library.

The meeting terminated with a brief speech from the President, Sir THOMAS BARLOW, expressing the gratitude of all concerned in the working of the Congress to the secretaries of the various sections, and especially to the secretary-general, Sir Wilmot Herringham.

PUBLIC HEALTH ADMINISTRATION IN EGYPT DURING 1913.

Earl Kitchener, in his Report on the Finances, Administration, and Condition of Egypt and the Sudan in 1913, publishes an annual summary of progress, in continuation of the intellectual and literary reports with which Lord Cromer used to charm us.

In spite of the abnormally low Nile of 1913, followed by a shortage of water which was the worst on record for more than a century, the year's progress was far more satisfactory than might have been anticipated. Famine, the necessary accompaniment in the past of a very low Nile flood, was averted by the thickening and heightening of the Assuan dam, which fortunately had just been completed. Sanitary improvements depend upon the state of the Treasury, and funds in rainless Egypt are dependent upon agriculture, which in its turn requires every year a wealth of Nile water.

The Public Health Department.

Space compels us to restrict ourselves to the Public Health Department, which now, for the first time in its history, has a strictly scientific Director-General in Sir David Semple. In order to give him a freer hand for dealing with the endemic diseases of the country two sections have been pruned away; the two lunatic asylums have been made into a separate department under Dr. J. Warnock, and the veterinary section and school have been transferred to the Ministry of Agriculture. History in Egypt invariably repeats itself, and a new Board of Health, with consultative and advisory powers only, has been created to assist the Director-General. We may hope that it will prove more useful than its predecessor, which came into existence in 1825 and was abolished in 1884, chiefly because it was incompetent to deal with the cholera epidemic which devastated Egypt soon after our occupation of the country.

For many years the energy of the Public Health Department has been principally occupied in fighting three epidemic diseases—plague, cholera, and rinderpest; but Lord Kitchener has now decreed that the chief endemic diseases, such as ankylostomiasis, bilharziasis, pellagra, and typhus fever, must be seriously studied and taken in hand. He rightly points out that the equipment of hospitals for treating the sick does not strike at the root of the evil, and that preventive measures must begin with village sanitation. He has already persuaded the villagers to fill up many of their bilharzial and other ponds, which are fruitful sources of infection. The land thus reclaimed is useful for providing open spaces for the inhabitants of the villages, which consist of overcrowded mud huts, unventilated, and for the most part unprovided with latrines. With the help of prison labour 109 ponds, with an area of 93 acres, were filled in during the year. The lines upon which he thinks sanitary progress in the villages should proceed are (1) education of the people in the causes and prevention of their common diseases; (2) formation of partly trained inspectors of the sergeant class to work under the district doctors; (3) improvement of houses and water-supply, with the gradual introduction of simple latrines.

Travelling Hospitals: Campaign against Ankylostomiasis.

The success of the travelling ophthalmic hospitals and dispensaries, which take the operator and treatment into the heart of the country, has been so great that the Public Health Department determined to imitate this system, and accordingly last September a temporary ankylostoma hospital was opened outside the town of Kaliub, about one hour's distance by train from Cairo. The ankylostomiasis campaign will also include investigation into bilharziasis and pellagra, because the unfortunate peasant is often the victim of all three scourges, and in order to ensure that it be started with all proper experience of organisation and of the habits and customs of the people it has been placed directly under the control of Mr. A. F. MacCallan, who will, therefore, be unable to concentrate his energy exclusively upon the campaign against ophthalmia. This latter can safely be trusted to other hands, for there are now 17 special ophthalmic hospitals in various parts of the country, all provided during the last few years. The oculists, English and Egyptian, had the satisfaction during the year of curing some 25,000 patients and of performing 30,000 operations, mostly on young people, for the relief of trachoma and ingrowing eyelashes. When a travelling ophthalmic hospital has been in one of the small towns for six months and has been crowded every day with eager out-patients, it is now not uncommon for the local Egyptian authorities to wake up to the need of a permanent eye dispensary, which is thus sometimes provided from the local rates.

The first ankylostoma hospital consists of 100 beds for both sexes, sheltered in tents or huts of matting, the only camp furniture necessary being wooden trestle beds with matting to lie upon and blankets to lie beneath. Great attention is paid to the latrines, which are screened by walls of matting, because their cleanliness and the microscopical examination of the excreta are obviously of educative value, a value not less important than ridding the individual of his intestinal parasites. Since 17 per cent. of the Egyptian lunatics are found to be pellagrous, it is surely time to find out how many of the sane are affected, and we are glad to see that Lord Kitchener looks forward to "a prolonged, well-organised, and thoroughly scientific investigation of pellagra in connexion with the ankylostomiasis campaign."

Infant Mortality

that the vigorous personality of the present Agent and Consul-General is causing them to bear practical fruit. The area of the country infected by plague remains as before, but the total number of cases fell during the year from 884 to 654.

The School of Medicine.—Education of Girls.

The School of Medicine continues to flourish, with a total of 258 students, but it is still difficult to find young Egyptians who are willing to devote their lives to the purely scientific and less remunerative branches of the medical profession. Three additional posts have been created, which for long have been wanted, assistants to the professors of biology, chemistry, and anatomy. There are also 209 Egyptian students who are now studying medicine in Europe, mostly unconnected with the Egyptian Government.

The ruined condition of the buildings at Kasr-el-Ainy Hospital in Cairo, where all the young men and women who enter the profession are trained in hospital life, is not referred to in this report, but it is obvious that a military barrack, constructed more than a century ago and now past repair, is unfitted to serve as a model of what a great hospital ought to be.

The most wonderful change at work in Egypt is the recent public interest in the education of girls. In any country this would be noteworthy, but in Egypt, where only two women in every 1000 can read their own language, while still fewer can write it, this constitutes a silent revolution of the greatest possible importance. Elementary schools for girls are springing up, in which needlework, cooking, laundry, and elementary hygiene are taught, in addition to reading, writing, arithmetic, and the Koran. In defiance of all tradition and without losing caste, it is now possible for an unmarried Egyptian girl, who has been trained as a teacher in Cairo, to leave her home and migrate to the provinces to take charge of one of these new schools for girls. She thus often becomes the breadwinner of the family, for her salary may rise to £300 a year, perhaps ten times more than her own father has ever earned. After centuries of prejudice both men and women seem to be realising a verse of the Koran: "A man can find Paradise at his mother's feet."

VITAL STATISTICS.

deaths from scarlet fever, which had been 24, 24, and 30 in the three preceding weeks, fell to 23 last week, and included 6 in Manchester, 3 in London, and 2 in Salford. The deaths from enteric fever, which had been 16, 8, and 13 in the three preceding weeks, rose again to 16 last week, and included 5 in London and 2 in Newcastle-on-Tyne.

The number of scarlet fever patients under treatment in the London Fever and the Metropolitan Asylums Hospitals, which had steadily increased from 2862 to 3088 in the seven preceding weeks, further rose to 3092 on Saturday last; 442 new cases were admitted during the week, against 391, 405, and 440 in the three preceding weeks. These hospitals also contained on Saturday last 1039 cases of diphtheria, 286 of whooping-cough, 61 of measles, and 41 of enteric fever, but not one of small-pox. The 1148 deaths from all causes in London were 103 more than the previous number, and corresponded to an annual death-rate of 13·3 per 1000. The deaths referred to diseases of the respiratory system, which had been 143, 163, and 144 in the three preceding weeks, fell to 126 in the week under notice, and were equal to the number in the corresponding week of last year.

Of the 4421 deaths from all causes in the 97 towns, 192 resulted from different forms of violence and 363 were the subject of coroners' inquests. The causes of 33, or 0·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London, Portsmouth, Bristol, Leicester, Nottingham, Salford, Bradford, Leeds, Newcastle-on-Tyne, and in 69 other smaller towns. Of the 33 uncertified causes of death, 5 were registered in Liverpool, and 3 each in Birmingham and in Darlington.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1216 births and 621 deaths were registered during the week ended Saturday, July 4th. The annual rate of mortality in these towns, which had been 14·4, 14·6, and 13·8 per 1000 in the three preceding weeks, rose to 14·1 per 1000 in the week under notice. During the thirteen weeks of last quarter the mean annual death-rate in these towns averaged 15·5, against a corresponding rate of 13·8 per 1000 in the 97 large English towns. Among the several towns the death-rate last week ranged from 3·1 in Falkirk, 9·7 in Paisley, 12·1 in Coatbridge, and 12·2 in Edinburgh, to 15·2 in Glasgow, 15·7 in Ayr, 18·0 in Aberdeen, and 20·3 in Hamilton.

The 621 deaths from all causes were 16 more than the number in the previous week, and included 41 which were referred to the principal epidemic diseases, against 67 and 52 in the two preceding weeks. Of these 41 deaths, 13 resulted from infantile diarrhœal diseases, 12 from whooping-cough, 9 from measles, 5 from diphtheria, and 1 each from scarlet fever and enteric fever. The mean annual death-rate from these diseases was equal to 0·9 per 1000, or 0·4 less than the rate recorded in the 97 large English towns. The deaths attributed to infantile diarrhœal diseases, which had been 10, 21, and 10 in the three preceding weeks, rose to 13 during the week under notice, and included 4 in Glasgow, 3 in Hamilton, and 2 in Aberdeen. The fatal cases of whooping-cough, which had been 15, 20, and 18 in the three preceding weeks, fell to 12 last week and included 10 in Glasgow. The deaths from measles, which had been 12, 17, and 7 in the three preceding weeks, rose to 9 last week; 4 of these were registered in Glasgow and 3 in Dundee. The deaths from diphtheria, which had been 2, 6, and 8 in the three preceding weeks, fell to 5 last week and included 3 in Glasgow. The fatal case of scarlet fever was registered in Motherwell, and that of enteric fever in Glasgow.

The deaths referred to diseases of the respiratory system, which had been 95, 77, and 64 in the three preceding weeks, were 63 last week; 33 deaths were referred to different forms of violence, against 24 and 26 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 615 births and 375 deaths were registered during the week ended Saturday, July 4th. The annual rate of mortality in these towns, which had been 17·9, 17·7, and 15·7 in the three preceding weeks, rose to 16·2 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these towns averaged 19·0 per 1000; in the 97 large English towns the corresponding rate did not exceed 13·8, while in the 16 Scotch towns it was equal to 15·5 per 1000. The annual death-rate in the week under notice was equal to 16·3 in Dublin (against 13·3 in London and 15·2 in Glasgow), 17·0 in Belfast, 20·4 in Cork, 14·0 in Londonderry, 20·3 in Limerick, and 9·5 in Waterford, while in the 21 smaller towns the mean rate was 13·7 per 1000.

The 375 deaths from all causes were 11 below the number in the previous week, and included 47 which were referred to the principal epidemic diseases, against 50 and 36 in the two preceding weeks. Of these 47 deaths, 15 resulted from measles, 14 from infantile diarrhœal diseases, 10 from whooping-cough, 4 from diphtheria, 3 from scarlet fever, and 1 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 2·1 per 1000, against 1·3 and 0·9 per 1000 in the English and Scotch towns respectively. The deaths attributed to infantile diarrhœal diseases, which had been 10, 15, and 11 in the three preceding weeks, rose to 14 last week, and included 7 in Belfast, 4 in Dublin, and 2 in Cork. The fatal cases of measles, which had been 16, 19, and 13 in the three preceding weeks, rose to 15 last week, and included 9 in Belfast and 2 each in Dublin and in Lurgan. The deaths referred to whooping-cough, which had been 8, 3, and 6 in the three preceding weeks, rose to 10 last week; 7 of these 10 deaths were registered in Belfast and 2 in Cork. The fatal cases of diphtheria, which had been 1, 2, and 2 in the three preceding weeks, rose to 4 last week, and included 2 in Dublin. The 3 deaths from scarlet fever, 2 of which occurred in Belfast, were slightly below the average for recent weeks. The death ascribed to enteric fever was certified as "paratyphoid" and occurred in Dublin.

The deaths referred to diseases of the respiratory system, which had been 67, 68, and 57 in the three preceding weeks, were 41 in the week under notice. Of the 375 deaths from all causes, 110, or 29 per cent., occurred in public institutions and 7 resulted from various forms of violence. The causes of 17, or 4·5 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified deaths did not exceed 0·7 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Staff-Surgeons: P. D. M. Campbell to the *Wildfire*, additional, for disposal; and F. G. Wilson to the *Victory*, additional, for disposal.

ARMY MEDICAL SERVICE.

Colonel Harry S. McGill, from the Half-pay List, retires on retired pay (dated July 8th, 1914). Colonel Thomas J. O'Donnell, D.S.O., *on completion of four years' service in his rank, is placed on the Half-pay List* (dated July 7th, 1914). Brevet-Colonel Samuel Hickson, Honorary Surgeon to the King, from the Royal Army Medical Corps, to be Colonel, vice T. J. O'Donnell, D.S.O., to half pay (dated July 7th, 1914).

ROYAL ARMY MEDICAL CORPS.

Major John Hennessy to be Lieutenant-Colonel (dated July 7th, 1914).

Captain William W. Boyce, *from the half-pay list*, is restored to the establishment (dated June 29th, 1914).

Colonel S. Hickson has taken up duty at the Horse Guards as Inspector of Medical Services on the staff of the Inspector-General of the Forces.

Lieutenant-Colonel T. du B. Whaite has been transferred from Woolwich to the Military *Hospital at Lahore* as Senior Medical Officer. Lieutenant-*Colonel J. C. O'Connor* has been *appointed* Deputy Assistant *Director of* Medical Services to the Irish *Command* Headquarters Staff. Lieutenant-Colonel J. H. *Daly* has been appointed to hold charge of the Military Hospital at Belfast. Lieutenant-Colonel G. Cree has taken up duty as *Assistant* Director of Medical Services at *Bordon*. Lieutenant-*Colonel* G. A. T. Bray has been appointed *Deputy Surgeon* to the Royal Hospital at Chelsea. Lieutenant-Colonel O. L. Robinson has taken up duty as *Professor of Tropical* Medicine at the Royal Army Medical College, *Grosvenor-road*. Lieutenant-Colonel T. McCulloch has been appointed to hold charge of the Medical Division and Sanatorium at the Royal Victoria Hospital, Netley. Lieutenant-Colonel *D. M. O'Callaghan* has been placed under *orders* for service abroad during the coming trooping season. Lieutenant-Colonel F. Smith, D.S.O., has been appointed Medical Inspector of Recruits to the Irish Command Headquarters Staff. Lieutenant-Colonel B. B. Scott has taken up duty in the London District.

Major D. L. *Harding* has been appointed to hold charge of the Military Hospital at Mullingar. Major H. W. [illegible] has taken up duty at *Netheravon*. Major M. H. G. Fell has been appointed Deputy *Assistant* Director of Medical Services, Aldershot Command. Major J. G. Gill has been [illegible] to the *Southern Command*. Major R. L. Popham has been transferred from the Cork District to the Military Hospital at Nowshera Cantonment. Major F. E. Gunter has been appointed to hold medical charge of the Cadets at the Royal Military College, Sandhurst, on transfer from [illegible]

Major J. Matthews has arrived home for duty from the Ninth (Secunderabad) Division. Major W. Davis has taken up duty at Naini Tal. Major A. G. Thompson has been appointed to the Southern Command. Major G. J. A. Ormsby has arrived home for duty from Meerut Cantonment. Major J. L. Jones has been transferred from the Military Hospital at Calicut Cantonment to Wellington Sanatorium. Major J. F. Martin has been appointed to the Aldershot Command. Major J. C. Kennedy has been appointed to the Military Hospital at Lebong Cantonment on transfer from Lucknow. Major H. G. Pinches has been appointed to the Military Hospital at Sheerness. Major R. McK. Skinner has been transferred from the Curragh Camp to the Military Hospital at Lahore. Major H. S. Thurston has been placed under orders for service abroad during the coming trooping season. Major W. J. P. Adye-Curran has been appointed Specialist in Advanced Operative Surgery to the Military Hospital at Cosham. Major T. H. M. Clarke, C.M.G., D.S.O., has taken over medical charge at the Royal Hibernian Military School, Phœnix Park, Dublin. Major W. J. S. Harvey has been appointed Company Officer to No. 29 Company, Royal Army Medical Corps at Jamaica. Major C. E. Fleming has been appointed to hold charge of the Military Families Hospital at Roberts's Heights, Pretoria. Major F. McLennan has been appointed Adjutant to the School of Instruction at Aberdeen. Major C. E. Pollock has joined for duty at Sierra Leone. Major F. S. Walker has been appointed to hold charge of the Military Hospital at Fort Camden. Major C. R. L. Ronayne has arrived home on leave of absence from Gibraltar. Major H. A. Bransbury has been granted six months' general leave of absence. Major E. P. Sewell has been appointed Specialist Sanitary Officer in Ceylon. Major W. Riach has been appointed Specialist in Ophthalmology to the Queen Alexandra Military Hospital at Grosvenor-road. Major H. S. Roch has been appointed to Pretoria.

Captain D. T. MacCarthy has been granted six months' leave of absence home from India with permission to revert to the Home Establishment at its expiration. Captain F. C. Lambert has been transferred from Pembroke Dock to the Military Hospital at Poona Cantonment. Captain R. G. S. Gregg has taken up duty at Aden on transfer from Karachi. Captain A. C. Amy has joined at Bury. Captain J. A. Anderson has been appointed to the Royal Army Medical College for the course of instruction for promotion to the rank of Major. Captain H. B. Kelly has been placed under orders for service abroad. Captain W. W. Browne has been appointed Specialist in the Prevention of Disease and placed in charge of the Bacteriological Research Laboratory at Ahmednagar. Captain H. Harding has been appointed to the Military Hospital at Warley. Captain V. C. Carruthers has been granted leave of absence for one month. Captain W. R. Galwey has been appointed Deputy Assistant Director of Medical Services (Sanitary Branch) to the Ninth (Secunderabad) Division. Captain J. H. Graham has taken up duty at Cosham. Captain W. Mitchell has been appointed to hold charge of the Military Hospital at Wrexham. Captain C. Scaife has arrived home for duty from India. Captain J. A. Manifold has been appointed to hold charge of the Military Hospital at Warwick Camp, Bermuda. Captain H. L. Howell has been appointed to hold charge of the Native Section Hospital at Kirkee Cantonment. Captain D. F. Mackenzie has been appointed Staff-Surgeon at Meerut. Captain C. H. Stringer has joined at Jamaica.

Lieutenant R. K. Mallam has been transferred from Bordon to the Second (Rawal Pindi) Division. Lieutenant W. McNaughtan has taken up duty at Quetta on transfer from the Royal Victoria Hospital at Netley. Lieutenant M. Burnett has embarked for India. Lieutenant J. H. M. Frobisher has been appointed to Lucknow Cantonment. Lieutenant W. B. Stevenson has been transferred from Deepcut to Rawal Pindi Cantonment. Lieutenant G. F. Allison has been appointed to the Military Hospital at York on transfer from Strensall. Lieutenant W. L. Webster has been transferred from Limerick to the Military Hospital at Cairo. Lieutenant D. T. Large has been appointed to the Fifth (Mhow) Division. Lieutenant R. W. Richardson has been appointed to the Military Hospital at Jubbulpore. Lieutenant E. B. Allnutt has been transferred from Poona Cantonment to the Military Hospital at Purandhur. Lieutenant A. G. Bigham has taken up duty at Rawal Pindi.

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel M. A. Ker has been appointed to officiate as Assistant Director of Medical Services to the Derajat and Bannu Brigades, vice Colonel J. Crimmin, V.C., C.B., C.I.E., granted leave of absence. Lieutenant-Colonel L. F. Childe has taken up duty as Professor of Medicine and Therapeutics at the Grant Medical College, Bombay. Lieutenant-Colonel E. H. Wright has been appointed District Medical and Sanitary Officer and Superintendent of the Medical School at Tanjore. Lieutenant-Colonel H. E. Banatvala has been confirmed in the appointment of Inspector-General of Civil Hospitals and Prisons and Sanitary Commissioner to the Government of Assam. Lieutenant-Colonel G. M. C. Smith has taken up duty as Superintendent of the District Prison at Ludhiana. Lieutenant-Colonel E. P. Maynard, professor of ophthalmic surgery at the Medical College, Calcutta, has been granted six months' leave of absence home from India. Lieutenant-Colonel H. Fooks, medical officer of the 15th Lancers, has been appointed to officiate as Assistant Director of Medical Services to the Bombay Brigade, vice Colonel H. Hendley, granted seven months' leave of absence home from India.

Major C. Hudson, D.S.O., has taken over substantive medical charge of the 2nd Rajputs at Muscat. Major D. H. F. Cowin has joined at Patiala. The services of Major J. M. Woolley have been placed permanently at the disposal of the Government of Burma. Major E. A. C. Matthews has been appointed Honorary Surgeon to H.E. the Viceroy and Governor-General of the East Indies.

Captain C. H. Reinhold, civil surgeon at Bijnor, has been transferred. Captain W. J. Powell has joined at Kasauli. Captain G. A. Jolly, officiating civil surgeon at Fategarh, has been granted nine months' combined leave. Captain A. F. Babonau has joined at the Naga Hills District. Captain B. Higham has been appointed to hold medical charge of the Sind Rifles, vice Colonel B. B. Grayfoot, transferred. Captain H. B. Scott has been appointed Pathologist to the General Hospital at Rangoon, vice Captain A. Whitmore, granted leave of absence. Captain W. Gillit, superintendent of the Bhagalpur Central Prison, has been appointed to officiate as Civil Surgeon at Bhagalpur, vice Lieutenant-Colonel J. C. S. Vaughan, granted leave of absence. Captain I. D. Jones has been appointed Professor of Materia Medica at the Grant Medical College, Bombay.

Lieutenant N. C. Kapur has been appointed to hold medical charge of the 31st Mountain Battery and Frontier Garrison Artillery.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

No. 18 Field Ambulance: Lieutenant-Colonel (Honorary Major in the Army) A. A. Watson, R.A.M.C. (T.), to be Lieutenant-Colonel (dated May 1st, 1914). Captain Wilson H. P. Hey resigns his commission (dated July 4th, 1914).

The under-mentioned to be Lieutenants (on probation):—Cadet Corporal William Siegfried Dawson, from the Oxford University Contingent, Officers Training Corps (dated May 20th, 1914). Cadet Griffith Ivor Evans, from the Oxford University Contingent, Officers Training Corps (dated May 20th, 1914). Cadet Sergeant Thomas William Clarke, from the Edinburgh University Contingent, Officers Training Corps (dated May 26th, 1914). Cadet Sergeant John Culleuan, from the Belfast University Contingent, Officers Training Corps (dated June 4th, 1914). Cadet Arthur George Fisher, from the Dublin University Contingent, Officers Training Corps (dated June 5th, 1914).

TERRITORIAL FORCE.

Royal Army Medical Corps.

Highland Mounted Brigade Field Ambulance, Royal Army Medical Corps: John Broadfoot to be Lieutenant (dated May 1st, 1914).

3rd East Lancashire Field Ambulance, Royal Army Medical Corps: Captain Wilson H. P. Hey resigns his commission (dated July 4th, 1914).

Attached to Units other than Medical Units.—Lieutenant-Colonel (Honorary Major in the Army) Andrew A. Watson is seconded for service with No. 18 Field Ambulance, Royal Army Medical Corps (Special Reserve) (dated May 1st, 1914). Captain Samuel M. Sloan to be Major (dated May 22nd, 1914). Captain John Orr resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated July 4th, 1914).

Supernumerary for Service with the Officers Training Corps.—Lieutenant Patrick Nicol, serving with the Aberdeen University Contingent, Senior Division, Officers Training Corps, resigns his commission (dated July 4th, 1914).

ST. JOHN AMBULANCE BRIGADE.

On July 4th 1500 members of the Prince of Wales's Corps of the St. John Ambulance Brigade paraded in Hyde Park for their annual inspection. Surgeon-General Sir Arthur W. May, Director-General of the Medical Department of the Royal Navy, presented the trophies and long service medals

Surgeon-General G. J. H. Evatt, C.B., will give an address to the St. Marylebone Red Cross Camp at Eastcott Hall, on July 12th (Sunday), at 7 P.M., on "The Real Florence Nightingale."

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

LIVERPOOL.

The University of Liverpool.

THE Chancellor of the University (the Earl of Derby) presided at a special congregation held on Saturday, July 4th, in St. George's Hall, when degrees were conferred on the successful students in the recent examinations. The Vice-Chancellor (Sir Alfred Dale) announced the appointments to fellowships and studentships and the names of the prize-winners, and then closed the proceedings with the Latin formula of dismissal. Mr. Keith W. Monsarrat has resigned the post of Dean of the Faculty of Medicine, and Professor J. M. Beattie has been nominated in his place.

National Association for the Prevention of Infant Mortality Conference.

The National Association for the Prevention of Infant Mortality and for the Welfare of Infancy held its annual conference in Liverpool on July 2nd and 3rd. Mr. Herbert Samuel, the President of the Local Government Board, was to have delivered the inaugural address, but was detained in London. He sent a letter in which he said it had been a great satisfaction to him to see the remarkable reduction that had taken place in the rate of infant mortality during the last few years, and that whatever assistance the Local Government Board could render to the great object the association had in view would be gladly given. In the absence of Mr. Samuel, the opening address to the conference was delivered by Mr. J. Herbert Lewis, Parliamentary Secretary to the Board, who laid stress upon the value of coöperation between public and voluntary bodies in tackling the problem of infant welfare. The official work, central and local, of the country, he said, was changing. The day of stiff official starch was past. They needed and had something more pliable, more human, and something more touched with the spirit and needs of the common people, with none of the meretricious superiority of a mere narrow bureaucracy. Many interesting papers were read subsequently. Among the most interesting were those of Dr. A. K. Chalmers on Ante-natal Hygiene; Dr. Eric L. Pritchard on the Scope and Functions of Schools for Mothers; Dr. E. W. Hope on the Aims, Objects, and Methods of Sterilisation of Milk; and Dr. C. W. Saleeby on the Nurture of the Race.

Appointment for Professor B. Moore.

The Liverpool University is about to lose the services of Professor Benjamin Moore, whose important appointment at the new National Health Laboratory has already been noted in your columns. There will be three sections in the laboratory. One will be concerned with bacteriology, the second with experimental physiology, while the third will embrace applied physiology and hygiene. Professor Moore will be attached to the third of these, and he will have as his colleague Dr. Leonard Hill. For 12 years Professor Moore has occupied the Johnston chair of biochemistry at the Liverpool University, and for some time he was dean of the medical faculty. He became especially prominent during the time of the Insurance Bill controversy, when he was the chief advocate of a State medical service. To the Liverpool University the value of his work is impossible adequately to estimate, and the council have received the intimation of his resignation with regret, coupled with good wishes for success in his important Government work in London. By the resignation of Professor Moore another chair in the medical faculty is rendered vacant, no one as yet having been appointed to the chair of physiology to succeed Professor C. S. Sherrington, who earlier this year went to Oxford.

After-care of School Children.

In THE LANCET of June 6th, p. 1641, a reference was made to a decision of the Liverpool education committee to transfer the following up of ailments of school children from the medical department to that of the director of education. These proposals, however, were not pursued, and were withdrawn by the chairman of the education committee from consideration by the city council. The matter therefore remains as before in the medical department.

Measles in Liverpool.

Owing to the large number of cases of measles among the younger children in the city the medical officer of health, Dr. E. W. Hope, has ordered the closing of the infant departments in all the schools in Liverpool. The officials of the health department expect that the closing of the schools for a fortnight and the holiday period of five weeks which will then ensue will have the desired effect of checking the outbreak. The present temperate weather is also a factor in stopping the spread of the disease.

St. Paul's Eye Hospital.

The annual meeting of the St. Paul's Eye Hospital was recently held at the town hall. The Lord Mayor presided, and moved the adoption of the report and balance sheet, the latter of which showed a carried forward deficit of £737. The St. Paul's Hospital recognised that prevention was more important than cure, and in this connexion he mentioned that one of the most prolific causes of blindness was ophthalmia neonatorum. The hospital had done much to prevent this class of blindness. There were other diseases of the eye which did not produce blindness, but which produced so much incapacity that it almost amounted to blindness, and it was in respect to these other diseases that the hospital had given so much assistance. He was sorry, under these circumstances, that the needs of the hospital had not been fully met by the subscription list, and that there was a serious deficiency. When the valuable work of the institution had been more fully recognised he trusted that the public would realise that it well deserved their support in their own interests as well as in the interests of humanity. Mr. C. S. Rigg seconded, and the report was adopted. Sir William Bowring and Dr. E. Stevenson proposed the re-election of the committee, and votes of thanks were accorded to the ladies' committee and the medical staff.

July 7th.

SCOTLAND.

Health of Edinburgh.

IN the report of the medical officer of health for this city (Dr. A. M. Williamson) for the year 1913, which has recently been issued, the death-rate of the city is the lowest ever recorded, and in this respect now compares most favourably with other large centres of population. Dr. Williamson directs special attention to the spread of cancer, compares its incidence and death-rate with those of tuberculosis, and deplores the comparatively slight attention paid to the former condition compared to the latter.

Honorary Degrees at Edinburgh University.

The summer graduation ceremony took place on July 3rd in the M'Ewan Hall, under the presidency of Sir William Turner, Vice-Chancellor of the University. The hall was filled in every part. Among the 13 recipients of honorary degrees were Dr. Byrom Bramwell, consulting physician to the Edinburgh Royal Infirmary, and Dr. F. W. Mott, pathologist of the London County Asylums. Professor James Mackintosh, dean of the Faculty of Laws, in presenting Dr. Bramwell and Dr. Mott for the degree of Doctor of Laws, referred to the former's rare acumen in diagnosis and sympathetic attitude to every advance in medical thought and practice, and to the latter's acknowledged leadership of medical opinion in the great and growing department of psychiatry, and in particular in the subject which he had made peculiarly his own—the pathology of the brain and mental disease.

The Royal Visit to Glasgow.

The King and Queen had an enthusiastic reception at Glasgow on July 7th. His Majesty first opened the Diamond Jubilee Memorial block at the Royal Infirmary, which has cost £500,000, and passed through some of the wards. He was much interested in the Lister relics which are preserved at the infirmary. In the afternoon Their Majesties visited the newly rebuilt Royal Hospital for Sick Children, and paid a brief call at the Western Infirmary.

The Drug Fund in Kincardineshire.

While the chemists in Aberdeenshire and in the city of Aberdeen have been in the unfortunate position of having deductions made from their drug accounts, their brethren in the adjoining county of Kincardineshire are more fortunate. Their accounts are not only to be paid in full, but in addition they are to receive a substantial bonus amounting approximately to 39 per cent. of the chemists' accounts.

July 7th.

IRELAND.

The Working of the National Insurance Act in Ireland.

IN the annual report on the working of the National Insurance Act just issued the statement is made that "the administration of benefits by societies in Ireland has been very satisfactory. The societies have shown a desire to deal with applications for benefit in as sympathetic a manner as possible consistent with their duties to their members as a whole." This represents an unduly optimistic view of the facts. While some societies are acting as the report states, others, including some of the largest and most important, place every obstacle in the way of a member obtaining his benefit. In some cases no medical certificate is accepted except that of the society's medical officer, and if a dissatisfied member wishes to appeal to a committee of complaints he must first lodge the sum of £1, which it is almost invariably impossible for him to do. Discontent is gradually growing, and boards of guardians throughout the country are complaining that sick people entitled to benefit are falling on the rates. The Athlone guardians, for instance, at their last meeting unanimously passed a resolution asking the Insurance Commissioners to dispense with the services of the "medical adviser" in their district.

Public Health Administration of Dublin.

Sir Charles Cameron, superintendent medical officer of health of Dublin, has issued a "Brief History of Municipal Public Health Administration in Dublin," which he has dedicated "to the corporation of that ancient city." The book includes a brief historical sketch of the evolution of sanitation in Dublin, and is also a reply to the recent report of the Departmental Committee on the Housing of the Working Classes in the city. As a historical sketch it furnishes a good deal of interesting information not easily accessible elsewhere. As a reply to the Departmental Committee the work is less satisfactory. The gravamen of the strictures on the work of the Dublin corporation lay in the charges (1) that they had failed to make full use of their existing powers; (2) that the officers of the corporation had failed to carry out the by-laws concerning tenement houses; and in particular (3) that rebates of taxes had been granted on property classified in the corporation books as "unfit for human habitation." The Departmental Committee gave full particulars of the failure of the corporation to exercise its powers, as, for instance, in its neglect to prepare and keep a register of tenements. To quote the work done by the corporation as regards water-supply, main drainage, and electric lighting, for which full credit should be given, is no answer to the charges. With regard to the second point Sir Charles Cameron admits the facts, but maintains that a rigid enforcement of the by-laws was impracticable. If the by-laws are unsuitable they should be amended rather than their habitual breach connived at. To the third point he makes no reply beyond discussing the details of one particular case.

Politics and Public Health in Belfast.

The medical officer of health reports that in the city of Belfast there are 934 houses occupied by more than one tenant, the inhabitants of these houses numbering 5073, and of these double-tenancy houses 535 are in one Parliamentary division. There can be no question that a number of these double-tenancy houses are manufactured to make Parliamentary votes. In cases where in such houses there is not access to proper sanitary conveniences it is the duty of the public health authorities to prosecute.

The Medical Officer of Health of Derry.

Dr. F. W. Craig has been appointed medical superintendent officer of health for the city of Derry, at a salary of £350 a year, and also tuberculosis officer, with a salary of £200 per annum.

A Grant to County Antrim Infirmary.

The county council of Antrim, after considerable discussion, decided on July 3rd, by a majority of one 8 to 7), to grant a supplemental contribution

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of £100 for the year ending April 30th, 1914, towards the maintenance of the County Infirmary, Lisburn.

Water Famine in Dungannon.

Owing to the comparatively dry winter and summer many places in the north of Ireland are suffering from the prolonged drought, and among them is the old town of Dungannon, County Tyrone. Since July 5th the supply of water has been diminished to three hours in the morning and two and a half in the afternoon. The present supply, which was inaugurated 35 years ago, is totally unfit for the requirements of the residents of Dungannon.

July 7th.

PARIS.

Child Mortality and Alcoholism in Paris.

M. Paul Juillerat, a member of the Conseil d'Hygiène et de Salubrité de la Seine, and M. A. Filassier, head of the Statistical Department of the City of Paris, have published in the *Revue Philanthropique* the results of their researches on the causes of child mortality in Paris. Their work demonstrates forcibly the disastrous results of alcoholism. During the ten years 1903 to 1912 inclusive, out of 97,885 dead children, 53,619, or over half, were under 1 year. "Congenital debility" accounts for 12,342 of these deaths. Notwithstanding the difficulty in the present state of statistics of obtaining actual data in this matter, M. Juillerat and M. Filassier do not hesitate to attribute to alcoholism in the parents this enormous proportion of children affected with congenital debility. Interesting figures have also been furnished by Juquellier, Bourneville, and Magnan. Dr. Jacquet's statistics are also especially instructive. In the inquiry made by him between May 1st, 1912, and May 1st, 1913, at the Hôpital St. Antoine, he divided into the following three classes 396 patients examined by him who had a total of 879 children: (1) Moderate users of alcohol—those who drink habitually a litre of wine, alcoholic drinks, or occasional apéritifs—141 individuals, 305 births, 83 deaths; (2) excessive drinkers—those who drink habitually from 1½ to 2 litres of wine, alcoholic drinks, or frequent absinthes—108 individuals, 248 births, 115 deaths; (3) very excessive drinkers—those who drink habitually 2 litres or more of wine, apéritifs, and alcoholic drinks or absinthe usually and in abundance—147 individuals, 326 births, 244 deaths. This total of 396 individuals thus shows 879 children, of whom 442 died, 272 of them in infancy. Thus the progeny of these 396 parents, all alcoholic and more or less gravely toxic, shows a mean mortality of 50·28 per cent. M. Juillerat and M. Filassier further show that in different regions social or medical prevision has notably diminished the child mortality from diphtheria, pulmonary tuberculosis, tuberculous meningitis, syphilis, diarrhœa, and so forth. On the other hand, as regards congenital debility, which furnishes so considerable a proportion to these gloomy statistics, there has been practically no improvement.

The Paris Water-supply.

The present tropical heat, as in previous years, has aroused uneasiness on the drinking-water question. The temperature in Paris has reached 87·6° F. (32° C.) in the shade, and at once the use of water, which is ordinarily about 300,000 cubic metres daily, and which has even reached 400,000 cubic metres on occasion, jumped to 425,000. The *normal provision of source* water for the city o *Paris in the month of* July is from 310,000 to 320,000 *cubic metres. Beyond* this amount river water *filtered in sand-beds* at St. Maur and Ivry and *then passed* through an ozonising plant is used. *This source* can supply from 140,000 to 180,000 *cubic metres* of filtered water, giving a total *supply* of from 450,000 to 500,000 cubic metres *for* the daily use of the capital. In the future the supply from the sources of Provins, a scheme for which is now before Parliament, will furnish a daily supplement of 70,000 cubic metres, and work is at present going on to double the capacity of the filter beds at Ivry, which will then furnish 120,000 cubic metres instead of 60,000. The present time, however, is the most critical, for from July 14th an important proportion of the population leaves the city for the country or abroad. It is thought, therefore, that it will not be necessary hereafter to utilise unfiltered river water with the recommendation, which causes uneasiness, to the residents always to boil their water. The water from the filter beds is as safe as that from the source, though perhaps a little less fresh.

A Conference on Pellagra.

Dr. L. W. Sambon, of London, delivered a lecture at the Institut Pasteur on his theory as to the causation of pellagra, which, in his opinion, does not result, as has hitherto been thought, from the too exclusive use of spoiled maize, but is due to inoculation of the virus by the bite of the simulium fly. He also made a communication on the same subject to the Académie de Médecine.

July 6th.

AUSTRALIA.

Small-pox in Sydney.

CASES of small-pox still continue to occur in Sydney and suburbs at the rate of three to five cases daily, and the mild character of the disease has not been altered. As a result of public feeling in the matter of the refusal of the New South Wales Board of Public Health to isolate contacts, a conference was held in Melbourne and an agreement between the State and Federal authorities was arrived at under which the former were to have the use of the North Head quarantine for isolating dangerous contacts, but would vacate it if required on 24 hours' notice. Very little public interest is taken in the matter apart from the dispute between the authorities. A small epidemic has occurred at Bunbury, Western Australia, from a case introduced oversea from the East.

Remarkable Endurance.

Some time ago it was mentioned in this column that a young woman had given birth to a child on an excursion steamer in Hobson's Bay. The child died the next day, and the mother was recently prosecuted on a charge of concealment of birth. Evidence showed that the steamer left Port Melbourne early in the morning and about half an hour after departure the body of a living child was found in the lavatory. The steamer proceeded to Geelong and thence to Mornington, arriving at the latter place about midday. It was not till the arrival here that the mother was apprehended by a police constable who had taxed her with being the mother of the infant. Up to that time she had been sitting unconcernedly on deck with a young man. At the trial it was stated that this young man er. The jury found her not

ourne Medical School.

eing made in the public press for
the medical school of the Melbourne
it is said that accommodation is in-
nd that the professors are without
ssistance. A proposal has recently been
ransfer the school of anatomy to the new
s of the Melbourne Hospital, but it is
y that the authorities will fall in with such
ea.

Clinical Research.

Mr. J. S. Horsfall has promised a sum of £500 for ive years towards the establishment of chairs of clinical research in the Melbourne University. A small group of medical men have promised jointly another £500 per annum for the same term. At present the proposal is to divide this sum among the pathological departments of the three Melbourne teaching hospitals.

"The Battle of the Lodges."

The Victorian Branch of the British Medical Association has not yet included any new arrangements with the Friendly Societies. The organisation committee, acting upon the advice of Dr. J. A. Macdonald, who recently visited Australia, has been engaged in creating a defence fund to re-imburse practitioners who might lose appointments in the event of any open rupture. This fund at latest publication amounted to about £5000. Meanwhile nothing has been done beyond arranging a conference between the branch and the societies. As matters stand the Friendly Societies are willing to increase the rates of contract work but will not listen to any wage-limit proposal for membership. In New South Wales the lodges have in some instances held out against the local profession. It is quite possible that some movement may be made to endeavour to bring the dispute under the jurisdiction of the Commonwealth Arbitration Court.

Cancer Research.

At a recent meeting of the Victorian Board of Public Health a resolution was carried requesting other State boards to join in asking the Federal Government to provide a sum of £50,000 to be devoted to cancer research on condition that an additional £50,000 was subscribed by the public. The council of the Melbourne University have instituted a cancer research scholarship which will date for three years from August 1st, 1914. The scholar appointed must proceed to Europe and America, and return to the Melbourne Hospital by 1915. He is to receive a salary of £250 per annum and £100 for expenses.

Baby Bonus.

The Federal Treasurer, Sir John Forrest, made a statement in the Federal House that under the maternity bonus scheme a sum of £1,032,000 had already been paid away. The scheme was introduced in October, 1912, and was estimated to cost £400,000 per annum, but the estimate has been considerably exceeded.

Housing Commission.

The Victorian Government has appointed a commission to inquire into the housing conditions of the city of Melbourne. Evidence has been given by several police officers in the more crowded suburbs and although some undesirable arrangements were noted it cannot be said that any deplorable conditions have yet been disclosed.

Health of Adelaide.

The population of the city was estimated at 42,828, an increase of 305 for the year. The death-rate is given as 14·42 and infantile mortality figure at 63. Diphtheria was prevalent, 458 cases being reported, of which 293 were brought to Adelaide Hospital from outside districts. During the year 23 houses were condemned as unfit for habitation, and 18 ordered to be demolished. 1309 notices to repair dwellings were issued.

Venereal Prophylaxis.

A lay deputation accompanied by several medical men waited on the Premier of Victoria to urge that the Government should take measures for the provision of treatment of venereal disease and for the diffusion of information upon the subject. Mr. Watt expressed sympathy with the aims, and promised to continue the subsidy already paid for the provision of free Wassermann tests at the University, and to forward the educational scheme as far as might be desirable. He also undertook to introduce legislation for the detention of prisoners suffering from venereal disease until they were cured. The West Australian Government has made special provision for the treatment of venereal cases in the general hospitals of that State.

June 2nd.

Obituary.

CHARLES TANFIELD VACHELL, M.D. LOND., J.P., V.D.,

CONSULTING PHYSICIAN TO KING EDWARD VII. HOSPITAL, CARDIFF.

WE regret to record the death on July 2nd of Dr. C. T. Vachell, one of the most prominent medical practitioners at Cardiff and a leading public man in the life of the district. He had been seriously ill for some little time and was under treatment at Clifton when he died.

Charles Tanfield Vachell was born at Cardiff in 1848. He was the eldest son of John William Vachell, whose father had been twice mayor of Cardiff. He matriculated in the University of London from Hereford Cathedral School, and entered at King's College, London, in 1865, afterwards studying medicine at King's College Hospital. He qualified M.R.C.S. Eng. in 1869, and in the following year he obtained the M.B. degree of his University as well as the licences of the Royal College of Physicians of London and of the Society of Apothecaries. In 1874 he proceeded to the M.D. degree.

Dr. Vachell's long and successful association with the Cardiff Infirmary (now King Edward VII. Hospital) began almost immediately after he became qualified. The institution was then known as the Glamorgan and Monmouthshire Infirmary and Dispensary. In 1870 he was appointed house surgeon, and in 1879 he was made medical officer to out-patients. From 1882 to 1902 he served upon the active visiting staff first as surgeon, later as physician, and was appointed to the consulting staff 12 years ago. He was the joint founder 30 years ago of the Cardiff Provident Dispensary, and served with zeal and ability upon a number of public bodies and committees. Dr. Vachell was also for a considerable period a keen Volunteer, and retired from the Glamorgan Volunteer Artillery after 22 years' service with the rank of surgeon-lieutenant-colonel and the V.D. decoration. He was very well known locally as an antiquarian and naturalist, taking a prominent part in the establishment of the National Museum of Wales and for many years keeping a daily record of the rainfall in the district.

Among Dr. Vachell's occasional contributions to medical literature were three papers which appeared in THE LANCET—Cystic Goitre Treated by Shelling Out, in 1886; Acute Nephritis from Sewer Air Poisoning, in 1894; and Notes of a Case of Ether-Pneumonia, in 1898. He had an extensive practice among the leading families of Cardiff and its neighbourhood, and his opinion and character were much valued by his professional colleagues.

Mr. P. Rhys Griffiths, senior surgeon to the King Edward VII. Hospital and chairman of the medical board, writes: "Dr. Vachell was a most accomplished officer and throughout his life rendered distinguished service to the hospital. In the affairs of the British Medical Association he always took a warm and active interest. He had been president of the South Wales and Monmouthshire Branch and of the Cardiff Division. He was foremost in the fight against the Insurance Act. A past president, he was a frequent contributor of papers to the Cardiff Medical Society, and until recently took an active interest in its discussions. Hanging on the walls of the society's rooms is a series of photographs illustrating some of Dr. Vachell's pioneer work in the surgery of the thyroid. He was justly regarded by a large circle of patients as a steadfast friend and trusted adviser. The wide range of his interests was very notable. His leading characteristics were an unbounded and infective enthusiasm—inexhaustible capacity for work—great kindness, sympathy, and generosity. He was a man of strong personality and striking presence. His was essentially a full life. His skilful, devoted, and kindly services to the poor, his readiness at all times to help his colleagues with his wise counsel, and his unswerving loyalty will always be remembered with affection and esteem."

Dr. Vachell married, in 1877, Winifred, daughter of the Rev. J. W. Evans, rector of Cossey, who, with one son and two daughters, survives him. His brother, Dr. Herbert R. Vachell, is also a well-known Cardiff practitioner and a member of the consulting staff of the King Edward VII. Hospital.

SEVENTH INTERNATIONAL CONGRESS *FOR* OBSTETRICS AND GYNÆCOLOGY.—*This congress* will meet in New York from Sept. 13th to 17th, 1915, under the presidency of Dr. J. Riddle Goffe, of New York. An executive committee has been appointed for each country that has hitherto participated actively in the proceedings of the several congresses to select reporters on the fixed subjects, and *to recommend to the programme committee* the names of other suitable persons *to represent* their respective countries. There will be *one scientific* session each day, from 9 A.M. to 1 P.M. The afternoons will be devoted to clinics, sightseeing, excursions, &c. The scientific programme will include: The Remote Results of Operations for the Relief of Retro-displacements of the Uterus, both Simple and Complicated; reporter, Professor Th. H. Van der Velde, Haarlem, Holland. The Treatment of *Puerperal* Infections; reporter, Dr. Edward P. Davis, Philadelphia, Pa., *U.S.A.* The Value *of* Radio-activity in Gynæcological Therapeutics by (1) Roentgen Ray, (2) Radium, and (3) Mesothorium may be discussed in individual papers or in the form of reports. Friday, Sept. 17th, Miscellaneous Papers. National societies are invited to discuss these subjects at least eight months before the meeting *of* the congress, and *to have reporters* collect and digest these *discussions* and *report their* conclusions.

Correspondence.

"Audi alteram partem."

MINERS' PHTHISIS ON THE RAND.

To the Editor of THE LANCET.

SIR,—THE LANCET of April 11th contains two contributions by Mr. B. G. Brock and Mr. J. L. Aymard on the Miners' Phthisis question.

I am taking the liberty of examining some of their arguments as I feel sure that an absolutely impartial statement would be of interest to those who have read Mr. Aymard's effusion. My impartiality can be judged from the following. I have worked on the mines of the Rand for a period just exceeding three years, and have now given up mining owing to silicosis, and consequently am, according to Mr. Aymard, one of the victims sacrificed to Mammon by its High Priests, the Chamber of Mines. I have no money invested in the mines, and am not working for any of the mining houses, and I am not employed, nor do I so desire to be, by any of the benefit societies or unions, which being of strong labour sympathies can be said to represent Mr. Aymard's side of the question.

To take his letter seriatim. His first paragraph, I think, can be more or less ignored. When a man says that his "statements have never been proved incorrect," and that his "opponents are cursed with" "*damnable political insincerity*," I think, Sir, any fair-minded man understands that it is a political manifesto and not a scientific treatise that he is reading. In his next paragraph he first attacks "commission after commission" as "being packed with incompetent persons." Who is Mr. Aymard that he should set himself up as a judge of mining or medical experts? He then clinches his argument by saying that 2000 less men are employed to-day than in 1911. Let him be honest and say if this is really due to phthisis. I think any of the hundreds who are to-day walking the reef looking for work would be quite willing to convince Mr. Aymard that this shortage is the result of the late strikes and not of silicosis. A little further down, in relation to the deadly dust, Mr. Aymard, referring to the process of "collaring a hole," states that during this process "more frequently than not no water is used." In a later paragraph he again indulges in a little hyperbole at the expense of the mining houses, because, according to him, they are placing no limit on the number of machines a competent miner supervises. Now anyone who has had *any* experience of mining will agree that it is a very rare thing for a miner *to allow anybody but himself* to supervise the direction of a hole. *The* reason for this is that in *driving, for example,* a hole started ½ in. away from its proper *place may* easily spoil the whole day's work. *This is* the *period* when Mr. Aymard *says no* water is used.

The *following* observations on this water question *may be* of interest. A shift boss is bound by law to report any breach of regulations, the most stringent of these regulations being those with reference to prevention of phthisis. Now compare the treatment a shift boss gets from the management and from the men in this respect. The management generally employs a man who is known as manager's assistant, or some such title, whose main duties are to pay surprise visits. If he finds a man not using water when drilling his first question is, "Has your shift boss been here?" If the answer is in the affirmative the shift boss will be reported to the manager, and probably fined if not "fired." Now as to the men who are continually complaining about the "callous, inefficient administration," to quote from Mr. Brock, I can confidently affirm that out of an *average of nine developers* I had on my section when shift bossing, only two made proper use of the water the mine supplied. The reason they did not use the water is because they are willing to risk their own lives, and what they do not consider, the lives of the kaffirs working for them, and also of all persons in the direct air current from them, rather than get soaked through and run the chance of pneumonia. It was impossible to get evidence to convict as they generally place a boy—i.e., kaffir—to watch for the approach of any of the staff. My authority for these two statements is that I have been told by the men themselves that they do this.

I think I have shown so far that it is more owing to the men's abuse of precautions than to the management's lack of precautions that phthisis is still prevalent. Mr. Aymard's remark *re* breakdowns due to too great a pressure of water is so idiotic that I wonder he had the temerity to try to bluff so obviously. In fact, it is the rarest thing in the world to find a man working on machines who does not give as his excuse for not using water that "there is not enough pressure." To obviate this the Mines Department brought out the amended regulations, 1913, to compel the miners to have a pressure of water *over* a fixed minimum of 30 lb. to the square inch. I think this shows that it is not due to the use of water, but to its neglect by the men that this scourge is still prevalent. Owing to the fact that Mr. Aymard's advice *re* an expert on silicosis was not followed by the mining houses he asserts that the rule of these houses is that "no experts wanted from oversea except when required for political purposes." This is another example of the political manifesto. Can he answer for what political purpose did the houses bring out, at the expense of the mining industry, Sir Almroth Wright and Surgeon-General Gorgas, who, Mr. Aymard has said, "did not study the phthisis question properly." Your readers, Sir, can appreciate the fact that when men of their standing, with their staffs, are brought out, necessarily at great expense, defrayed entirely by the mining industry, Mr. Aymard's advice is not likely to be taken, or paid for.

In his paragraph referring to Mr. Moynihan's discoveries, he cheerfully states "that the question at what depth this," meaning the introduction of steam, "would be impracticable, if at all, remains to be seen." In the interview he states: "After blasting, a mine could easily, and comparatively cheaply, be filled with steam." What sublime confidence! Mr. Aymard ought to know that the upper levels of most of the mines are very nearly "worked out." The greater part of the work is now carried on from 2000 ft. to 4000 ft. below the surface, and development from 3000 ft. downwards. I leave it to your readers to ask any competent engineer for an estimate for conveying steam 3000 ft. down a wet shaft, then bringing it along drives at a temperature of, perhaps, 80° for a distance of half a mile, or may be more, and then discharging it at such a temperature that it will fill the mine *as steam!*

I would suggest that if any of your readers feel interested in this scheme they then look at the monthly reports of these mines and see how many mines would become unpayable if this experiment were tried. Then think of the number of unemployed there would be left. I refer to this steam idea as an experiment. Though Mr. Aymard is quite convinced that the mining houses are only using water in preference to steam through "false economy," he seems to have forgotten the furious tirades he favoured us with during the last few years on the false economy of not using *water.* The mineowners followed his advice as he then gave it, and in THE LANCET of April 11th of this year you can see the manner in which he shows his gratitude.

Now, Sir, as to the remedy. I give my ideas, as I consider that any person may be the lucky person to hit on the right solution. The only hope I see is to make it an offence for anyone not to use water, and on a second offence to remove the offender's blasting ticket. This would, of course mean a large reduction in the number of competent miners employed. This could be effected by the system of well-paid sectional shift bosses in charge of a number of working places. Under these you could have men placed on day's pay in charge of each place. These men would be responsible to the shift boss that work was carried out as he ordered; the shift boss to be solely reponsible for blasting. This would remove what I consider the curse of the present system—viz., a miner earning, say, from £40 to £150 per month being under the charge of a shift boss who is paid often as low as £30 per month. What a chance for bribery! As a general working rule I would suggest that the shift boss should be paid sufficiently to resist all temptation to bribery, and the man paid low enough to prevent his being able to afford in comfort to pay bribes or fines for not using water.

In my opinion it would also help if the compensation for first stage were materially increased, and that for third stage phthisis diminished to prevent what is often done now, an unfortunate sufferer "hanging on" till he gets the fatal stages, so as to leave more money to his family. It may be impossible to carry out these suggestions, and the advantages of them may be illusory. I hesitate to express a definite opinion in the face of the experts whom the mining industry are so continually consulting, as I feel that if I did I would only be adding myself to the category of the fools who rush in where angels fear to tread.

I am, Sir, yours faithfully,
PHILIP H. FRANKS, B.Sc. (Mining) Birm.

Johannesburg, May 11th, 1914.

THE PLEA FOR IMMEDIATE OPERATION IN APPENDICITIS.

To the Editor of THE LANCET.

SIR,—Will you permit me to write a few lines in reply to Mr. Edmund Owen's letter in THE LANCET of June 27th? I have said in a former letter that a surgeon can frequently give a correct opinion as to the pathological state of an appendix before its removal in an acute attack of appendicitis from a consideration of the history, symptoms, and local examination of a patient. Mr. Owen denied this. In a second letter I gave notes of cases in which this had been done. It does not assist to call this guess work; the cases to which others could be added represent facts, and it is not possible to ignore them. I do not claim any special skill in this matter; few surgeons are satisfied with the simple performance of the operation in an acute abdominal case. They do not refuse to do the operation because of any doubt which they may have as to the exact cause of the symptoms of urgency. They recognise that early operation is necessary, endeavour to form an opinion before doing it, and make careful notes of everything found in order to compare it with other cases and see why there was a difficulty in making the diagnosis in any particular case. It is not enough at the present day to record in an acute appendix attack that the appendix was "gangrenous." We want to know whether the gangrene was local or affected the whole of the appendix. We also want information as to the probable cause of the gangrene, whether this was secondary to a concretion, took place beyond a stricture as a result of over distension, the position of this stricture, &c. The state of the omentum and surrounding peritoneum, with the character of any exudation, must also be noted. It is not possible for anyone frequently engaged in this branch of surgery to fail to advance in his knowledge of the subject if he tries to work in this way. I think it is the right way in which to proceed, although Mr. Owen does not appear to regard such an attempt as likely to prove of practical use. The custom of "waiting to see" until the veil is lifted is not satisfactory either in politics or in surgery for the ultimate good of the nation. I have not contended that anyone can state the exact condition of the appendix in every case; indeed, I have given evidence to the contrary. My point is that the surgeon can tell in many patients, and I have no doubt the number of these will increase. I have shown that a correct diagnosis of the state of the appendix has a practical value to the individual. The story of the racing man who placed three horses in their correct order before a race has no bearing on the question, and I cannot agree that it is all a game of chance.

I am, Sir, yours faithfully,

July 3rd, 1914. WILLIAM H. BATTLE.

To the Editor of THE LANCET.

SIR,—In view of the recent correspondence in your columns the following case seems to me worth recording, as it shows so plainly the impossibility of differentiating between mild and grave conditions of the appendix, and the danger of delay.

A boy, aged 12, was brought on July 4th at 8 P.M. He had been running about as usual, but had complained of occasional abdominal pains, so his mother thought she had better bring him. The boy was thin and looked badly nourished. The temperature and pulse were normal, and he said he had no pain. The abdominal wall was loose and flaccid; no sign of muscles being *en garde;* no increased resistance; no tender point. The appendix could be easily palpated through the lax abdominal wall; it felt hard and large, but was not tender to light pressure or rolling. When pressed firmly it gave a slight shooting pain to left hypochondrium. I operated the next day, and up to the time of operation the condition was unchanged. The pelvis contained a large amount of free clear fluid. The appendix was congested on the outside and hard with an old adhesion from the meso to the iliac floor. Inside the appendix was tightly strictured at its proximal end, and was full of pus. At the distal end was a piece of iron wire curved with sharp ends, one of which had nearly penetrated the peritoneum, the distance between the two points being three-eighths of an inch.

I had no suspicion that there was serious mischief in this case, and cannot see how anyone could have diagnosed it.—I am, Sir, yours faithfully,

Watford, July 7th, 1914. J. C. BARKER.

THE SURPLUS FUNDS IN LONDON.

To the Editor of THE LANCET.

SIR,—If the Botha-like way in which the Caxton Hall meeting of last week was conducted is a sample of the methods of the new organisation which promoted it, it augurs ill for its future. For a chairman—not named in the notices calling the meeting and not elected by it—to announce that *he* is not going to allow amendments to the resolution he and his friends have drafted is as alien to the true spirit of trade unionism, which was invoked, as anything one can imagine. That my amendment, previously communicated to him, which embodied everything of moment in the resolution, but suggested arbitration as the most practical solution of the difficulties of money allocation, was, after a preconcocted show of fair play, despotically ruled "out of order" was the plainest proof that the men who are contending for a *pro rata* distribution have no confidence in the justice of their own claims. For the greatest number of the men on the London panel are men with small lists. Why on earth they should allow themselves to be led blindfold by the big-list men who, while pretending to speak for the whole body, openly announce their intention, if they can procure such a division of the "surplus," of pocketing the greater part of it themselves, passes my comprehension. Such a division means actual ruin to many a small-list man. Dr. Angus was allowed to speak in favour of a *pro rata* division; I was instantly forbidden even to allude to its unfairness. So "fair play and no favour" is *not* to be the motto of the new organisation. We small-list men have our contract rights if we will but be wise enough to stick to them. For 1913 the right of proceeding against the London Insurance Committee for breach of contract expires on the 11th inst. by the provisions of the Public Authorities' Protection Act of 1893. I have therefore, after patiently waiting to the last moment for the London Insurance Committee to do justice, commenced legal proceedings, which I shall certainly not drop unless some proposal as equitable as the one which my amendment suggested is accepted by the Government and carried into speedy execution.

The Commissioners, it appears, are now stultifying their own consents to other schemes by laying it down "on legal advice" that nothing but a *pro rata* distribution is allowable under the Regulations. The proposition that one clause in a set of regulations can be intended and made to govern a state of things wholly created by the violation of previous clauses of the same regulations is the "tallest" substitute for a legal argument that I have yet met with, and the legal "light" that evolved it, whoever he be, ought to return to school. Besides this, the subsections relied on refer to a doctor's "list" which has, to comply with the Regulations, to be made *after* assignment and to include assigned persons. No legal doctor's "list" therefore exists in London, which again prevents the application of these clauses to the existing facts. If any attempt is made to apply these clauses to the distribution of the "surplus" it can be easily stopped by an appeal to the courts for an injunction, which I should at once make. Nothing but fresh legislation, such as submitting the whole question to arbitration, can solve the problem.—I am, Sir, yours faithfully,

Paddington Green, W., July 6th, 1914. H. BAZETT.

THE NATIONAL MEDICAL UNION.

To the Editor of THE LANCET.

SIR,—You will excuse my trespassing upon your time and space, but on reading Mr. E. H. Worth's letter in your issue of July 4th I notice that he has misquoted the principal resolution passed at the general meeting on June 27th. As chairman on that occasion I feel it my duty to give the resolution in full as passed with only four dissentients. It is as follows:—

> Resolved: That refusal of service in any capacity under the National Insurance Acts, 1911 and 1913 be a condition of membership of the National Medical Union. Nothing in this resolution shall prevent any member of the National Medical Union from signing certificates to enable insured persons to obtain sanatorium and sickness benefits under the National Insurance Acts in his private professional capacity.

May I congratulate Mr. Worth on his generous offer to the guarantee fund? He is not alone in his enthusiasm, and I can assure him that the National Medical Union stands to become a power in the land.

Hoping that many non-panel readers of your valuable paper will respond to his very forcible appeal for their support to the National Medical Union,

I am, Sir, yours faithfully,
VIVIAN T. GREENYER.

"Edzell," New Church-road, Hove, July 6th, 1914.

To the Editor of THE LANCET.

SIR,—I read with much pleasure Mr. Worth's letter in your issue of July 4th, and I desire to add my appeal to his and urge all non-panel men to join the National Medical Union, and thereby assist to uphold the best traditions of the profession. The fight, deplorable though the sequel has been, is by *no means* over, and there may yet be critical times ahead. Surely, then, it is the duty of every man who from principle has not joined a panel to take some part in the work of the National Medical Union, and surely, also, support may reasonably be expected from the consultant branches of the profession, and especially from those who, as teachers in the medical schools, can influence future practitioners.

I shall be glad to join Mr. Worth in increasing my guarantee to a similar extent, and I have no doubt many others will do the same. There are 15,000 non-panel men in the country, and it should be easily possible to make the National Medical Union a most powerful association.

I am, Sir, yours faithfully,

Huddersfield, July 7th, 1914. W. L. W. MARSHALL.

THE NORWICH MEDICAL INSTITUTE.

To the Editor of THE LANCET.

SIR,—I have read with considerable pleasure the remarks of your Commissioner in THE LANCET of July 4th (p. 51), on the work of the Norwich Medical Institute, of which I am one of the medical officers. I am sorry not to have had an opportunity of meeting your Commissioner during his visit to Norwich, when I think I could have shown even more conclusively that institutional practice gives opportunities for good work to be carried on.

I have only one criticism to offer of your otherwise fair summary, and it is on the question of sweating. I do not know what dictionary your Commissioner uses, but mine defines sweating as "the practice of employing poor people at starvation wages." I must therefore beg to differ from him as to the strict meaning of the word "sweating." But apart from this verbal quibble your Commissioner—quite unintentionally I willingly believe—proceeds to convey the impression that this institute, like some others, makes a profit for other purposes out of moneys paid for medical services. Such is not the case, and has never been the case for many years before the coming of the Insurance Act—certainly not within the seven years of my association with the institute. With the exception of a small balance carried over from year to year the whole of the income has been absorbed by the medical needs of the members, with the single exception of an insignificant sum—quoting from memory I think about £12 per annum—paid to the Medical Alliance (a body formed to guard the interests of institutes generally) in subscriptions and expenses of delegates to an annual conference extending over two days. For years the lay members of the board of delegates and management committee have not received a farthing for their services. They are now, since the Insurance Act came, paid a small fee for each attendance, which payment has been sanctioned by the Insurance Commissioners as reasonable.

There have been two other payments to which the local division of the British Medical Association has taken exception, though they are both in a sense medical payments. One is a subscription of 5 guineas annually to a convalescent home, and the other is the payment of consultation fees when recommended by us, the medical officers, in cases requiring special advice which could not be obtained at the hospital, and for which the particular patients were too poor to pay. But though the British Medical Association has denounced these payments certain medical men, who would not meet us in consultation, have not been above taking these fees, though well knowing that the institute paid them. I should add that these consultation fees have not averaged more than 12 guineas a year for several years.

I quite fail to see how these payments can be called making a profit out of our service. Why, Sir, so far from wishing to "sweat" us in this way our committee has, owing to delay in payment by the Local Insurance Committee, borrowed money last year rather than ask us to accept a penny less than the percentage to which we were entitled by our agreement with them. They might with fairness have asked us to share the risk and the delay, but they took the whole burden themselves. I speak of lay management as I find it.

I am, Sir, yours faithfully,

Norwich, July 4th, 1914. ARTHUR H. PRIESTLEY.

VITAMINES AND AN UNUSUAL CASE OF SCURVY.

To the Editor of THE LANCET.

SIR,—As your readers at the present time seem to be interested in vitamines, perhaps the following case of "scurvy" may be of interest.

Mr. X., aged 23, came to the Malay Peninsula to plant rubber. He had eaten nothing but porridge, bread (white) and butter, and milk since the age of 3 years. He had always been very fit and well, was of good physique, and had had some success at football, cricket, &c. Four months after arrival in the Federated Malay States subtertian malaria set in, and six months after arrival he went into the European hospital of the State, complaining of swelling of the left leg and a large "bruise." There was no history of injury and he was discharged in 11 days. A fortnight after his discharge from hospital a second attack of malaria was experienced. Ten months after his arrival in this country he had a third attack of malaria. Then one month after this he returned to the European hospital, as his right leg went "black" and was swollen and painful. There was no history of injury. A diagnosis of scurvy was made. As the patient had nausea at the sight of soup, meat, &c., and vomited if he tried to eat them, he drank lime squashes. He then came under my care, with a view to his being sent home. The patient was bronzed, but had lost 1½ st. in weight lately. The right leg was still swollen and discoloured about the ankle. Pressure on the tibia was very painful. The heart, chest, &c., were clear. Hæmoglobin, 70 per cent. (Tallquist). No parasites in blood. Red blood corpuscles, 3,800,000; white blood corpuscles, 25,000. Urine and fæces, normal.

The patient lived with me for over a week, and as I had no porridge prepared he had to eat "at" whatever was going, and soon could take soup, potatoes, rice pudding, and very little green vegetables and a banana. He quickly improved and was sent to another estate, where there is a resident doctor. He did light work, but soon made porridge his chief article of diet again. In a month he had his fourth attack of subtertian malaria and returned to my care. Hæmoglobin, 65 per cent.; red blood corpuscles, 3,200,000; white blood corpuscles, 25,000. Having scratched a mosquito bite his right leg quickly swelled up and became septic, and when this had healed he returned to England.

This case has two or three points of interest. 1. A man living on practically nothing but porridge without any apparent cause. 2. Scurvy amongst Europeans is extremely rare in the Federated Malay States. I can hear of no other case. 3. The fact that he kept fairly fit so long. I take it that he would probably never have got "scurvy" if he had been able to obtain fresh milk. Fresh milk is very hard to obtain here, and when one has once seen a cow milked one feels much happier with the tinned variety. Also, brown bread is difficult to obtain and does not seem to be made to any extent by the native bakers.—I am, Sir, yours faithfully,

Kuala Lumpur, F.M.S. R. McC. LINNELL.

THE COUNCIL ELECTION AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

To the Editor of THE LANCET.

SIR,—May I through the medium of your columns thank those gentlemen who voted for me in the recent election to the College Council? At the same time, I would like to take this opportunity to make it distinctly understood that I dissociate myself entirely from the very undiplomatic letter to which Mr. Percy Dunn takes exception in your issue of July 4th. His complaint as to its tone is very justifiable, and its terms are calculated to alienate the cause of the Members and to put back the realisation of their claims.

When I seek election next year I shall reply to the questions sent me with this experience well in memory. I am, Sir, yours faithfully,

MACLEOD YEARSLEY.

Queen Anne-street, W., July 7th, 1914.

THE BACTERIOLOGICAL EXAMINATION OF MILK.

To the Editor of THE LANCET.

SIR,—I am glad that a distinguished bacteriologist in the person of Professor R. T. Hewlett has come forward to point out in your issue of July 4th (p. 44) the fallacies inherent in the quantitative enumeration of bacteria in milk.

At the Infants Hospital, Vincent-square, S.W., the milk coming from the hospital farm and from other sources is examined daily, and I have long been of the opinion that the bacterial count method is of little value. Especially is this so when *milks* are examined in *different* laboratories and the results are compared. The difference in the precise method and in the media employed (even the slight differences in the preparation by competent persons of the same medium), and many other factors, result in all kinds of serious error. Of the greatest importance is the fact that the milk with the higher count may be a much better milk than that with the lower. Thus, we find that A contains 55,000 bacteria per c.c., while B only contains 14,000. But when we come to our observations in regard to (1) time of curdling at 19° C. and 38° C.; (2) development of acidity at 38° C., (3) character of curd formation—gas production or otherwise, (4) nature of bacteria developing in the milk at 19° C. and 38° C., we find that A is a much better milk than B, for the changes in A compare more closely with the changes occurring in a milk taken directly from the cow under strict precautions than do those in B. One method is of great value —the microscopical examination of the centrifugalised deposit suitably stained. By this method an experienced observer can obtain information of the greatest practical importance. Not only can the number of bacteria be approximately estimated, but important information can be obtained with regard to the nature and probable source of any contamination. Thus, Gram-negative bacilli generally indicate colon organisms and consequently manurial contamination. Dust from dirty fodder can be recognised both by the general débris and by the presence of moulds. The cellular elements in the milk are readily recognised and early warning of mastitis may be forthcoming. An interesting point is *that in the case* of a contaminated milk the observer is *often able* to make a prognosis in regard to the behaviour of the milk when submitted to the above-mentioned tests. If this prognosis proves to be correct the case against the milk is a strong one. The great practical value of the method is its rapidity. Within half an hour of the receipt of the milk the examination of the centrifugalised deposit can be completed, and consequently, in the case of any defect in quality, we are able immediately to telephone to the farm, at the same time indicating the probable source of the contamination. It is *important that the centrifuge should be of large capacity*, so that the samples of milk may be sufficiently *ample to be representative*, and we have recently *installed* Professor S. Delépine's centrifuge as with this instrument over 1½ litres can be dealt with at one time, while owing to its high speed (at 5000 revolutions—over four miles a minute) the usual time of centrifugalisation is much shortened. I am, Sir, yours faithfully,

Harley-street, W., July 4th, 1914. RALPH VINCENT.

TOUCHING FOR THE KING'S EVIL.

To the Editor of THE LANCET.

SIR,—A second letter upon this subject from Dr. F. Parkes Weber having appeared in your columns on June 27th, may I be excused for taking up my pen at his request in the hope of partially replying to some of the questions put forth by him?

He asks firstly: "Are the old well-cast specimens [of that much-discussed token, *Medallic Illustrations*, Plate xxxiii., 23] to be regarded *all of them* as forgeries of the period for the use of ill-disposed persons to gain fraudulent access to the king?" To this I reply that the wording of the document mentioned by me in my last letter, and which will be published in full in the *British Numismatic Journal*, lies open to a dual interpretation. The passage reads: "Whereas wee are informed by our Serjeant-Chirurgion, that there hath been a great abuse comitted by dissolute and ill-disposed People, who to gaine the Gold only, have counterfeited his tokens, which were cast in a mold made by a Freemason, wherein we have not only been deceaved of many Angells," &c. The grammar, if correct—a doubtful assumption at that period—should mean that the original tokens were cast by the Freemason. Against this is the fact that both struck and cast pieces of the better class exist, but it was no uncommon practice, as we notice in the case of badges and medals of Stuart times, to make one pair of dies, and after striking from them a number of specimens, to multiply these by casting. We might also read the passage as meaning that the Freemason was the forger, but this is immaterial, for fraudulent casts had clearly been made, and some poor examples seem to fit into this category.

Dr. Parkes Weber's second question relates to the fact that we have seen no tokens the size of an angel, and suggests that this condition may have been abandoned. But this I venture to think was unlikely as the change of size would be material in distinguishing the new token from the old, no mention being made of an alteration in design. We might account for the above rarity by the injunction that the tally should be returned to the mintmaster after use, "whereby he may know what number of Angells have bin expended." Naturally under the Commonwealth, "touching" being no longer in vogue, the officials would melt down the metal lying idle. Some pieces, however, should have escaped, being unredeemed, and unless such be found this point must remain "non proven." I am far from suggesting that the other pieces referred to by Dr. Parkes Weber were not made for a similar purpose of admission, but might they not be intended for the coronation or some other ceremony, inasmuch as the legends are less appropriate to "healing" than that of the token which we have discussed?

I did, however, in my lecture in May before the British Numismatic Society go so far as to *mention* the possibility that the "Soli Deo Gloria" pattern halfpenny—for as such its exact weight induced Mr. Montagu to class it (see Montagu's "Copper Coins of England," p. 41, No. 1)—*of* the second Charles, might be a ticket of admission to his "touching" séances. It is not very rare and exists in various combinations of metals, a not unlikely precaution to regulate the number of persons coming in successive weeks, for the "healings" under this king were very frequent. Mr. McLachlan suggested that it might be the touchpiece of Charles II.'s exile, and put forth in the *Numismatist* for March, 1912, excellent arguments for this attribution, which we have no documentary evidence to disprove.

Lastly, Dr. Parkes Weber refers to the silver touchpiece in the Wellcome Historical Medical Museum, reading IAC. 8 instead of IAC. 3. This is an example highly interesting to the student, not only from its rarity, but for historical associations, agreeing as it does in other respects with the type used by James Francis Edward during his exile in France, whilst this Scottish title brings to mind the dies, bearing date 1716, engraved for the *King de Jure*, as Jacobus VIII., and intended for the coinage of the northern kingdom, had his second invasion proved successful.

I am, Sir, yours faithfully,
HELEN FARQUHAR.

Belgrave-square, S.W., June 30th, 1914.

To the Editor of THE LANCET.

SIR,—I regret a misstatement in my brief note on the above subject in your last issue. The coin alluded to is *not* the one that caught my attention in the Hodgkin collection: my informant and I misapprehended one another.

I am, Sir, yours faithfully,

London, July 6th, 1914. RAYMOND CRAWFURD.

LATIN FOR MEDICAL STUDENTS.

To the Editor of THE LANCET.

SIR,—I was interested in your annotation on Latin for medical students in THE LANCET of June 27th. I heartily endorse your remark that "the student who has learned Latin will find his examinational career much easier." The fact is, that unless the teaching of classics be so reformed as not to clash with conditions which have vastly altered in the last 25 years, it will have to go. The modern boy can have his interest in Latin awakened if after the necessary grammatical preliminaries he is assisted to read intelligently the more interesting authors. He ought to read far more and do less of putting English into Latin. The master should assist him in class to translate unprepared passages, while he explains all the historical and antiquarian matter necessary to render the author intelligible. Such mysteries as the ethic dative, anacoluthon, and oxymoron are best avoided. The practice of prescribing a set book for an elementary examination is an abomination which London University has done its best to end. Boys who are instructed in class how to tackle passages they have never seen before are bound to get a better grip of Latin than those who work up a set book and notes parrot fashion. Unless the Universities of Oxford and Cambridge can be got to abolish compulsory Greek for those destined for mathematical, medical, or scientific careers the whole fabric of the classics as a valuable educational medium will be crushed under the juggernaut car of modern hustle. Latin verse composition for the average boy is a hideous waste of time, while Greek iambics are something worse. I well remember as a young boy being dragged through Book II. of the Gallic War with never a glance at the map or a word on field service conditions in the Roman army. The same absence of intelligent teaching doutless lies behind the well-known schoolboy regret that the falling tree did not after all make a slightly better shot for Horace's skull—

> . . . prope funeratus
> Arboris ictu.

I am, Sir, yours faithfully,

Shadwell, E., June 30th, 1914. ATHOLE ROSS.

THE NATIONAL INSURANCE ACT.

THE REPORT OF THE NATIONAL INSURANCE COMMISSION.

THE report of the Insurance Commissioners dealing with the second year of the working of the National Insurance Act gives the following figures with regard to the number of medical men on the panels. 1913: Jan. 15th, 13,996; April 14th, 15,659; Oct. 13th, 15,870. 1914: May 31st, 16,059. The Approved Societies are stated to have 10,533,220 members, the Friendly Societies accounting for 4,856,584. Of this total industrial insurance companies account for 3,759,396, and trades unions for 1,154,484. The other organisations concerned are collecting societies with 663,659, and employers' provident funds with 99,097 insured persons on their lists.

The portion of the report devoted to estimating the financial position of the Approved Societies will naturally be of considerable interest to those concerned with the practical working of the Act, and particularly to the medical profession, because there has been a tendency among Friendly Societies, whether conscious of financial danger or not, to complain that any excessive expenditure upon sickness benefit has been exclusively caused by laxity on the part of the medical profession. The report of the Commission affords little or no proof that this ascription of blame is correct, so far as any serious responsibility for the financial position of the societies is concerned, although Mr. A. W. Watson (the chief actuary of the Commission) is of opinion that an excess of sickness claims referred to below points to the necessity for increased vigilance on the part of societies and of medical men giving certificates, and further expresses the opinion that it is impossible to doubt that there has been in many quarters too little recognition of the high degree of confidence which Parliament reposed in the medical profession when it decided to withdraw the administration of medical benefit from the Approved Societies, and that a great improvement in certification is both necessary and practicable. The general conclusions which he arrives at with regard to the Approved Societies and the incidence of sickness benefit are summarised as follows:—

1. The sickness claims of men, taken as a whole, have been within the actuarial provision.
2. The sickness claims of women, taken as a whole, have been materially in excess of the actuarial provision.
3. Great variations have arisen between the sickness claims made upon individual societies. While in many cases the claims have exceeded the estimates, there are many other cases in which the cost of the benefits has been so far within the estimates as to lead to the expectation that a large number of societies and branches will be found upon the first valuation to be in possession of surpluses.
4. The sickness claims of both men and women have been, in the case of many societies, above the standard which should normally prevail, and which may be expected to obtain when societies have become experienced in administration.
5. The claims for maternity benefit have varied considerably as between different societies.

It may be pointed out that any conduct of medical men producing an unjustifiable drain upon the resources of Friendly Societies might be expected to affect them generally, rather than to produce variations between the claims made upon individual societies. Also it is evident that financial strain upon the funds of societies is most markedly felt in the case of claims made by women. The existence can hardly be urged seriously of a negligent tendency by medical men on the panel to favour the claims of women to sickness benefit. Mr. Watson refers in particular to the allowance of benefit to pregnant women, and observes that many of those claims have been on the border line of justification, and that nearly all represent demands unknown to the societies which were made before the Act provided for women, and would have been repudiated by them as not within the scope of insurance against sickness.

THE LONDON INSURANCE COMMITTEE AND THE DISTRIBUTION OF THE UNALLOTTED FUNDS.

The London Insurance Committee having been advised by their medical benefit subcommittee either to proceed at once with the distribution of the fund in their hands in respect of unallotted patients, or to express the opinion that the Insurance Commissioners should undertake to distribute it, were asked at a meeting held on June 25th, by Mr. F. Coysh, chairman of the general purposes subcommittee, to distribute the fund immediately. Mr. Coysh's motion to that effect was however displaced by an amendment moved by Mr. Kingsley Wood and eventually carried after discussion, in the course of which medical members of the committee protested strongly against the further delay which would be involved and against departure from the principle of distributing in proportion to the numbers on the lists of the recipients. The amendment thus adopted was "that having regard to the decision of the committee that it is undesirable that any medical man on the London panel should undertake to treat a larger number of insured persons than 2000, the committee is not prepared to distribute the surplus moneys in the panel fund on a *pro ratâ* basis unless and until a legal decision has been obtained or further parliamentary authority has been given."

THE LONDON COUNTY COUNCIL AND THE LONDON INSURANCE COMMITTEE.

The London County Council is entitled to appoint 19 out of the 80 members of the London Insurance Committee and three of its nominees must be medical practitioners. The Council has selected the following as its medical representatives for the year 1914–15: Sir John Collie, Sir Shirley F. Murphy, and Dr. R. M. Beaton.

THE LOCAL GOVERNMENT BOARD AND THE TUBERCULOSIS SCHEME FOR LONDON.

The London County Council has received a letter from the Local Government Board commenting on the scheme for the residential treatment of tuberculosis approved by the Council on May 26th (THE LANCET, May 30th, p. 1559). The Board stated that, in consequence of the refusal of the London County Council to bear any part of the cost of treating insured persons, it understood that the London Insurance Committee did not propose to arrange for residential accommodation through the County Council. There were clearly many advantages in dealing with insured and uninsured persons by one scheme, and the Board greatly regretted that the County Council had not been prepared, as the councils of other great towns had been, to undertake to provide the accommodation necessary for the whole community, subject to the condition that half the annual cost, after deducting receipts from the Insurance Committee and other sources, would be met out of grants from the Local Government Board. The Board had some doubt whether the proposals of the Council in regard to the selection of cases for residential treatment would prove satisfactory in actual working. While the Board took no exception to the establishment of the proposed honorary advisory board, it considered that the Council, instead of authorising this board to appoint medical referees to examine selected cases for residential treatment, would have been well advised to appoint a clinical tuberculosis officer, whose duties would have included advising the Council in the selection of cases for residential treatment. The proposed system of payment by fee per case the Board did not regard desirable as part of a permanent arrangement. Presumably the number of cases normally referred to the medical referees would only be a small proportion of the whole; otherwise the expenditure for this purpose would be unduly high. The Board, however, would not object to these proposals on the understanding that they were reviewed at the end of 12 months, when, if experience showed them not to be satisfactory or economical, some other machinery for selecting cases could be adopted. It was important that no action should be taken which might debar persons in need of treatment from obtaining it, and if any charge was made it should only be in cases in which there was clear evidence that a contribution towards the cost might be expected. It did not appear to the Board that any obligation could be imposed on medical practitioners who recommended cases for residential treatment to investigate and advise as to the financial circumstances of the patients. Subject to these comments the Board approved generally of the proposals of the Council as regards adults, on the understanding that the provision of beds at present proposed was to be regarded as an instalment only.

The Board is in communication with the Board of Education in regard to the proposals for the treatment of children. It will be necessary for the institutions in which beds are retained by the Council to be approved by the Board for the treatment of tuberculosis if such approval has not already been given.

The National Medical Union.

The first general meeting of this Union was held in London on June 27th, when the report of the provisional council elected at the conference in November last was dealt with and the permanent officers were appointed. It was decided that the Union should apply for registration under the Companies Act, 1867, without the word "limited" as part of the title, and that the liability of members should be limited by guarantee to £1. Arrangements were made for the immediate election of the permanent council by the federated associations on the basis of one representative for every association of 25 subscribers and under, with an additional member for every 20 additional subscribers, the minimum membership entitling any society to elect a member of council being fixed at 10. The following, among other resolutions, were adopted as the basis of the policy of the Union:—

1. To organise the medical profession to the highest possible degree of efficiency in defence of its freedom and in protection of its economic interests.
2. To render every service possible to non-panel practitioners.
3. To oppose any prospective legislation to include dependants of insured persons participating in the medical benefit of the Acts under the present arrangements.
4. To agitate for repeal of the medical benefit sections of the Insurance Act, or such drastic amendments as would bring these sections into harmony with the principles of freedom on the part of the profession and public.
5. To lay down the principle of unrestricted free choice of doctor in any form of national insurance, to insist upon the unrestricted right of insured persons to make individually their own arrangements in connexion with the Insurance Act, and to insist that no doctor attending such persons be required to sign any contract with the Commissioners or any committee under the Act.
6. To place before the public in any and every way possible the dangers of the Act to public health, and its injustice to doctor and patient alike.
7. To maintain that a Medical Service is necessary for the genuinely necessitous classes of the community, *and for them only.*
8. To preserve an independent attitude with regard to party politics.

Further, it was agreed that the National Medical Union is not opposed to the principle of Health Insurance under such conditions as would conform with the other principles of its policy.

Charges for Medicine Supplied by Medical Men.

The Darwen Insurance Committee passed a resolution recently commending the Lancashire Insurance Committee for "proceeding against panel doctors for charging insured persons for medicine." From the discussion on the subject it appeared that the case for the medical men was that insured patients sometimes prefer to pay for medicines made up by their medical attendants to taking a prescription to a druggist who would supply the medicine free of charge. On the other hand, it was stated that the insured person was often not aware that he could take a prescription and get it made up without having to pay for it, and that in some instances patients were being told that the medicine supplied by the druggist would not be the same as that of the medical man. The question what course the medical man should take when asked to supply medicine by a patient who preferred to have it from him was propounded by a medical member of the committee. It seems reasonable that an insured person should have the same freedom in such a case as one uninsured. Naturally any representation of a misleading character ought to be dealt with by an insurance committee with severity adapted to the needs of the individual case.

Mr. Arthur Hopewell-Smith, M.R.C.S. Eng., L.R.C.P. Lond., John Tomes prizeman of the Royal College of Surgeons of England and surgeon and lecturer on dental anatomy and physiology at the Royal Dental Hospital of London, has accepted the professorship of comparative odontology and dental histology, which the University of Pennsylvania at Philadelphia has decided to establish and endow.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At the examinations for medical and surgical degrees, held recently, the following were successful:—

FIRST EXAMINATION.

Part I., Chemistry, and Part II., Physics.—E. Goodwin, Emmanuel.
Part III., Elementary Biology.—E. Goodwin, Emmanuel; and S. Riddiough, King's.

SECOND EXAMINATION.

Part I.—A. M. Ahmad, Downing; D. J. Batterham, Caius; D. C. Beaumont and W. H. Blackburn, Christ's; T. A. Butcher, Queens'; P. D. Chapman, Sidney Sussex; R. S. Corbett, Caius; G. P. Crampton, Downing; J. M. Downie, Christ's; A. Drewe, Trinity; J. R. Earp, St. John's; H. W. Eddison, Christ's; R. W. Fawcett, Caius; L. P. L. Firman-Edwards, Trinity; G. A. Fisher, Jesus; R. French, Downing; E. O. Goldsmith, Pembroke; G. A. Goolden, Caius; W. S. Gross, Jesus; E. A. H. Grylls and J. S. La Fontaine, Caius; J. H. Le Brasseur, Pembroke; G. Lyon-Smith, Emmanuel; W. J. MacCombie, H. H. Marten, and C. K. Mowll, Caius; D. M. Muir, Trinity; C. L. Odam, Sidney Sussex; A. Orr-Ewing, Pembroke; R. R. Powell, Emmanuel; I. M. Rattray, D. W. R. Richardson, E. N. Showell Rogers, O. S. Thompson, and G. H. Ward, Caius; C. R. H. Weekes, Trinity; and A. Winfield, Downing.
Part II., Pharmacology and General Pathology.—J. O. Andrews, St. John's; G. L. Attwater, Pembroke; S. L. Bhatia, Peterhouse; A. L. Bodley, Clare; G. A. G. Bonser, St. John's; E. D. Broster, Christ's; M. Chadwick, St. John's; G. D. Compston, Trinity Hall; E. V. de Souza, Downing; A. W. R. Don and E. Donaldson, Trinity; J. R. Harris, Queens'; A. G. Irving, King's; L W. Jones, Emmanuel; J. B. Leather and F. G. Lescher, Caius; W. H. Marshall, Pembroke; C. G. T. Mosse, Caius; D. F. A. Neilson, Trinity; J. H. Parry, St. John's; C. F. Pedley, Jesus; F. S. L. Piggott, Emmanuel; J. S. Pooley, Trinity; R. A. W. Procter, Clare; W Raffle, St. John's; C. M. Ryley, Emmanuel; T. S. H. Schäfer, Caius; W. G. A. Schüddekopf, Emmanuel; C. G. Schurr, Caius; H. W. Scott, Clare; B. H. Swift and E. P. W. Wedd, Caius; H. A. Whyte-Venables, Queens'; S. M. Wilcox, Emmanuel; and A. T. Woolward, Caius.

THIRD EXAMINATION.

Part I., Surgery and Midwifery.—S. G. Askey, St. John's; *W. F. Bensted-Smith and E. C. Bradford, Pembroke; F. L. Cassidi, Corpus Christi; G. M. Cowper and K. B. Dickson, Trinity; C. L. Gimblett and C. H. M. Gimlette, Caius; H. Hartridge, King's; J. B. Hunter, St. John's; *C. C. Kerby, Trinity; F. G. Lescher, Caius; *Q. Madge, Emmanuel; R. W. Meller, Trinity; R. K. Merson, Emmanuel; A. B. Pavey-Smith, Clare; *J. W. Pigeon, Christ's; W. B. Purchase, Sidney Sussex; *E. C. Rayner, Caius; G. D. Read, St. John's; J. R. Rees, King's; J. E. Sharp, Caius; A. G. Shera, Emmanuel; *H. A. Smith, H. Selwyn; *R. Stansfeld, St. John's; C. R. A. Thacker, Downing; *J. R. A. Todhunter, Caius; and H. G. Wiltshire, Emmanuel.

* In Surgery only, having previously been approved in Midwifery and Diseases of Women.

Part II.—S. G. Askey, St. John's; D. C. G. Ballingall, Emmanuel; H. A. Bell, Jesus; W. G. Bigger and P. R. Boswell, Queens'; E. C. Bradford, Pembroke; H. P. Dawson, Trinity; E. L. Dobson, King's; A. T. Edwards, St. John's; W. B. Gordon, Clare; H. Hartridge, King's; F. G. Lescher, Caius; R. W. Meller, Trinity; A. B. Pavey-Smith, Clare; D. V. Pickering, Emmanuel; S. G. Platts, Caius; L. C. Rivett, L. E. S. Sharp, and A. C. S. Smith, Trinity; P. Stocks, King's; and C. R. A. Thacker, Downing.

UNIVERSITY OF LIVERPOOL.—The degree of M.D. has been conferred upon the following:—

J. Bamforth, H. M. Berry, W. E. Cooke, I. C. Edwards, H. W. Jones, R. Kennon, H. Nield, H. Pierce, and G. F. R. Smith.

At examinations held recently the following candidates were successful:—

DEGREES OF M.B. AND CH.B.

Final Examination.—Part I.: H. Garas, A. G. M'Coll, H. C. Roberts, and J. Rumjahn. Part II.: Ruth I. Bateman, R. L. Blenkhorn, C. P. Brentnall, G. S. Graham, J. P. Johnson, R. J. Minnitt, L. Oldershaw, and C. G. Skinner. Part III.: G. D. Harding, R. Martlew, A. G. N. Misbah, R. Rimmer, R. E. Roberts, L. B Stott, A. W. Weston, and J. St. G. Wilson.
Honours.—First Class: Ethel Chadwick. Second Class: G. H. Darlington and G. H. Pearson.
Second Examination.—Part A: A. L. Davies, D. C. Grundy, and Edna E. Mawson. Part B: N. J. Allan, M. Azer, A. G. Brett, A. J. B. Griffin, Amy Hodgson, R. Nixon, S. Pool, A. M'K. Reid, and E. S. Stubbs.

VICTORIA UNIVERSITY OF MANCHESTER.—At examinations held recently the following candidates were successful:—

FINAL M.B. AND CH.B. EXAMINATION.

*Lily Allan, Basil Browning, Frank Chadwick, J. W. Craw, H. C. Duffy, C. W. Fort, *†D. T. Harris, J. R. Jagger, *O. M. de Jong, E. A. Linell, Kate K. May, A. S. Paterson, ‡J. R. B. Russell, J. E. Slack, and E. H. Walker.
Obstetrics.—G. B. Horrocks, Kamil Maximus, and H. A. Sandiford.
Medicine.—W. S. Booth, G. B. Horrocks, and Kamil Maximus.
Surgery.—G. B. Horrocks.
Forensic Medicine and Toxicology.—J. C. Bramwell, A. T. Gibb (distinction), Edgar Granger, William Halliwell, J. G. McKinlay (distinction), H. M. von Mengershausen, J. F. C. O'Meara, F. G. Prestwich, John Rigby, C. G. Todd, Frank Vause, Louis Walton, and Richard Willan.

* Second class honours. † Distinction in Obstetrics.
‡ Distinction in Surgery.

THIRD M.B. AND CH.B. EXAMINATION.

Pharmacology and Therapeutics and Hygiene.—G. S. Bate, H. W. Bennett, Hitchon Chadwick, William Christopher, Richard Colley, Eva L. Glasier, Alice M. A. Holt, R. L. Newell, F. C. Ormerod, J. A. Panton, Nesta H. Perry, Dorothy Potts, C. R. Sandiford, and Walter Stansfield.
Pharmacology and Therapeutics.—J. H. Albinson.
Hygiene.—J. D. Byrd.

FIRST M.B. AND CH.B. EXAMINATION.

Part III. (Organic Chemistry and Biochemistry).—Nooman Abloh, T. H. Almond, May Ashburner, Sybil Bailey, Mary G. Cardwell, H. J. Chronnell, Thomas Colley, S. E. Critchley, Elizabeth C. Davies, Herbert Dickie, E. B. A. Edleston, Percival Fildes, G. H. W. Gough, F. L. Heap, F. S. Horrocks, Fahim Isaac, A. W. Kirkham, J. H. Lees, John Mills, Terence O'Brien, Kathleen O'Donnell, Ellis Pigott, H. J. Porter, A. R. Redfern, Lazarus Samuels, A. G. Saunders, L. J. Schwartz, V. T. Smith, J. T. Walker, Marie Wardman, and Ethel D. Willis.

FINAL B.D.S. EXAMINATION.

H. H. Stones (First-class honours), and M. C. Paterson (Second-class honours).

DIPLOMA IN DENTISTRY. (FINAL EXAMINATION.)

E. D. Batty, Benjamin Brown, E. W. Fish, F. P. H. E. Kolligs, Frank Lyth, G. N. Scotts, R. S. Smith, and Aquila Whitehead.
Pathology.—T. B. Place.
Systematic Surgery.—John Smith and J. V. Wilkinson.
Dental Prosthetics and Operative Dentistry.—T. B. Place and John Smith.
Dental Surgery.—J. V. Wilkinson.

UNIVERSITY OF DURHAM: FACULTY OF MEDICINE.—At examinations held recently the following candidates were successful:—

FIRST EXAMINATION FOR THE DEGREE OF BACHELOR OF MEDICINE.

Elementary Anatomy and Biology, Chemistry and Physics.—First Class Honours: William Edward Mandall Wardill, College of Medicine, Newcastle-upon-Tyne. Pass List: Montague William Augustus Sandoe, Guy's Hospital; and Habib Toma, College of Medicine, Newcastle-upon-Tyne.
Chemistry and Physics.—John Neville Alexander, Alan Angus, Douglas George Patrick Bell, Edgar Frederick Herbert Bell, John Arthur Gardner Brewis, and Ernest Dewar Charles, College of Medicine, Newcastle-upon-Tyne; Harold Charles Clifford-Smith, Charing Cross Hospital; Wallace Alexander Freedman, Giles Arthur Michael Hall, Alexander Thomas Harrison, and Mary Kathleen Henegan, College of Medicine, Newcastle-upon-Tyne; Reginald Arthur Hickley, St. Mary's Hospital; and George Eric Hyden, William Arthur Jaques, Robert Turnbull Euston Naismith, Charles Burton Phillips, Gainsford Reed, Frank Wesley Sopwith, and Louis William Studdy, College of Medicine, Newcastle-upon-Tyne.
Elementary Anatomy and Biology.—Ewart Gordon Anderson, London Hospital, and College of Medicine, Newcastle-upon-Tyne; and Ibrahim Girgis, Samuel Elijah Goulstine, Hamed Kamel, Robert Graham Melrose, George Galloway Robertson, Thomas Wilfrid Robertson, George Howard Shanley, and Arthur Wilfred Wilkinson, College of Medicine, Newcastle-upon-Tyne.

UNIVERSITY OF DUBLIN.—The following degrees have been conferred:—

M.D.—H. R. M. Ferguson, E. S. Johnson, C. O'Brien, R. O. Smyth, R. E. Tottenham, and H. L. W. Woodroffe.
M.B., B.Ch., B.A.O.—T. W. Allen, J. N. Armstrong, C. D. M. Buckley, J. G. Butt, J. C. A. Dowse, J. S. English, H. R. Ford, N. H. H. Haskins, Rev. E. E. Lacy, T. A. Lawder, H. C. D. Miller, J. D. Oliver, T. D. Power, F. A. Roddy, W. A. Ryan, W. O. Tobias, W. R. L. Waters, and G. H. Wood.

The following licences have been granted:—

L.M., L.Ch., L.A.O.—E. Evans and J. H. Fletcher.

BRISTOL GENERAL HOSPITAL.—The new wing which has been recently added to this hospital will be formally opened on July 27th by Mr. G. A. Wills, the president of the institution.

Alderman Edward Louis McSheehy, M.D., who was Mayor of Wimbledon for two years and is a justice of the peace for the county of Surrey, was presented on July 4th with the freedom of the borough of Wimbledon.

DONATIONS AND BEQUESTS.—The late Miss Ida Freund, of Cambridge, late staff lecturer in chemistry at Newnham College, has left among other large bequests £2000 to Addenbrooke's Hospital, Cambridge.—By the will of the late Mrs. Alice Eliza Davies, of Bury, widow of Dr. Clifford Davies, the testatrix left £500 each to the Robinson Kay branch of the Hospital for Incurables (Manchester), the Bury Infirmary Hospital, and the National Society for the Prevention of Cruelty to Children, Bury.—Mr. William Hough Hey, of Sherburn in Elmet, Yorks, has bequeathed by will £1000 to the Leeds Infirmary and £500 to the National Society for the Prevention of Cruelty to Animals.

ROYAL COLLEGE OF SURGEONS OF ENGLAND: ELECTION OF MEMBERS OF COUNCIL.—A meeting of Fellows was held on July 2nd to elect five members of Council. 1042 Fellows voted, 1028 of these by post and only six personally. Three of the votes were invalid; two because the signatures of the voters had not been witnessed, and one because the voter had voted for six of the candidates in place of five. Eight voting papers arrived after 3 o'clock, so that they could not be included in the voting. The result of the voting was as follows:—

	Votes.	Plumpers.
William Thorburn	534	53
Charles Alfred Ballance	434	5
William McAdam Eccles	351	23
James Stanley Newton Boyd	337	14
Charles Ryall...	304	13
John Bowring Lawford	256	5
Thomas Horrocks Openshaw	245	30
Walter George Spencer	238	2
Raymond Johnson	218	7
Frédéric Francois Burghard	204	4
Francis James Steward	177	25
Herbert Stringfellow Pendlebury	106	9
Thomas Herbert Kellock	99	0
Percival Macleod Yearsley	90	2

Mr. Ballance was declared re-elected, and Mr. Thorburn, Mr. Eccles, Mr. Boyd, and Mr. Ryall were declared elected members of the Council.

UNIVERSITY OF OXFORD: THEODORE WILLIAMS SCHOLARSHIPS.—The Theodore Williams Scholarship in Anatomy has been awarded to Kenneth F. D. Waters, scholar of Keble, and the Theodore Williams Scholarship in Pathology to Henry St. H. Vertue, B.A., University College; *proxime accessit*, Christopher J. A. Buckell, B.A., Corpus Christi College.

MR. THOMAS CHETWOOD, M.B. Lond., D.P.H. Oxford, has been appointed school medical officer and deputy medical officer of health for the city of Sheffield in the place of Dr. Ralph P. Williams, who recently resigned these posts to take up his duties as a senior assistant medical officer at the Board of Education. Mr. Chetwood was previously senior assistant school medical officer in Sheffield.

UNIVERSITY OF LONDON.—The Senate at its last meeting reappointed Sir Wilmot Herringham, M.D., Vice-Chancellor of the University for the year 1914–15. The following medical members of the Senate were appointed to the three statutory committees for the ensuing year. Academic Council: the Vice-Chancellor, Mr. H. L. Eason, Professor A. D. Waller, and Mr. H. J. Waring; Council for External Students: the Vice-Chancellor, Sir Thomas Barlow, Sir William Collins, Sir Thomas Crosby, Dr. E. G. Graham Little, Dr. Frederick Taylor, Mr. Waring, and Dr. S. Russell Wells; Board to Promote the Extension of University Teaching: the Vice-Chancellor, Sir Thomas Crosby, Dr. Graham Little, and Dr. Russell Wells. Sir Alfred Pearce Gould was elected chairman of the Graham legacy committee, and Dr. Frederick Taylor chairman of the committee of medical members of the Senate. Dr. R. H. Cole was re-appointed governor of Slough Secondary School.

DENTAL TEACHING AT LEEDS UNIVERSITY.—The dental department of Leeds University was established in 1905 to provide training for students in the modern applications of dental surgery, and to afford facilities for expert dental treatment to those financially unable to obtain it. The public of Leeds are indebted to the governing body of the dispensary for recognising the importance of this work and giving accommodation and other facilities for it in their buildings. Generous subscriptions of dentists and others made it possible to equip this dental department with up-to-date appliances. During the year 1912-13 3237 new patients were treated in the department, and over 14,000 operations were performed or completed; the number of students in attendance was 27. But the present accommodation will not long be adequate, and Leeds will probably soon have to establish a school of dentistry in its own buildings. The staff consists of 12 honorary dental surgeons, with a demonstrator, a house surgeon, a curator, a nurse, and a clerk. The honorary dental surgeons form a clinical dental committee, the chairman of the dispensary board being *ex officio* a member. The department has been self-supporting throughout, and has never become a charge on the dispensary. A scheme submitted by the dental surgeons and approved by the dispensary board has now been adopted by the council of the University, and will come into operation at the beginning of next session, under which the instruction in the dental department will pass under the control of the University and will have the status of University teaching. The honorary dental surgeons will become members of the staff of the University under the title of "clinical dental lecturers," and all future appointments to these lectureships will be made by the University council, and the dental committee will take its place among the academic bodies of the University.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Death of Mr. Chamberlain.

UNIVERSAL regret at the death of Mr. JOSEPH CHAMBERLAIN is felt at Westminster. For some years illness has withdrawn him from participation in the work of the House of Commons, and time has softened the feelings of asperity which are apt to be generated in keen political controversy. One aspect of his work at the Colonial Office may be specially mentioned here. That was the encouragement which he gave to the study of tropical diseases. He saw clearly that one of the great obstacles to the development of the possessions of the Crown in the tropics was the prevalence of diseases in them which played havoc with the health of the white man.

The Milk and Dairies Bill.

The main question which was discussed in regard to the Milk and Dairies Bill by the Standing Committee of the House of Commons on Thursday, July 2nd, was the inspection of persons employed in or about dairies. Clause 2 authorises the Local Government Board to make orders "for the inspection of dairies and persons employed in or about dairies." An amendment was moved to omit the workers from inspection, but it was opposed by Mr. HERBERT SAMUEL, President of the Local Government Board. He said that there was no intention to establish routine inspection into the health of the persons employed. What the Bill had in contemplation was the occurrence of an epidemic of diphtheria or enteric fever, and the necessity of taking steps to ascertain the cause. For example, certain people who had had enteric fever afterwards became carriers of the germs of the disease, and this danger had to be guarded against. The inspector on his rounds could see whether those who were coming into contact with the milk were cleanly in their persons. Several honourable Members strongly insisted that it was highly desirable to insist upon cleanliness amongst rural workers. The amendment was ultimately withdrawn.

On Monday, July 6th, the Committee had under consideration Mr. ASTOR'S amendment to insert a provision to authorise the use in connexion with the sale of milk of the term "certified milk" and to prohibit the application of such a description to milk which did not fulfil the prescribed conditions. Mr. HERBERT SAMUEL accepted the amendment. He said that much might be done to improve the quality of milk if a higher rate of profit could be obtained by traders who sold milk produced under a system of official regulation and inspection. Mr. ASTOR'S proposal was agreed to.

Milk and Dairies (Scotland) Bill.

The Standing Committee on Scottish Bills of the House of Commons has concluded its examination of the details of the Milk and Dairies (Scotland) Bill. The measure has been reported to the House. Some discussion on the powers of inspecting milk supplies arose during the last sitting of the Committee. Edinburgh and Glasgow under their private Acts possess wider powers of inspecting sources of supplies outside their areas than they would possess if they were under the provisions of the Bill. It was decided by the Committee that those two cities should retain their existing powers of inspection uncurtailed.

National Health Insurance Report.

The report for 1913-14 on the Administration of National Health Insurance has been published as a Parliamentary Blue-book.

Voluntary Insurance Bill.

Sir RICHARD COOPER has introduced in the House of Commons a Bill "to repeal the National Insurance Acts, 1911 and 1913, and to establish a system of voluntary insurance against loss of wages through sickness and unemployment, and for other purposes relating thereto." It was read a first time.

Housing Bill.

Mr. RUNCIMAN, President of the Board of Agriculture, on Wednesday, July 8th, introduced in the House of Commons a Bill for the purpose of giving to the Board of Agriculture and Fisheries "powers with respect to the housing in agricultural districts of persons belonging to the working classes, and to make provision with respect to the housing of persons employed by or on behalf of Government departments where sufficient dwelling accommodation is not available." The right honourable gentleman mentioned that it was proposed to provide £3,000,000 for rural housing and building cottages. The sum to be provided for housing Government employees amounted to £2,000,000. The Bill was read a first time.

HOUSE OF COMMONS.

WEDNESDAY, JULY 1ST.

Infant Mortality.

Mr. **PIKE PEASE** asked the President of the Local Government Board to state the rates of infant mortality and of stillbirths for the United Kingdom in 1913.—Mr. **HERBERT SAMUEL** replied: The rate of infant mortality in the United Kingdom in 1913 was 108 deaths under one year of age per 1000 births registered. The proportion of stillbirths cannot be stated, as these are not registrable, and information in regard to them is obtainable only for areas which have adopted the Notification of Births Act, 1907. These areas do not in all cases tabulate the information which they obtain, but it may be stated that during 1912 the stillbirths notified under this Act in the County of London numbered 2593. This number amounts to 2·4 per cent. of the total births notified, and to 0·57 per 1000 of the estimated population at the middle of the year.

THURSDAY, JULY 2ND.

Insured Persons in Ireland.

Mr. **WEDGWOOD BENN** informed Mr. **GRETTON** that the latest available figures showed that there were 729,598 insured persons in Ireland, of whom 717,798 were members of Approved Societies.

Deposit Contributors.

Mr. **RUPERT GWYNNE** asked the honourable Member for St. George's-in-the-East whether he would consider the advisability of making known at an early date the proposals of the Government regarding amendments to the National Insurance Act and the future position of deposit contributors in particular, so that honourable Members might have an opportunity of discussing these proposals with members of Approved Societies and others interested before the matter was discussed in the House.—Mr. **WEDGWOOD BENN** replied: The Insurance Commissioners are conferring to-day with the Advisory Committee, on which all types of Approved Societies are fully represented, and any proposals of the character referred to will be introduced without avoidable delay.

Grants to Pathological Laboratories.

Mr. **CHANCELLOR** asked the Chancellor of the Exchequer what amount of the sum of £250,000 to be applied this year to tuberculosis, nursing, and pathological laboratories was to be expended on pathological laboratories.—Mr. **LLOYD GEORGE** answered: The amount is £50,000.

Mr. **CHANCELLOR** asked the right honourable gentleman whether the work to be carried on in the pathological laboratories which were to be provided for in this year's Finance Bill would include experiments on living animals.—Mr. **LLOYD GEORGE** said in reply: The proposed grant is in respect of laboratories to be used primarily for purposes of diagnosis and not of research.

The Grant for Tuberculosis Treatment.

Replying to Mr. **ASTOR**, Mr. **LLOYD GEORGE** said: A statement will be made shortly giving particulars of the administration of the proposed grant for tuberculosis referred to in my speech on introducing the Budget.

Motor Ambulances and Petrol Duty.

Mr. **CROOKS** asked the Chancellor of the Exchequer what steps he was taking to exempt this year all authorities under the Local Government Board who had a service of motor ambulances to convey patients to hospitals and infirmaries from the duty upon petrol spirit.—Mr. **LLOYD GEORGE** wrote in reply: I am proposing to deal with this matter in connexion with the Revenue Bill, and if the honourable Member will put down a clause in due course I shall be glad to consider it.

MONDAY, JULY 6TH.

The Disabilities of Medical Officers of Health.

Sir **PHILIP MAGNUS** asked the President of the Local Government Board what steps, if any, he had been able to take to remove the pressing disabilities of medical officers of health as regarded insecurity of tenure, absence of any scheme of superannuation, and inability to obtain payment of travelling expenses in discharge of their duties, which were brought under his notice by the deputation which he and the Chancellor of the Exchequer and the President of the Board of Education recently received; and whether the position of sanitary inspectors, as regarded some of their disabilities, was likely to be improved.—Mr. **HERBERT LEWIS** (on behalf of Mr. **HERBERT SAMUEL**) replied: I can say no more at the present moment than that the matter is engaging the close attention of my right honourable friend.

The Grants for Sick Nursing.

Dr. **CHAPPLE** asked the Chancellor of the Exchequer whether he had received a communication from the Scottish National Conference of Friendly Societies urging that the administration of the grants for sick nursing, tuberculosis, and pathological laboratories be not separated from the present administrators of medical benefit; and, if so, would he say what his attitude would be towards their representations.—Mr. **LLOYD GEORGE** said in reply: The answer to the first part of the question is in the affirmative. I received a deputation on this subject on Friday last. The matter is engaging the careful attention of the Government.

Cripples' Hospitals.

Lord **CHARLES BERESFORD** asked the Chancellor of the Exchequer whether he was aware that at the Cripples' Hospital and College at Alton 95 per cent. of the cripples who went there were cured, who otherwise would succumb or be cripples for life; and, looking to the amount of good that this hospital did, whether he could see his way to give a State grant to the hospital and also to create hospitals of a similar character throughout the country.—Mr. **LLOYD GEORGE** answered: I am well aware of the brilliant work carried on at the hospital referred to by the noble lord. The general question of hospital accommodation is now receiving the attention of His Majesty's Government, and in the meantime I fear I can make no statement.

TUESDAY, JULY 7TH.

Sanitary Authorities in England and Wales.

Mr. **ASTOR** asked the President of the Local Government Board how many local sanitary authorities there were in England and Wales; how many medical inspectors there were in the service of the Local Government Board whose duty it was to inspect personally and keep in personal touch with the work of these authorities; and what were the other duties of these officers.—Mr. **HERBERT SAMUEL** wrote in reply: The number of sanitary authorities in England and Wales is 1870. The medical inspectors of the Local Government Board are not specially deputed to make routine inspection of the work of each of these authorities, but in the performance of their various duties, such as the holding of local inquiries, investigations into sanitary circumstances and outbreaks of disease, the inspection of vaccination, and the visiting of localities and conferences with local representatives for various other purposes, they are brought into constant touch with the sanitary authorities and their administration.

Panel Patients in Wales.

Lord **NINIAN CRICHTON-STUART** asked the honourable Member for St. George's-in-the-East whether any panel patients had been transferred from the Rhymney Valley Medical Association to the Bargoed and District Sick and Medical Aid Society after the closing of the panel list for the year on Dec. 14th, 1913; whether the latter society was an approved society and officially recognised at that date; and whether, under the circumstances, these transfers had been sanctioned.—Mr. **WEDGWOOD BENN** replied: My right honourable friend is informed by the Welsh Insurance Commissioners that the answer to the first and second parts of the question is in the negative. The third part does not, therefore, arise.

Dental Certificates.

Mr. **RAFFAN** asked the Parliamentary Secretary to the Board of Education whether a Departmental Committee had recently been appointed to consider the question of dental certificates; if so, whether the Committee had now concluded its deliberations and submitted its report, and when the publication of the report might be expected.—Mr. **TREVELYAN** replied: The answer to the first part of the question is in the affirmative. The report of the Committee will be issued very shortly.

BOOKS, ETC., RECEIVED.

AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION, LORD BALTIMORE PRESS, Baltimore.
Proceedings of the American Medico-Psychological Association at the Sixty-ninth Annual Meeting, Canada, 1913.

BELL, GEORGE, AND SONS, London.
The Feeding of School Children. By M. E. Bulkley, London School of Economics. Price 3s. 6d. net.

DULAU AND CO., 37, Soho-square, London.
Drapers' Company Research Memoirs. Studies in National Deterioration. IX. By M. H. Williams, M.B., B.S., D.P.H., Julia Bell, M.A., and Karl Pearson, F.R.S. Price 6s.

GRIFFIN, CHARLES, AND CO., London.
A Practical Handbook of the Tropical Diseases of Asia and Africa. By H. C. Lambart, M.A., M.D. Six Coloured Plates and 112 other Illustrations. Price 8s. 6d. net.

HARRAP, GEORGE C., Portsmouth-street, Kingsway, London.
Biology of Sex for Parents and Teachers. By T. W. Galloway, Ph.D., Professor of Biology, James Millikin University, Decatur, Illinois. Price 2s. net.
Plant and Animal Children: How They Grow. By Ellen Torelle, M.A. Price 2s. 6d. net.
Hygiene for Girls: Individual and Community. By Florence Harvey Richards, M.D., Medical Director, William Penn High School. Price 2s. 6d. net.

LEHMANN, J. F., München.
Arzt und Schule. Ziele und Erfolge der Schulkommission des Aerztlichen Vereins München auf dem Gebiete des Mittelschulwesens. 1904–1914. Price M.2.

LEWIS, H. K., London.
The Ileo-cæcal Valve. By A. H. Rutherford, M.D.Edin. Price 6s. net.

LONGMANS, GREEN, AND CO., London.
An Introduction to the Study of Organic Chemistry. By H. T. Clarke, D.Sc.Lond., F.I.C. Price 5s. 6d.

MALOINE, A., Paris.
La Guerre en Bulgarie et en Turquie Onze Mois de Campagne. Par le Prof. Dr. Octave Laurent. Price Fr.5.

MURRAY, JOHN, London.
Historical Account of Charing Cross Hospital and Medical School, with which is included Some Account of the Origin of the Other Hospitals and Schools in London. With 40 Illustrations and Plates of Old London. By William Hunter, M.D., F.R.S. Edin., F.R.C.P. Price 21s.

URBAN UND SCHWARZENBERG, Berlin und Vienna.
Die Experimentelle Pharmakologie als Grundlage der Arzeneibehandlung. Ein Lehrbuch für Studierende und Aerzte. Von Dr. Hans H. Meyer und Dr. R. Gottlieb. Dritte, neubearbeitete Auflage. Price M.15.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BARRINGTON-WARD, L. E., Ch.M., F.R.C.S.Eng., F.R.C.S.Edin., has been appointed Surgeon to Out-patients at the Great Northern Central Hospital.

BEDDARD, A. P., M.D.Oxon., F.R.C.P.Lond., has been appointed Physician to Guy's Hospital.

BRERETON-BARRY, J., L.A.H., has been appointed House Surgeon at the Victoria Central Hospital, Liscard, and Resident Medical Officer to the Wallasey Dispensary.

BUCKELL, M. A. C., M.B., B.S.Lond., has been appointed Casualty House Surgeon at St. Mary's Hospital.

COPE, V. Z., M.D., M.S.Lond., has been appointed Surgeon in Charge of the Orthopædic Department at St. Mary's Hospital.

DAVIES, E. T., M.D., C.M.Edin., F.R.C.S.Eng., has been appointed Officer of Health and Medical Superintendent of the Infectious Diseases Hospital by the Tredegar Urban District Council.

FAULL, W., L.R.C.P.&S.Edin., L.F.P.S.Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Osmotherly District of the county of York.

HOWELL, JAMES B., D.P.H., M.R.C.S., L.R.C.P.Lond., has been appointed Medical Officer of Health for Hammersmith.

JONES, WILLIAM B., M.R.C.S., L.R.C.P.Lond., has been appointed Honorary Anæsthetist to the Blackburn and East Lancashire Royal Infirmary.

KNOWLES, JOHN, L.D.S.Eng., has been appointed whole-time Dentist to the Gloucestershire Education Committee.

LEES, K. A., M.B., B.C.Camb., F.R.C.S.Eng., has been appointed Demonstrator of Anatomy to St. Mary's Hospital Medical School.

MACDONALD, J. S., L.R.C.P.&S.Edin., has been appointed to the Chair of Physiology in the University of Liverpool.

MACENRIGHT, D. J. MORRISON, M.B., B.Ch., B.A.O.N.U.I., has been appointed House Surgeon at Swansea General and Eye Hospital.

MACKAY, DUNCAN MATHESON, M.D., C.M.Edin., M.R.C.S., L.R.C.P.Lond., has been appointed Honorary Ophthalmic Surgeon to the Hull Royal Infirmary.

PINCHIN, A. J. SCOTT, M.D.Lond., M.R.C.S., has been appointed Physician to Out-patients at the Hampstead General and North-West London Hospital.

POULTON, E. P., M.D.Oxon., M.R.C.P.Lond., has been appointed Assistant Physician to Guy's Hospital.

TODD, J. N., M.B., Ch.B.Glasg., has been appointed Anæsthetist to the Harrogate Infirmary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ARGYLL AND BUTE DISTRICT ASYLUM, Lochgilphead.—Medical Superintendent. Salary £500 per annum, with house and all extras.

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL.—House Surgeon. Salary £[illegible] per annum, with residence, board, and laundry.

BATH, WINSLEY SANATORIUM FOR CONSUMPTION.—Assistant Resident Medical Officer, unmarried. Salary £[illegible] per annum, with board, residence, and laundry.

BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon. Salary £[illegible] per annum, with board, lodging, and laundry.

BIRKENHEAD BOROUGH HOSPITAL.—Senior House Surgeon. Salary £120 per annum, with board and laundry.

BIRKENHEAD UNION INFIRMARY.—Senior Resident Assistant Medical Officer. Salary £175 per annum, with board, apartments, &c.

BIRMINGHAM, CITY FEVER HOSPITAL, Little Bromwich.—Assistant Medical Officer. Salary £200 per annum, with board, residence, and laundry.

BIRMINGHAM GENERAL DISPENSARY.—Resident Medical Officer, unmarried. Salary £240 per annum, with apartments, fire, light, and attendance.

BIRMINGHAM, JAFFRAY BRANCH OF THE GENERAL HOSPITAL, Gravelly Hill.—Resident Medical and Surgical Officer. Salary £150 per annum, with board, residence, and washing.

BIRMINGHAM AND MIDLAND EYE HOSPITAL, Church-street.—Junior House Surgeon. Salary £100 per annum, with residence, board, &c.

BIRMINGHAM, QUEEN'S HOSPITAL.—One House Physician and Two House Surgeons for six months. Salaries at rate of £50 per annum, with board, lodging, and washing.

BIRMINGHAM UNION.—Fourth Assistant Medical Officer at Dudley-road Infirmary. Salary £140 per annum. Also Assistant Medical Officer at Selly Oak Infirmary and House. Salary £150 per annum. Each with apartments, rations, laundry, and attendance.

BLACKBURN AND EAST LANCASHIRE ROYAL INFIRMARY.—Junior House Surgeon. Salary £100 per annum, with board, residence, &c.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—House Surgeon for six months. Salary £75 per annum, with board, residence, and laundry.

BOOTLE BOROUGH HOSPITAL.—Senior and Junior House Surgeons. Salaries £120 and £100 respectively, with residence, board, and laundry.

BRADFORD CITY HOSPITAL FOR CONSUMPTIVES.—Resident Medical Officer. Salary £200 per annum, with board and residence.

BRADFORD ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing.

BRISTOL ROYAL INFIRMARY.—Honorary Ophthalmic Surgeon.

BURY ST. EDMUNDS, WEST SUFFOLK GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £120 per annum, with board, lodging, and laundry.

BUXTON, DERBYSHIRE, DEVONSHIRE HOSPITAL.—Assistant House Physician for six months. Salary £100 per annum, with apartments, board, and laundry.

CAMBERWELL INFIRMARY AND GORDON-ROAD INSTITUTION.—Second Assistant Medical Officer. Salary £170 per annum. Also Third Assistant Officer for Infirmary. Salary £150 per annum. Each with apartments, board, and washing.

CARDIFF, KING EDWARD VII.'S HOSPITAL.—Two House Surgeons for six months. Salary at rate of £80 per annum, with board, residence, and laundry.

CARDIFF AND COUNTY PUBLIC HEALTH LABORATORY.—Bacteriologist. Salary £300 per annum.

CHELSEA INFIRMARY AND WORKHOUSE, S.W.—Medical Superintendent and Medical Officer. Salary £500 per annum, with unfurnished house, fuel, and light. Also Second Assistant Medical Officer for Infirmary. Salary £150 per annum, with board, washing, apartments, &c.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £75 per annum, with board, residence, and washing.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Surgeon and House Physician. Salary £100 per annum, with board, residence, and washing in each case.

CROYDON, COUNTY BOROUGH OF.—Assistant Medical Officer of Health and Assistant School Medical Officer. Salary £250 per annum.

DERBY, DERBYSHIRE ROYAL INFIRMARY.—House Physician and Assistant House Surgeon. Salaries £125 and £80 per annum respectively, with residence, board, and laundry.

DEVONPORT, ROYAL ALBERT HOSPITAL.—House Surgeon, unmarried. Salary £150 per annum, with board and laundry.

DEWSBURY UNION INFIRMARY.—Female Resident Assistant Medical Officer. Salary at rate of £100 per annum, with rations, apartments washing, &c.

ESSEX EDUCATION COMMITTEE.—Medical Inspector of School Children. Salary £300 per annum.

FALKLAND ISLANDS.—Assistant Colonial Surgeon, unmarried. Salary £400 per annum.

FAREHAM, HANTS COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £250 per annum, with apartments, board, washing, and attendance.

GLAMORGAN COUNTY COUNCIL.—Medical Officer for the Inspection of School Children. Salary £250 per annum.

GLOUCESTERSHIRE EDUCATION COMMITTEE.—School Medical Inspector. Salary £250 per annum.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—House Surgeon, for six months. Salary £80 per annum, with board, lodging, and laundry.

GREENWICH UNION INFIRMARY AND WORKHOUSE.—First Assistant Medical Officer, unmarried. Salary £175 per annum, with apartments, rations, and washing.

GRIMSBY AND DISTRICT HOSPITAL.—Senior House Surgeon. Also Junior House Surgeon. Salaries £100 and £80 per annum respectively, with board, lodging, attendance, and washing.

HALIFAX ROYAL INFIRMARY.—Second House Surgeon and Third House Surgeon, unmarried. Salary £120 and £100 per annum respectively, with residence, board, and washing.

HERTFORDSHIRE COUNTY COUNCIL.—Assistant to Medical Officer of Health. Salary £300 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—House Physician for six months. Salary 30 guineas.

HUDDERSFIELD ROYAL INFIRMARY.—Assistant House Surgeon. Salary £80 per annum, with board, rooms, and washing.

HULL ROYAL INFIRMARY.—Casualty House Surgeon. Salary at rate of £[illegible] per annum, with board and lodging. Also Assistant House Surgeon. Salary at rate of £100 per annum, with board and lodging.

HULL, VICTORIA CHILDREN'S HOSPITAL, Park-street.—Female Assistant House Surgeon. Salary £[illegible] per annum, with board and laundry.

LEEDS GENERAL INFIRMARY.—Resident Obstetric Officer for six months. Salary £[illegible] per annum, with board, residence, and laundry. Also Two House Physicians for six months, without salary, but with board, residence, and laundry.

Leeds Public Dispensary.—Junior Resident Medical Officer. Salary £130 per annum, with board, residence, and laundry.

Leicester Royal Infirmary.—Assistant House Physician for six months. Salary at rate of £100 per annum, with board, apartments, and washing.

Liverpool City Infectious Diseases Hospital.—Assistant Resident Medical Officer, unmarried. Salary £150 per annum, with board, washing, and lodging.

Liverpool, Highfield Infirmary.—Assistant Medical Officer. Salary £180 per annum, with apartments, &c.

Liverpool School of Tropical Medicine.—Research Assistant at Runcorn Research Laboratory. Salary £150 per annum.

Liverpool Stanley Hospital.—Two House Physicians and a House Surgeon. Salary £75 per annum each, with board, residence, and laundry.

London Medical Mission, Endell-street, W.C.—Resident Medical Officer, unmarried. Salary £120 per annum, with board and residence.

Lowestoft and North Suffolk Hospital.—House Surgeon, unmarried. Salary at rate of £150 per annum, with board, residence, and laundry.

Macclesfield, Cheshire County Asylum, Parkside.—Locum Tenens for about two months. Salary 5 guineas per week, with apartments, board, and washing.

Maidstone, Kent County Asylum.—Fourth Assistant Medical Officer, unmarried. Salary £250 per annum, with quarters, board, attendance, washing, &c.

Manchester, Hulme Dispensary, Dale-street, Stretford-road.—House Surgeon. Salary £180 per annum, with apartments, attendance, coal, and gas.

Manchester Northern Hospital for Women and Children, Park-place, Cheetham Hill-road.—House Surgeon. Salary £120 per annum, with apartments and board.

Manchester, St. Mary's Hospitals for Women and Children.—House Surgeon for Children's Department. Also House Surgeon for Obstetrical and Gynæcological Departments. Each for six months. Salary £25 per annum each, with board and residence.

Newark-upon-Trent Hospital.—Female Resident Medical Officer, unmarried. Salary £120 per annum, with board, lodging, and laundry.

Northampton General Hospital.—Two House Surgeons, unmarried. Salary £120 per annum each, with apartments, board, washing, attendance, &c.

Norwich, Jenny Lind Hospital for Sick Children.—Resident Medical Officer for six months. Salary £80 per annum, with board, apartments, and laundry.

Nottingham General Dispensary.—Assistant Resident Surgeon, unmarried. Salary £180 per annum, with apartments (not board), attendance, light, and fuel.

Nottingham General Hospital.—Assistant House Physician for six months. Salary at rate of £100 per annum, with board, residence, and laundry.

Ogmore and Garw Urban District Council.—Medical Officer of Health. Salary £325 per annum.

Peterborough Infirmary and Dispensary.—House Surgeon, unmarried. Salary at rate of £120 per annum, with residence, board, and laundry.

Plymouth, South Devon and East Cornwall Hospital.—House Physician for six months. Salary £90 per annum, with board, residence, and washing.

Poplar Hospital for Accidents, Poplar, E.—Assistant House Surgeon for six months. Salary at rate of £20 per annum, with board and residence.

Portsmouth Royal Hospital.—House Surgeon for six months. Salary £90 per annum, with board, &c.

Portsmouth Workhouse Infirmary, Workhouse, and Children's Home.—Second Assistant Resident Medical Officer, unmarried. Salary £150 per annum, with apartments, rations, &c.

Preston County Borough.—School Medical Officer. Salary £350 per annum.

Prince of Wales's General Hospital, Tottenham, N.—Junior House Physician and Junior House Surgeon for six months. Salary £75 per annum each, with residence, board, and laundry.

Queen's Hospital for Children, Hackney-road, Bethnal Green, E.—House Surgeon for six months. Salary £80 per annum, with board, residence, and washing.

Ramsgate General Hospital and Dispensary.—Resident House Surgeon, unmarried. Salary £100 per annum, with board, residence, and laundry.

Rochdale Infirmary and Dispensary.—Senior House Surgeon, unmarried. Salary £120 per annum, with board, residence, and laundry.

Royal Army Medical Corps.—Twelve Commissions.

Royal Ear Hospital, Soho.—House Surgeon. Salary £40 per annum.

Royal Hospital for Diseases of the Chest, City-road, E.C.—Resident Medical Officer. Also House Physician. Both for six months. Salaries at rate of £120 and £60 per annum respectively, with board, lodging, and washing.

Royal Naval Medical Service.—Twenty-five Appointments.

Royal Waterloo Hospital for Children and Women, S.E.—Surgeon to Out-patients. Also Junior Resident Medical Officer. Salary at rate of £50 per annum, with board and washing.

Royal Westminster Ophthalmic Hospital, King William-street, West Strand, W.C.—Assistant Surgeon.

St. Mary's Hospital, Paddington, W.—Resident Assistant Anæsthetist for six months. Salary at rate of £100 per annum, with board and residence.

St. Mary's Hospital for Women and Children, Plaistow, E.—Assistant Resident Medical Officer. Salary at rate of £100 per annum, with board, residence, and laundry.

Salford Royal Hospital.—House Surgeon, Junior House Surgeon, and Casualty House Surgeon. Salary at rate of £100 per annum each, with board and residence.

Scarborough Hospital and Dispensary.—Senior and Junior House Surgeons. Salaries £100 and £50 per annum respectively, with board, residence, &c.

Sheffield, East End Branch of the Children's Hospital (Out-patient Department).—House Surgeon. Salary £120 per annum, with board and residence.

Sheffield, Jessop Hospital for Women.—Senior and Junior Female House Surgeons, unmarried. Salaries £100 and £50 per annum respectively, with board, residence, and laundry.

Shrewsbury, Salop Infirmary.—House Physician. Salary at rate of £110 per annum, with board and apartments.

Somerset County Council.—Assistant Tuberculosis Officer. Salary £300 per annum.

South Shields, Ingham Infirmary and South Shields and Westoe Dispensary.—Junior House Surgeon. Salary £115 per annum, with residence, board, and washing.

Surrey County Council.—Assistant Medical Officer of Health. Salary £400 per annum.

Swansea General and Eye Hospital.—Two House Surgeons. Salary £125 per annum, with board, washing, and attendance. Also House Physician. Salary £125 per annum, with board, apartments, and laundry.

Throat Hospital, Golden-square, W.—Two Resident House Surgeons. Salary £75 per annum, with board, residence, &c.

Truro, Royal Cornwall Infirmary.—House Surgeon, unmarried. Salary £100 per annum, with rooms, board, and washing.

Victoria Hospital for Children, Tite-street, Chelsea, S.W.—House Physician and House Surgeon for six months. Salary £40, with board and lodging.

Walsall and District Hospital.—Assistant House Surgeon. Salary £110 per annum, with board, residence, and laundry.

Wandsworth Union Infirmary, Ouseley-road, Balham, S.W.—Senior Assistant Medical Officer, unmarried. Salary at rate of £150 per annum, with board, lodging, and washing.

West Bromwich, County Boroughs of Walsall and West Bromwich.—Tuberculosis Officer. Salary £500 per annum.

West Bromwich and District Hospital.—Assistant Resident House Surgeon and Anæsthetist, unmarried. Salary £100 per annum, with board, residence, and washing.

West Ham, County Borough of.—Assistant School Medical Officer. Salary £250 per annum.

West Ham and Eastern General Hospital.—Junior House Physician and Junior House Surgeon. Salary at rate of £75 per annum, with board, residence, and washing.

West Hartlepool, Cameron Hospital.—House Surgeon, unmarried. Salary £150 per annum, with board and rooms.

West London Hospital, Hammersmith-road, W.—Resident Casualty Officer and Anæsthetist. Salary at rate of £40 per annum, with board, lodging, washing, &c.

Weston-super-Mare Hospital.—House Surgeon, unmarried. Salary £120 per annum, with residence, board, and laundry.

Winchester, Royal Hampshire County Hospital.—House Physician. Salary £80 per annum.

Wrexham Infirmary.—Resident House Surgeon. Salary £120 per annum, with board, lodging, and washing.

The Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Shardlow, in the county of Derby; at Malton, in the county of York; and at Runcorn, in the county of Chester.

Births, Marriages, and Deaths.

BIRTHS.

Booth.—On July 8th, at 78, Southampton-street, Reading, the wife of Norman Booth, M.B., B.S. Lond., of a son.

Goodman.—On June 28th, at Powderham-crescent, Exeter, the wife of W. H. Goodman, L.D.S. R.C.S. Eng., of a daughter.

King.—On June 17th, at Castries, St. Lucia, B.W.I., the wife of Alex. King, M.B., of a son.

Marshall.—On July 4th, at Old Court, Ealing, the wife of C. P. Marshall, M.D., F.R.C.S., of a son.

Pineo.—On June 29th, at Richmond House, Langford, Somerset, the wife of Ernest D. Pineo, M.R.C.S., L.R.C.P., of a daughter.

Sandiland.—On July 3rd, at the City of Westminster Infirmary, South Kensington, the wife of Digby S. Sandiland, M.R.C.S., L.R.C.P., of a daughter.

MARRIAGES.

Cane—Guyot.—On July 4th, at St. Martin's-in-the-Fields, Trafalgar-square, Lionel Charles William Cane, M.R.C.S., L.R.C.P., to Doris, eldest daughter of Mr. and Mrs. Guyot, of Belvedere, Kent.

Hughes—Reeves-Smith.—On July 2nd, at St. George's, Hanover-square, Basil Hughes, F.R.C.S., to Janet, only daughter of Mr. and Mrs. Reeves-Smith, of Berkeley-street, W.

Pearson—Stanley.—On July 1st, at the Parish Church, Edgbaston, Dudley Garencières Pearson, M.B., M.R.C.S., L.R.C.P., to Annie Gordon, eldest daughter of William Stamer Stanley.

DEATHS.

Burgess.—On June 10th, at Darjeeling, India, John Hay Burgess, M.D., M.R.C.P. Lond., F.R.C.S. Eng., Captain, I.M.S., Surgeon to His Excellency the Governor of Bengal, aged 3[illegible] years.

Coleman.—On July 6th, at Epsom, Charles Alfred Coleman, M.D., aged 65 years.

Laidlaw.—On July 2nd, at Grantchester Meadows, Cambridge, Robert Laidlaw, M.D., F.R.C.S. Edin., in his 73rd year.

Rose.—On July 1st, at Warwick-avenue, Maida-hill West, W., Henry Cooper Rose, M.D., Surgeon-Major, and of the Middle Temple, Barrister-at-law, aged 83 years.

Vachell.—On July 2nd, at a nursing home at Clifton, Charles Tanfield Vachell, M.D. Lond., of Cardiff, aged 66 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

AN INTERESTING HOSPITAL.

A CORRESPONDENT writes us an account of the hospital which the Roman Catholic Sisters of Providence have built recently in Seattle, State of Washington, U.S.A. The hospital of 375 beds cost a million dollars, and contains a certain number of free beds and others for which £2 a week (in room with four to six beds) and upwards are asked. There are large private rooms, with bathroom *en suite*, which cost £8 a week, and, in addition, patients pay from 5 to 10 dollars for the use of the operation room if required, and in every case the fees of the patient's physician who has sent him into this hospital are to be paid in addition. The hospital is a good type of the modern paying institution, and is nursed by 50 religieuses and 80 nurses, mostly pupils undergoing a three years' course of training.

"An ambulance brings the patient to a door on the ground floor," writes our correspondent, "but you, as a visitor, will mount a flight of steps that covers this lower door, and you will enter a spacious white-tiled hall on the first of the six floors of the building. The surgical suite is on the uppermost floor, where there are eight operation rooms with excellent light from roof and side, and separated by well-equipped sterilising rooms, while in an anteroom are tanks for the after-washing of all appliances used in the operation. There are also a dressing-room for the surgeons, X ray and ophthalmoscope room, and anæsthetising rooms. The wards have never more than six beds, generally less, and in the private rooms there is always a wardrobe sunk in the wall. The floors are of hard wood, corners always rounded, the doors are smooth, and the mouldings very low and rounded. Lighting is by overhead lamps concealed inside sanded glass globes, in addition a light on the wall. Each patient has a signal for the nurse, which lights a green lamp over the door, easily conspicuous in the spacious white-tiled corridor; other lights—one in the nurses' duty room and one in the superintendent nurse's office—are extinguished by the nurse when she goes to the patient. There are also red lights in the corridors, indicating the position of the wide fire-escapes. The hospital is built of fireproof cement concrete."

In illustration of the care taken in the preparation and distribution of the food, our correspondent writes: "In each section there is a diet kitchen, to which the food is brought from the main kitchen by a small lift. Here it is transferred to a steam-carving table, where it is portioned out and put on trays, with clean linen and attractive crockery. On a dresser for these trays, when not in use, there are numbers for each bed served, and the tray appropriate is placed there. The sisters here well support their traditional credit for serving appetising meals." Of the engine-room he says: "Three oil-fired Babcock and Wilcox water-tube boilers of 200 h.p. each provide steam to drive dynamos for the electric light. This installation makes electricity at six-tenths of a halfpenny per kilowatt, and the exhaust steam heats the building at 7½d. per square foot of heating surface over the 40,000 square feet of radiators in the building. The heat is regulated from the engine-room, but in every room there is an automatic regulator which keeps the temperature constant as desired. If the room is to be warmer, the valve admits more steam to the radiators and *vice versâ*. No fire is there in the hospital outside the power house, and gas is only used in the baking ovens and grill. The engine-room does a great deal for the hospital, and does it to the satisfaction of everyone. It takes the local water, filters it, and pumps it through the building, besides storing it under pressure for fire protection (supply of 500 gallons a minute) in case pressure in the town supply falls at a crisis. The engine-room makes 500 lb. of ice per day, and besides supplies iced water at 37° (40° in the wards) for drinking; ice is never allowed into the drinks. It also supplies cooled brine to all the refrigerators through the diet kitchens and the main kitchen where they are large like caves; some of the smaller have glass linings; the largest is tiled. Steam is also used for cooking at 250 lb. Even roasting is thus done (it seems to take twice as much steam as boiling), and the sister who took me round declared the meat thus roasted was far better cooked than that out of an ordinary roasting oven. She showed me with pride, too, the racks of bottles of preserved fruit they had prepared in the summer, when perhaps they might get a carload (some ten tons of peaches, for example, when the sisters in their hours would peel and stone them, for nothing is wasted.)

"The requisite air for ventilation is taken in through tempering coils, washed as it passes through a 7' × 9' screen of bronze gauze and distributed by two No. 14 Sirocco fans each delivering 41,000 cubic feet per minute, but each capable of doing the full work if one breaks down. From the plenum chamber the air is conveyed to the hospital by two passages 50" × 74" and by a third 84" × 40". High-pressure steam is supplied for the kitchen, also for steam-carving tables, sterilisers, and disinfectors, and low pressure for blanket warmers and mop driers. The pressure-water system keeps a constant flush going in the water closets, and the hot water-supply to lavatories. Another set of pipes to the engine-room serves the vacuum cleaners; their dust comes down to the engine-room and is burnt with other rubbish in an oil-fired destructor. Electric power supplies light, power for laundry, for the two large elevators and seven dumb waiters, and for the announcement service (the green light), which is worked through small accumulators; the large accumulators are always charged to prevent light failing in an operating theatre during an operation. This reminded one of the provision of portable electric lights with batteries in German battleships in case of failure of light during action. Telephones connected with the city system are everywhere and also a private installation which rings calls throughout the hospital, calls which vary according to the particular high official whose presence is needed. In the office is a master clock which every minute sends round a current which moves through one minute the hands on each of the 41 dials it controls in the hospital, and, in addition, makes the meal and other signals required to indicate that duty at this moment necessary."

"So well thought out is the whole scheme," concludes our correspondent, "you do not even have to go down to the office to pay your bill, but it is enclosed in the office in a carrier which is blown up to you through a pneumatic tube which later brings you back your change before, grateful and recovered, you leave this excellent and airy hospital from which you get, besides, so fine a view over beautiful Puget Sound."

NUMBER OF DOCTORS ON THE PANEL.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Feb. 21st, 1914, p. 580, you reported under Parliamentary Intelligence the reply of the Secretary to the Treasury as to the numbers of medical men on panels in England, Scotland, and Wales respectively as follows. "Mr. Wedgwood Benn: The approximate numbers of medical men on panels in England, Scotland, and Wales respectively are 16,300, 2700, and 1250 respectively, including medical men who are on more than one panel." These figures produce a total of 20,250 panel men. I observe that at the dinner of the National Medical Union, held on June 27th, 1914, it was stated that there are only 14,472 panel men. If this latest total is right, and there are actually only that number of individual men on the panel, then I suppose it would be correct to assume that there are 5778 names of medical men on panels which are duplications, or triplications, or so on (the difference between 20,250 names and 14,472 individuals). I wish to make a note of the figures for reference purposes.

I am, Sir, yours faithfully,

London, June 29th, 1914. ENQUIRER.

⁂ We see no other way to reconcile two statements, which apparently vary, while each was made with a sense of responsibility.—ED. L.

"DIE BUCHE SUCHE."

To the Editor of THE LANCET.

SIR,—Dr. F. S. Arnold will find some statistics of the relative frequency with which the beech and other trees are struck by lightning, as well as a good deal of other information on the subject, in the late Sir Jonathan Hutchinson's *Haslemere Museum Gazette*, Volume I., published by John Bale and Sons, London, pp. 118 and 202, &c.

I am, Sir, yours faithfully,

Seymour-street, W. E. MUIRHEAD LITTLE.

ARSENIC IN POTASSIUM CARBONATE.

AT the Manchester police court on June 16th six chemists were summoned at the instance of the Lancashire county council for an offence under the Food and Drugs Act—viz., selling on April 23rd salt of tartar not of the nature and quality demanded, inasmuch as the salt contained arsenic. The prosecutor made a statement as to the facts, and then asked the bench to allow the cases to be withdrawn, the defendants agreeing to pay the cost. Salt of tartar is known as carbonate of potassium, and there are several ways of manufacturing it. The old way was to make it from wood ash, when there was no risk of arsenic contamination. It is now made in England from a salt which comes from Germany. In the process this salt is treated with sulphuric acid, which it is well known often contains arsenic, and it was suggested that in that way the arsenic got into the carbonate of potassium.

The quantity of arsenic found varied from 9·5 grains to 4·5 grains per pound. Among 79 samples recently analysed by the county analyst only 23 were found free from arsenic, while the other samples contained from 1 grain to 14·5 grains per pound. The prosecutor believed that the defendants sold the salt not knowing it to be adulterated. But none of the defendants had any reason to suspect the presence of arsenic in the salt. They were all buying from reputable wholesale firms, who themselves had no suspicion. In the British Pharmacopœia itself there is no warning at all that arsenic may be an impurity.

WANTED—A HOME.

To the Editor of THE LANCET.

SIR,—Could any of your readers inform me where a gentleman would be taken into a home or family in a quiet country district or the seaside for the inclusive fee of 21s. per week? He is quite able to look after himself, and would not require any special care or nursing.

I am, Sir, yours faithfully,
J. POLLOCK SIMPSON, M.D.
8, Upper Montagu-street, W., July 2nd, 1914.

To the Editor of THE LANCET

SIR,—Can any of your readers recommend a convalescent home for a lady, where the services of a nurse can be obtained? Terms must be moderate. S.E. coast preferred.

I am, Sir, yours faithfully,
W. H. FROME YOUNG, M.R.C.S.Eng.
Bembridge, I.W., July 3rd, 1914.

FORCIBLE FEEDING.

A LETTER signed by 70 registered medical men objecting "to the forcible feeding as carried out in His Majesty's prisons" has been forwarded to the Home Secretary, with a request that Mr. McKenna will receive a deputation on the subject.

FLIES AND AERATED WATERS IN STOPPERED BOTTLES.

To the Editor of THE LANCET.

SIR,—The other day I sent for a bottle of lemonade and noticed all around the mouth of the stoppered bottle evidence of filth deposited there by flies. It is clear that the flies had been attracted by the remaining saccharine matter. This would, of course, also apply to the mouths of syphons. I write this letter in order that some inventive genius may bring forward a stopper—a simple matter—which will cover as a shield the aperture of the bottle and prevent flies depositing their filth there. A paper cover over the stopper could be used for bottles—as in the case of a well-known brand of bottled beer—and a small metal shield or cap, with chain, for syphons. It must be patent to everyone that if some protection is not made when the fluid is poured out of the bottle or syphon the filth of the flies must become mixed with it.

I am, Sir, yours faithfully,
July 3rd, 1914. A MEDICAL OFFICER OF HEALTH.

"BIOMALZ."

IN the analysis of the above preparation, a combination of malt extract with calcium glycerophosphate, we reported in THE LANCET of May 9th, 1914, that the percentage of moisture was 37·83. Two recent samples have since been examined, and the results showed a perceptible reduction in the amount of moisture—viz., 34·93 per cent. and 34·94 per cent. respectively.

ERRATUM.—In Dr. E. G. Fearnside's article in THE LANCET of last week on Diseases of the Pituitary Gland the acknowledgment to Mr. F. S. Kidd on page 23 should have been to Dr. Percy Kidd; while the author wishes to make acknowledgment also to Dr. Theodore Thompson.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

The following Congresses, Conferences, and Exhibitions are announced.

In 1914:—

May 1st–Nov. 1st (Lyons).—International Town Hygiene Exhibition.
" 15th–Oct. 15th (Berne).—Swiss National Exhibition.
May–October (London, Shepherd's Bush).—Anglo-American Exposition.
June–July (Groningen).—University of Groningen 300th Anniversary Celebration.
July 6th–11th (Blackpool).—Twenty-ninth Congress of the Royal Sanitary Institute.
" 15th–20th (Edinburgh).—Congress of the Royal Institute of Public Health.
" 21st–23rd (Chester).—British Pharmaceutical Conference.
" 27th–31st (London).—Fifth Annual Session of the Clinical Congress of Surgeons of North America.
" 28th–31st (Aberdeen).—Eighty-second Annual Meeting of the British Medical Association.
July–September (Australia).—Eighty-fourth Annual Meeting of the British Association for the Advancement of Science. (July 28th to August 3rd at Perth, August 8th to 12th at Adelaide, August 13th to 19th at Melbourne, August 20th to 26th at Sydney, August 27th to Sept. 1st at Brisbane).
Aug. 2nd–10th (Paris).—Tenth Congress of Esperantists.
" 3rd–8th (London).—Sixth International Dental Congress.
" 10th–15th (St. Petersburg).—Twelfth International Congress of Ophthalmology.
" 29th–Sept. 14th (Toronto).—Canadian National Exhibition.
Sept. 7th–12th (Berne).—International Congress for Neurology Psychiatry, and Psychology.
" 10th–12th (Fort William and Port Arthur, Ontario).—Fourth Annual Congress of the Canadian Public Health Association.
" 21st–26th (Victoria, B.C.).—Dominion Exhibition.
" 21st–26th (Vienna).—Third International Congress on Diseases of Occupation.
" 30th–Oct. 4th (Brussels). Fourteenth French (de langue française) Congress of Medicine.
Oct. 31st–Nov. 2nd (Berlin).—First Congress of the International Society for Sexual Research.
Nov. 15th–21st (London).—Health Week. (Under the direction of the Health Week Committee appointed by the Royal Sanitary Institute.)

Medical Diary for the ensuing Week.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. D. Corbett: Clinique (Skin). 5.15 P.M., Lecture:—Dr. T. D. Lister: Artificial Pneumothorax.

TUESDAY.—4 P.M., Dr. E. H. Shaw: Clinique (Medical). 5.15 P.M., Lecture:—Dr. J. D. Mortimer: The Medico-Legal Position of the Anæsthetist.

WEDNESDAY.—4 P.M., Mr. A. E. Johnson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. J. D. Windle: Some Modes of Respiration in Pneumonia (lantern demonstration).

THURSDAY.—4 P.M., Mr. G. Taylor: Clinique (Surgical). 5.15 P.M., *Lecture:—Dr. S. R. Wells: Certain Irregularities of the Pulse.*

FRIDAY.—4 P.M., Mr. E. A. Peters: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Medical Registrar: *Demonstration of Cases in Wards.* 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. Mr. B. Harman and Mr. Gibb: Diseases of the Eye. 5 P.M., Lecture:—Mr. T. Gray: Some Surgical Aspects of Indigestion.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. *Dr. Owen: Demonstration of Cases in Wards.* 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., *Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations.* Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., *Clinical Lecture:—Dr. Davis:* Diseases of the Ear.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M. Mr. Souttar: Demonstration of Minor Operations. 12 noon Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. *Dr. Simson: Diseases of Women.* Mr. Gibb: Diseases of the Eye. 5 P.M., Lecture:—Dr. Bernstein: Pyrexia.

THURSDAY.—9 A.M., Dr. Bernstein: *Bacterial Therapy Department.* Dr. Simson: Gynæcological Demonstration. 12 noon, Lecture:—Dr. G. Stewart: *Neurological Cases.* 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Mr. B. Harman: Diseases of the Eye. 5 P.M., Lecture:—Dr. Bernstein: Pyrexia.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12.15 P.M., Lecture:—Dr. Bernstein: Applied Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: *Diseases of the Throat, Nose, and Ear.* Dr. Pernet: *Diseases of the Skin.* 5 P.M., *Lecture:—Dr. Bernstein:* Bacillus Coli Infections.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Operations of the Eye. 12 noon, *Lecture:—Mr. T. Gray:* Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. E. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Gynæcological (Dr. Banister). 3 P.M., Medical In-patients (Dr. R. M. Leslie).

TUESDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Nose, Throat, and Ear (Mr. H. D. Gillies). X Ray and Electrical Methods (Dr. Metcalfe). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting).

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. [illegible]).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson); X Rays and Electrical Methods (Dr. Metcalfe).

FRIDAY.—2.30 P.M., Operations. *Clinics:—Medical Out-patient* (Dr. A. G. Auld); Surgical (Mr. E. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. G. P. Chappel).

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, Medical School, City-road, E.C.

MONDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Cardiac Department, Dr. Stott; Out-patient Department, Dr. Phear, Dr. S. Thompson. 3 P.M., Wards, Dr. Phear.

TUESDAY.—9 A.M., Laryngological Department, Mr. Mant. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department, Dr. M. Leslie, Dr. B. King; Operations, Mr. A. Evans. 3 P.M., Wards, Dr. White. 4 P.M., Wards, Dr. M. Leslie.

WEDNESDAY.—2 P.M., Wards, Dr. A. Davies; Out-patient Department, Dr. Drysdale, Dr. Kellie. 4 P.M., Wards, Dr. Drysdale. 4.30 P.M., Roentgen Ray Department, Dr. Jordan.

THURSDAY.—9.30 A.M., Dental Department, Mr. G. Thomson. 10 A.M., Cardiac Department, Dr. Stott. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department, Dr. Phear, Dr. S. Thompson. 4.30 P.M. Laryngological Department, Mr. Mant.

FRIDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Wards, Dr. Calvert; Out-patient Department, Dr. M. Leslie, Dr. B. King. 5 P.M., Lecture-Demonstration:—Dr. Kellie: Broncho-pneumonia.

SATURDAY.—10 A.M., Out-patient Department, Dr. Drysdale, Dr. Kellie. 11.30 A.M., Roentgen Ray Department, Dr. Jordan.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4.30 P.M., Dr. Burrell: Treatment with Tuberculin of Tuberculosis in Children.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.

Course of Demonstrations for Post-Graduates:—

FRIDAY.—4 P.M., Dr. S. R. Gloyne: The Use of Tuberculin. (Laboratory demonstration.)

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY.—3 P.M., Mr. Stuart-Low: Diseases of the Ear.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.

THURSDAY.—5.15 P.M., Clinical Lecture.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS.

TUESDAY.—MANCHESTER AND SALFORD HOSPITAL FOR SKIN DISEASES, Quay-street.—4.30 P.M., Dr. W. Dyson: Bullous and Erythematous Diseases of the Skin.

WEDNESDAY.—ROYAL INFIRMARY—4.30 P.M., Dr. Brockbank: Cases of Anæmia and a Simple Method of Blood-examination.

THURSDAY.—ANCOATS HOSPITAL—4.30 P.M., Demonstration of Cases by Medical Staff.

For further particulars of the above Lectures, &c., see Advertisement Pages.

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ABSTRACT OF

The Bolingbroke Lecture

ON

PROGNOSIS.

Delivered before the South-West London Medical Society on June 10th, 1914,

By W. HALE WHITE, M.D. Lond.,
F.R.C.P. Lond.,
SENIOR PHYSICIAN TO GUY'S HOSPITAL.

Mr. President and Gentlemen,—When your secretary did me the honour of inviting me to address you, he asked that the paper might be concerned with something that would especially interest those whose work is chiefly clinical. Now we have to find out what is the matter with our patients, to treat them, and to try to foretell what the result of their illness will be, and it is with prognosis that I propose to deal chiefly. Of the importance of it there is no doubt; patients' friends do not care what is the matter, or what you do—all they care is will the sufferer get well. Hippocrates said: "The best physician is the one who is able to establish a prognosis, penetrating and exposing first of all at the bedside the present, the past, and the future of his patients, and adding what they omit in their statements. He gains their confidence, and being convinced of his superiority of knowledge they do not hesitate to commit themselves entirely into his hands. He can treat, also, so much better their present condition in proportion as he shall be able from it to foresee the future."

The art of prognosis is as old as the hills and has probably existed as long as the human race. Astrologers were constantly attempting to find out if patients would get well. To quote from Dr. C. A. Mercier's FitzPatrick lectures recently published[1]: "If the moon should be in conjunction with a propitious planet in the ascendant, and should be moving forward and her light waxing, and both should be free from adverse influences, then the disease will be quickly cured; but if the moon should be in the House of Death the patient cannot be saved." However, to leave these fanciful speculations and to turn to modern prognosis. Obviously we cannot discuss the prognosis of every disease, but let us take a few of the commoner.

Prognosis in Syphilis.

Syphilis has been much before the profession lately, and it has been shown that it is considerably more far-reaching in its effects than was formerly thought. If there were no syphilis there would be no tabes dorsalis and no general paralysis. Further, both these diseases may occur in children and be due to congenital syphilis, and some of the many mentally deficient children may owe their trouble to congenital syphilis. Then, although syphilis is not the only cause of atheroma, for atheromatous vessels are found in Egyptian mummies of about 1000 B.C., which is long before syphilis had been introduced into the old world, yet it is a cause for some cases of atheroma, and if you will have a Wassermann reaction done on all cases of atheroma of the aortic valves you will sometimes find it positive when there is no other evidence of syphilis. Without mentioning other results of syphilis it is clear that it is most important to try to foretell the outlook of this disease.

Now it used to be taught that if a patient had had two years' continuous treatment he might be regarded as cured, but we all often come across cases which show that this is certainly not always true, and the following figures from the "Medico-Actuarial Mortality Investigation" (vol. iv., Part 1, 1914) support my contention:—

	Actual deaths.		Expected deaths.		Ratio.*
Class 1.—Syphilis Certain, Thoroughly Treated; 2 years' Continuous Treatment and 1 year's Freedom from Symptoms.					
Certain syphilis between 3 and 5 years prior to application	13	...	9·32	...	139%
Between 5 and 10 years	34	...	19·56	...	174%
More than 10 years	53	...	24·42	...	217%
Class 2.—Not Thoroughly Treated or no Details Given.					
Certain syphilis between 2 and 5 years prior to application	44	...	15·52	...	284%
Between 5 and 10 years	54	...	25·52	...	212%
More than 10 years	76	...	59·09	...	129%
Class 3.—Doubtful Syphilis.					
More than 2 years prior to application	67	...	48·71	...	138%

* Being the ratio of actual and expected deaths.

All these persons, all men, were apart from their syphilis exceptionally good lives, for in spite of their syphilis they were accepted at standard rates; yet see what bad lives they were. The death-rate from tabes and general paralysis was five times the normal, and the death-rate from non-syphilitic diseases as pneumonia was also excessive. We see the same with the figures of the Gotha Insurance Company of Germany, for among 1778 men who had undergone treatment for syphilis there were 487 actual deaths against 290 expected. I think you will agree with me that the prognosis of syphilis treated as it was till quite recently is worse than we commonly thought. These cases, however, remind us that for a long while it was taught that the outlook of tabes as regards amelioration was very gloomy. Now we know it is not so bad as this, for with a thorough course of mercurial inunctions or injections many tabetic symptoms lessen, and perhaps future investigations will show that they do better still if the mercurial treatment is preceded by salvarsan or by salvarsanised serum injected intrathecally. Since, too, we taught patients the importance of exercises the ataxia may lessen considerably.

Tuberculosis.

Everything points to the conclusion that the outlook for sufferers from tuberculosis is much better than it was. There has in this country been a steady fall in the mortality during the last 60 or 70 years, and apparently the rate of fall has not been altered by modern treatment; but, of course, it is possible that the rate might have been slower during the last few years if it had not been for treatment. All post-mortem room experience shows that healed tubercle is very common, and there is no case of phthisis so bad as to be quite hopeless. Even cases of long-continued suppuration from cavities or dilated tubes can occasionally be cured by the induction of an artificial pneumothorax, and I have a friend in whom the tuberculous process spread to the ribs causing necrosis of some, his temperature was 105° F., and yet he recovered well enough to enjoy life and look after a small farm. The most fatal variety of tubercle is tuberculous meningitis, and fortunately that is one of the rarest complications of ordinary adult phthisis, but I know of two cases of undoubted tuberculous meningitis in children which recovered.

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[1] The Lancet, Nov. [illegible], [illegible], p. [illegible]; April [illegible], [illegible], p. [illegible].

The most important thing to observe in trying to foretell the course of a case of phthisis is the state of the gastro-intestinal tract. Anorexia, vomiting, and diarrhœa are very bad signs, especially if persistent; indeed, loss of weight from any cause is bad. The most important instrument in a case of established phthisis is not a stethoscope but a weighing machine. But very bad as is the outlook of tuberculous intestinal ulceration even that may heal, for Mr. F. J. Steward once opened the abdomen of a patient of mine in whom six cured tuberculous ulcers of the intestine were found. The signs next in importance are those of general infection: for example, a persistently rapid pulse, continued pyrexia, and frequent profuse sweats are all bad, but it is surprising what a time some of these may persist and yet return to normal. These signs of general infection are of much greater importance than pulmonary signs; very few patients die from the local disease of the lungs; those that die do so because of the intensity of the general infection. Albuminuria and profound anæmia are unfavourable, and so is a strong family predisposition.

Of associated conditions diabetes, syphilis, and pregnancy very greatly increase the gravity of the outlook. As far as my experience goes I am much impressed with the extreme seriousness of either syphilis or pregnancy occurring in a person with active phthisis. I well remember a young man with active phthisis who acquired syphilis. The rapidity with which he went downhill after this was remarkable, but I have no evidence to show whether or not healed phthisis is relighted by syphilis. On the other hand, patients with pleurisy or emphysema often do well.

Many patients are brought to us because they have coughed up a little blood. The patient usually pleads that it comes from the throat, and sometimes he looks so well and his physical signs are so healthy that the doctor comes to the same opinion, but this is always hazardous, for nearly always such blood means slight phthisis. Cases such as these often come before us for life insurance. The following results are interesting:—

	Actual deaths.	Expected deaths.	Ratio.
A. One hæmoptysis within 5 years of application	46 ...	30·41 ...	151%
B. One between 5 and 10 years prior to application	63 ...	48·16 ...	131%
C. One or more hæmoptysis, last more than 10 years prior to application	223 ...	219·6 ...	102%

Now these were all taken at normal rates, and therefore apart from the hæmoptysis were apparently exceptionally good lives, yet we see that really they were much under average lives. The deaths from tuberculosis of the lungs in Group A were five times the normal, in Group B three times, and in Group C twice. In connexion with this it is interesting to notice that an actuarial investigation was made of 3000 patients who had been in the Adirondack Sanatorium from 1885 to 1911. The mortality after the date of discharge from the sanatorium of those apparently cured was about twice the normal.

I have just mentioned that cases of phthisis accompanied by pleurisy often do well, and that I think is true; but at the same time a person who has had tubercle pleurisy cannot be considered normal, for he is liable to phthisis. Thus actuarial investigations show that the mortality of those who except for a history of pleurisy are healthy is above the normal rate, and that among those who have had pleurisy the death-rate from tuberculosis of the lungs is three times the normal.

HEART DISEASE.

It is strange that for many years several (although not all) physicians quite missed the most important factor in the prognosis of heart disease—namely, the state of the cardiac muscle—and concentrated their attention on the murmurs. The tale is told that the chaplain of one of the London hospitals had a loud murmur, and the medical staff reported that he could not live long with such a murmur. He was pensioned at his full salary and lived 40 years.

Generally speaking, the louder the murmur the better, for it means that owing to the vigour of the cardiac muscle the blood is being sent forcibly through the diseased valve. The loudest murmur I ever heard was audible to the unaided ear a yard from the foot of the bed. The patient sought relief because the noise of his murmur kept his wife awake. He was doing his work as a dock labourer. Another man with a loud murmur won a London to Brighton walking race. I knew a doctor with a loud murmur who worked and lived to be over 80. Soft murmurs indicate a feeble muscle; thus many a case of valvular disease has no murmurs on admission to the hospital, the muscle is too exhausted, but a murmur appears after the patient has rested in bed. The cases of mitral constriction with a loud crescendo murmur do well; the loudness of the murmur shows a strong auricle forcing the blood so strongly through the constricted auriculo-ventricular orifice as to compensate effectually for its narrowing. Then, too, we must remember that many of the weakest murmurs we hear are directly due to myocarditis, the weakened muscle allowing of dilatation of the auriculo-ventricular ring.

More than half the cases of heart disease are caused by acute rheumatism, the micro-organism of which either directly or through its toxin affects chiefly the synovial membranes and the heart. To reach the heart, however, the poison must be carried there by the coronary vessels, and far more of it must reach the muscle than the valves or the pericardium; indeed, considering the fewness of the vessels in the valves, it is strange that they are affected at all, and putting aside malignant endocarditis the affection of them would hardly matter were it not that they pucker and so become inefficient. It is clear that the implication of the muscle is the most important. Indeed, it is by damage to the cardiac muscle by toxins that probably most people die; hence that invaluable rule of prognosis that a rapid pulse is a bad sign. We all know that a case of suppurative peritonitis is doing badly if the pulse is mounting in rate. Whether or not the pulse is mounting often determines whether an operation on the abdomen shall or shall not be performed; a rapid pulse is of bad omen in typhoid fever, pneumonia, phthisis, exophthalmic goitre, and indeed in any condition. In life insurance work the actual deaths of those with rapid pulses are double those which would be expected with healthy lives. The importance of the muscle being so great we shall be guided in our prognosis by the signs of diseased muscle—e.g., rapidity of the pulse, force of the apex beat, force of the pulse, signs of dilatation of the heart, and in hospital work the electrocardiograph is of help.

In passing we may note that an irregular pulse is not so often of bad prognostic significance as a rapid one. Probably because its very irregularity means—as in the case of extrasystoles—long pauses during which it can recover itself. Nevertheless, irregularity is of some considerable importance, for Cowan tells us that out of 102 cases of mitral disease 31·4 per cent. died, but the deaths among those with regular rhythm were 20·5 per cent., with irregular 58·6 per cent. Among 58 cases of aortic disease 29·3 per cent. died; 25·6 per cent. of them had regular rhythm and 40 per cent. irregular. Of all irregularities that due to extrasystoles is by far the least important.

When a patient is lying in bed with recent rheumatic carditis we must keep him in bed, it may be weeks, so long as there is any clinical evidence that the affected muscle is undergoing repair, but if the murmur is valvular we do not need to keep him in bed till it has disappeared; indeed, we might keep him till his death if we were to wait for that. Nothing shows the skill of a doctor more than his management of heart cases. If he keeps them in bed too long he does irreparable harm, for the muscle gets feeble and flabby; if he keeps them in too short a time the prognosis is made bad because the raised blood pressure that follows exertion leads to dilatation of the heart if the muscle is weakened by unhealed carditis. When such a case gets up the ultimate prognosis will depend entirely upon the judgment with which we allow a little exercise so as to strengthen the heart, but not so much as to dilate it; for the first few weeks the doctor must frequently see his patient, increasing or decreasing the exercise day by day. All this can generally be done at home; if so, there is no need for places which lay themselves out for cardiac patients. We cannot leave the prognosis of heart disease without reminding you of the remarkable fact that rheumatic nodules are always associated with severe cardiac disease; we now know this because there are always similar nodules in the muscle substance of the heart.

PNEUMONIA.

Let us take another common disease—viz., lobar pneumonia—to illustrate some points in prognosis. A most important circumstance is the age. I took at random from my case-book 12 cases. Six were over 60; of these, 5 died without any complication. Six were young. The first was a girl, aged 15, who had such severe mania that Sir *George Savage* and I both thought she would die; she got perfectly well. The second, a lad with such severe pericarditis that his temperature was up for three weeks, got well. The third, a girl aged 15, who coughed up pus from an empyema following the pneumonia, got quite well; the fourth, a girl so ill that she was comatose, with a temperature of 105° F., got well; the fifth, a male aged 25, got double empyema after his pneumonia, but made a complete recovery; and the sixth, a young man with respirations of 108, got quite well. Probably the next most important fact in the prognosis of pneumonia is whether the patient is alcoholic; those who have drunk heavily rarely recover. It is important to remember that it is not often the amount of lung that is involved that kills in pneumonia, as is shown by the fact that it is comparatively rare to see a patient with pneumonia dying livid, but pneumonia is chiefly fatal by the action of the toxin on the heart; a very rapid feeble pulse of poor volume is always very serious.

Much can be learnt about the prognosis in pneumonia from the temperature chart. A high temperature—provided it is not so high, e.g. over 105°, as to be in itself dangerous—is a good sign. On the other hand, a low temperature—namely, under 100°—is a bad sign, for it means that the patient is not reacting to the stimulation of the invasion by the pneumococcus. In the same way a striking leucocytosis indicating a good reaction is favourable—for example, in consecutive cases that got well the counts were 30,000, 27,000, 40,000, 28,000, 24,000.

As with so many diseases, so with pneumonia, the time at which the patient has the disease is important; thus, in some years the mortality is high, in others low. In 1895, when post-influenzal pneumonia was very rife, in some institutions the mortality shot up to the appalling figure of 64 per cent. If sufferers from pneumonia sleep badly they do badly as a rule, and if they sweat much apart from the crisis they do badly, probably because the sweating indicates severe infection.

NEPHRITIS.

Turning now to the prognosis of nephritis. One of the most serious facts is the presence in the degenerative variety of albuminuric retinitis. Sufferers from chronic renal disease in whom this is present probably never recover. In one set of cases 85 per cent. of them were dead within the first year after the discovery of the degenerative retinitis, and 9 per cent. more died in the second year. On the other hand, inflammatory retinitis, best shown by optic neuritis, may be associated with acute nephritis, which gets well.

An important circumstance in the prognosis of chronic interstitial nephritis is the age of the patient. Young subjects with chronic granular kidney rarely if ever do well, and almost anyone under 30 who has it will soon die. Probably the cases in the first half of life are a different disease from the cases in middle life, for while people with interstitial nephritis in later middle life may die from cerebral hæmorrhage or pneumonia or various conditions which are associated with granular kidney, those in the first half of life who have granular kidney almost invariably die soon of uræmia.

The sufferer from this disease who complains of general weakness does badly, so does the patient who is thin and pale, and if a patient takes to bed because of weakness he probably will not live long. Skin troubles, too, increase the seriousness of the outlook; the rare general dermatitis of Bright's disease usually kills, and very œdematous parts are liable to erythema or more severe inflammatory changes in the skin, and these are frequently fatal. Severe long-continued diarrhœa in Bright's disease, inasmuch as it points to some colitis or entero-colitis, is of very dangerous prognosis. To estimate the outlook when the patient is definitely uræmic is very difficult, but, speaking generally, the more severe the symptoms of uræmia the worse the prognosis. When the patient has a cerebral hæmorrhage the outlook is by no means necessarily fatal. The public have a saying that the third stroke is fatal. The following point to a fatal result: (*a*) Coma still present at the end of 24 hours; (*b*) Cheyne-Stokes breathing as a result of the hæmorrhage; (*c*) much mucus in the lungs; (*d*) paralysis of all four limbs; (*e*) a very low temperature; and (*f*) a very high temperature.

Pneumonia, pleurisy, peritonitis, and pericarditis all greatly increase the gravity of the outlook. Suppression of urine is of most serious importance. The actual amount of albumin is not of much value in prognosis, but an increase in the amount is of bad augury, a lessening is of good. The normal amount of urea in the blood is 0·3 per cent.; anything over 1·0 per cent. shows that uræmia is likely, in which condition we may get a reading as high as 3 per cent.

DIABETES.

Diabetes is a disease of great interest from many points of view, and not least from that of prognosis. In the first place it is a racial disease, being terribly common among the natives of India, and at the present time the frequency of death from diabetes in the East is so serious that the Government have sent out a member of our profession to investigate the subject. Then, too, we have the well-known fact that it is commoner in Jews than Christians.

Quite apart from race, however, it is a family disease. Thus Otto May, investigating 76,333 deaths at the Prudential Assurance Company, found 1143 were from diabetes. The family histories of these showed a death from diabetes in 41—i.e., 3·6 per cent. A control investigation of 1143 other cases picked out at random from the same period gave a family history of diabetes in only 12—i.e., 1·05 per cent. A further study of his figures shows that diabetes includes at least two different groups of cases: (1) a group in which the incidence is in middle or late life, the disease comparatively mild, and the family factor absent; and (2) a group characterised by earlier incidence, more rapid termination, and a tendency to run in particular families. This affects our discussion of prognosis, for if there be a strong family history the sufferer from diabetes will probably die rapidly and before he attains middle life. Further, it appears that the hereditary factor comes out more in the male—that the death from diabetes of a father or brother is more ominous than that of a mother or sister, and that the male is more liable to suffer from family diabetes than the female. The distinction that these investigations show as to two kinds of glycosuria according to age are well known. I often wonder if the passage of a little sugar by an elderly person matters. We all know the elderly persons, men especially, whose sugar is easily controlled by diet; usually they pass no diacetic acid and have few of the symptoms of diabetes. Indeed, it is highly probable that a number of elderly men have a little glycosuria, but they go to their grave without its ever having been suspected and as far as we know without its ever having done them any harm.

I would suggest that the most important thing about the prognosis of diabetes is the effect of treatment; it is impossible to know beforehand whether a patient is going to respond easily to this. The other important thing is whether the sufferer is able to live in easy and comfortable circumstances. No doubt if diabetics are well off the ease with which they can buy suitable food is greatly in their favour, but of almost equal importance is the fact that they can give up their work and lead a quiet life. Worry is a powerful factor in precipitating diabetic coma. I know middle-aged persons who have had diabetes for 20 years and whose urine always contains some sugar and often a little diacetic acid, but then they have always been very careful to carry out the treatment ordered and to live quietly. A member of our own profession always gets considerable glycosuria when working hard, but when he takes a long holiday it always diminishes considerably and often disappears altogether.

Those who are occasionally a little drowsy must always be on their guard, but if large doses of bicarbonate of soda are given the drowsiness may entirely pass away; but, on the other hand, I doubt if persons ever recover from real coma, although alkalies may prolong life a little. Lately Dr. E. P. Poulton and others have shown that during the dyspnœa which so often precedes, and always accompanies, diabetic coma there is a considerable diminution in the CO_2 in the alveolar air. The explanation is that the blood being more acid than normal in those who are going to have diabetic coma, the increased acidity exciting the respiratory centre leads to deeper respiration and consequent washing out of CO_2 from the alveolar air, and an apparatus has been devised for easily measuring the CO_2 in the alveolar air. I have a strong suspicion that if lipæmia is very marked the outlook is bad. I need hardly remind you that gangrene, phthisis, and almost any severe illness increase the gravity of the outlook in diabetes, but it is of interest to remember that pyrexia sometimes increases the sugar and sometimes leads to its disappearance, and operations have the same variable result.

SOME GENERAL FACTORS IN PROGNOSIS.

There is another aspect of the prognosis question and it is this: that we cannot possibly tell whether a treatment is good or bad unless we know what is the natural course of the disease. Over and over again good results are ascribed to treatment quite unjustly; the patient has got well because in the natural course of the disease he would do so, treatment has had nothing to do with it. [The lecturer here gave results already published of the natural course of the disease in those who suffer from gall-stones and those who suffer from exophthalmic goitre.]

In trying to estimate the prognosis in any disease we have not only to think of the natural course of the disease but the kind of patient who is afflicted by it. Time will only permit us to take three instances of this. One circumstance that makes a patient a bad life is excessive weight. The actuarial research to which I have already referred has constructed a table:—

	Ratio of actual to expected deaths.
Average normal weight	93 per cent.
From 5 to 15 per cent. overweight	114 ,,
,, 15 ,, 25 ,, ,, ...	129 ,,
,, 25 ,, 35 ,, ,, ...	136 ,,
,, 35 ,, 50 ,, ,, ...	165 ,,
More than 50 ,, ,, ...	223 ,,

Further, a study of the figures clearly shows that the mortality increases in proportion as the abdominal girth over that of the expanded chest increases; thus the expectation of life of a man who is 50 per cent. overweight and whose abdominal girth exceeds that of the chest by more than 3 inches is very bad. Among heavy people the death-rate from diabetes, apoplexy, heart disease, pneumonia, and Bright's disease was very high, while from tuberculosis it was very much lower than normal, and generally speaking the greater the weight the lower the mortality from phthisis. It must be remembered that the figures just given understate the case, for all the people from whom the figures are drawn were taken at standard rates, and as they were heavy a rigid selection was made so that only those which appeared exceptionally healthy were insured.

It is well known that over-indulgence in alcohol greatly damages prognosis in any disease. The following ratio shows that alcoholic subjects are bad lives, as when there was one alcoholic excess or more, the last within two years of application, the ratio of actual to expected deaths was 174 per cent. Here again the case is understated, for these figures refer to lives apparently so exceptionally good that they were taken at ordinary rates in spite of the history of alcoholic excess.

Lastly, there is the mental factor. Every doctor dislikes the patient with an acute illness who is sure he will die, and likes the patient who is certain he will recover. A boy said he knew he would die as a result of an anæsthetic necessary for an operation, and he did before the operation was begun, although the anæsthetic was given by a highly skilled anæsthetist.

INCOMPLETE ROTATION OF THE INTESTINAL LOOP AS A CAUSE OF RETROCOLIC HERNIA.

WITH NOTES ON THE DEVELOPMENT OF THIS CONDITION.

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HERNIA other than that of the vermiform appendix into a retrocolic fossa is a rare condition. An analysis of the cases hitherto described is given by Moynihan,[1] according to whom many of the cases hitherto recorded cannot be regarded as authentic. He passes in review some 14 cases, and decides that but 7 of these are genuine. The interesting case described by Fürst (*vide infra*) is relegated to the doubtful category; however, it seems not improbable that it is in reality one of retrocolic hernia due to a developmental anomaly, as in some of its features it resembles the case I describe later. For a more complete understanding of this interesting form of retrocolic hernia it will be necessary first to review our knowledge of the anatomy and development of the retrocolic fossæ.

Anatomy of the retrocolic pouches of peritoneum.—The retrocolic fossæ vary considerably. Often they are both absent, and in the majority of cases only one is present. Berry[2] gives the following statistics: (1) Internal fossa alone, 15 per cent.; (2) both fossæ, 10 per cent.; and (3) external fossa alone, 5 per cent. The same authority places the and internal retrocolic fossæ. The internal retrocolic fossa is best described by Lockwood and Rolleston[4] as follows: "It is bounded on the right by the mesentery of the ascending colon and on the left by the enteric mesentery. It is situated behind the angle of junction of ileum and cæcum, which have both to be lifted up to see its mouth. The fossa itself runs a varying distance upwards behind the ileo-colic junction and parallel to the ascending colon." It must be borne in mind, to avoid confusion, that they gave the term "ileo-cæcal" to the fossa under consideration—a term which is now more usually applied to the fossa between the meso-appendix and the ileo-cæcal fold. In another place (*loc. cit.*) Lockwood states that "the fossa may reach half-way up the ascending colon beyond the crest of the ilium and end close to the kidney and duodenum."

The external retrocolic fossa, first described by Treitz, separates the layers of the mesocolon, and its mouth is usually at the junction of cæcum and colon, and looks forwards and downwards. It is usually quite small, but occasionally may be as large as a finger. A retrocolic hernia due to a developmental anomaly is usually into a modification of this fossa.

Richard Berry confirms Jonnesco's work on the fossæ, and states: "When both fossæ are present three peritoneal folds are required for their formation; these are from without inwards: 1. External parietocolic fold or outer layer of the ascending mesocolon. 2. Internal parietocolic fold or inner layer of ascending mesocolon. 3. Mesenterico-parietal fold or abdominal attachment of the enteric mesentery internal to the mesocolon."

Comparative anatomy of the retrocolic fossæ.—The process of secondary adhesion of the ascending colon to the posterior abdominal wall, to be shortly described, is an adaptation to the upright position, and the retrocolic fossæ are therefore only found in orthograde primates.

Development of the retrocolic fossæ.—With regard to this there are two principal theories—viz., that they are either (*a*) primary or (*b*) secondary in origin. (*a*) The primary origin. Treitz, Gruber, and Lockwood held that during the descent of the testis the gubernaculum exerted its influence upon the cæcum as well, causing its descent into the right iliac fossa, and that this descent by dragging upon the peritoneum caused the formation of the folds bounding the fossæ. Waldeyer held that the cæcum continues to descend after the ascending colon has become fixed, and thus raises up the peritoneum in the form of two folds which bound the retrocolic fossæ. (*b*) The secondary origin. The theory of secondary formation of Toldt states that the retrocolic fossæ are due to a some time, which led to a diagnosis of chronic appendicitis. In the case recorded by Mansell Moullin there was a history of four previous attacks similar to the one that led to operation. Diagnosis is rarely possible, although in a case of Rieux a swelling was present on the inner side of the cæcum, which was smooth and rounded and was tympanitic on percussion, and which led to a correct diagnosis.

Case of Aschoff. A coil of intestine was found in a pouch behind the cæcum and ascending colon. The ascending colon had a very long mesentery.

Case of Mansell Moullin. On passing a finger down towards the cæcum a ring was felt around some intestine. It passed inwards towards the middle line and slightly downwards. At post-mortem examination a loop of ileum was found lying in a sac behind the cæcum, communicating with the general peritoneal cavity by an opening a little more than an inch in diameter.

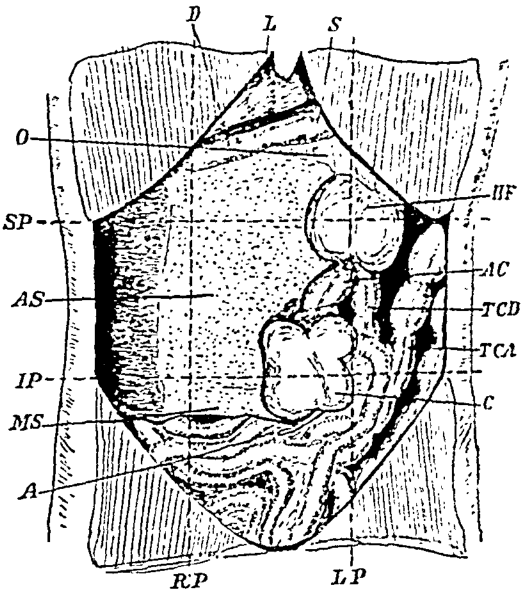
Case of Neumann. A loop of small intestine 10 cm. in length was found to be strangled in the retrocolic fossa. On lifting up the cæcum a rounded opening with sharp-edged margin was seen which would admit two fingers. This led to a peritoneal pouch extending upwards behind the ascending colon.

Case of Funkenstein. At post-mortem examination an opening was found behind the cæcum with rounded, firm edges 2 cm. in diameter. Through this the finger could be passed into a sac running up behind the cæcum and ascending colon as far as the upper margin of the ilium.

Case of Atherton. Post-mortem examination showed that the cæcum was distended and the lower two feet of ilium collapsed; at this point resection had been made. There was a pouch one inch deep with an opening of the same diameter situated to the outer side of the lower end of the cæcum and partly behind it.

Case of Fürst. This deserves a little more attention, as it has been the subject of a great deal of controversy. Fürst himself considered it a case of retrocolic hernia due to a developmental abnormality. There can be little doubt, having regard to its similarity to the case to be presently described, that he was correct. The case recorded by Fürst came to light in the body of a man aged 61, in the dissecting room. A large peritoneal sac was present occupying the right hypochondriac, right lumbar, and part of the umbilical regions. The cæcum was below the umbilicus, and it and the ascending colon were both on the inner wall of the sac. The rest of the large intestine was pushed well over into the left side of the abdomen. The sac contained two-thirds of the small intestine, the entering coil of which was jejunum just beyond the duodeno-jejunal flexure. Brösike considered that the case was one of hernia into the parajejunal fossa which is present when the jejunum is fixed in the peculiar manner described by him, and that the hernia had developed in an abnormal manner owing to a free common mesentery to the cæcum and ascending colon and to migration of the mouth of the sac. It is unfortunate that Fürst gives no full account of the duodenum and commencement of jejunum. Nevertheless, it is in all probability a case of retrocolic hernia due to incomplete rotation of the U-shaped loop of intestine.

Author's case.—This came to notice in the dissecting-room. The subject was a man, aged 75, whose death was due to senile degeneration of the heart. On opening the abdomen (see diagram) a broad, apron-like fold was seen stretching across the greater part of the right side of the abdomen. Further examination showed that the fold of peritoneum was the anterior wall of a hernial sac, and had the following boundaries. On the left side it was attached to the "hepatic" flexure of the colon, ascending colon, and cæcum. Superiorly it was attached to the lower border of the first part of the duodenum and became adherent to the right edge of the great omentum. On the right side it bulged somewhat and became continuous with the peritoneum over the right kidney and iliac fossa. Inferiorly it presented a free edge which was by no means tense, and it was devoid of any vessel. The lower free edge ran in the interspinous plane and was attached laterally to the peritoneum over the right psoas muscle, and internally to the posterior surface of the appendix and meso-appendix. The anterior wall of the sac occupied the following regions (see diagram): Lower half of epigastric



Sketch of appearance on opening abdomen. D, Duodenum (first part). L, Liver. S, Stomach. O, Great omentum. SP, Subcostal plane. AS, Anterior wall of sac. IP, Intertubercular plane. MS, Mouth of sac. A, Appendix. RP, Right latero-vertical plane. LP, Left latero-vertical plane. HF, Hepatic flexure of colon. AC, Ascending colon. TCD, Transverse colon, descending limb. TCA, Transverse colon, ascending limb. C, Cæcum.

region in its right two-thirds, right two-thirds of umbilical region, the right lumbar and hypochondriac regions, and the upper third of the right iliac and hypogastric regions.

The large intestine.—(*a*) Cæcum. The position of this was most unusual. The whole viscus was rotated and kinked, so that the posterior surface looked directly forwards and the anterior surface was in contact with and partly hid from view the ascending colon. The lower border of the cæcum thus was only separated from the hepatic flexure of the colon by a very short distance. The anterior surface of the cæcum was also in very close proximity to the middle of the transverse colon (*q.v.*) and bound down to it by a prominent peritoneal adhesion. The upper two-thirds of the cæcum occupied the lower and left quadrant of the umbilical region; the lower third occupied the upper left quadrant of the hypogastric region (see diagram).

(*b*) Appendix. Occupied the upper left quadrant of hypogastric region; pointed downwards and backwards, but chiefly inwards, so that the tip exactly reached the mesial plane a third of the distance between the symphysis pubis and intertubercular plane. Length 3 cm. Meso-appendix reached the tip and was thick and fatty.

(*c*) Ascending colon. Commenced at the points of intersection of the central plane and the intertubercular plane, and ran upwards and to the left to the hepatic flexure. Length 2·2 inches; it was adherent to the post-abdominal wall, and had attached to its right side the above-mentioned fold.

(*d*) Hepatic flexure. The intersection of the left lateral vertical and subcostal planes occurred in the centre of this, which therefore occupied the adjacent parts of the following regions—epigastric, left hypochondriac, umbilical, and left lumbar zones.

(*e*) Transverse colon consisted of two limbs, a descending and an ascending. The descending ran from the hepatic flexure following the left lateral plane as far as the brim of the pelvis; the ascending limb passing upwards and outwards in the left iliac and lumbar regions to splenic flexure. The kink in the transverse colon lay over the brim of the pelvis and was connected to the anterior surface of the cæcum in the aforementioned way. The mesentery of the transverse colon was not connected with the posterior layers of the great omentum, but was connected by somewhat loose adhesion to the mesenteries of the descending and iliac colon.

(f) Descending and iliac colon. Each pursued a fairly normal course, but there was a mesentery common to both attached near the middle line to the posterior wall of the abdomen.

(g) The great omentum had the usual attachments but was pushed over into the left side of the abdomen and ended in a long pointed process.

(h) Liver and stomach were normal in their position.

Appearances on opening the sac.—On opening the sac it was seen to extend upwards beneath the right lobe of the liver, and it was seen at once that the condition was due to a developmental abnormality. On the floor of the sac could be seen the root of the mesentery, which was attached along an oblique line stretching from the junction of the first and second parts of the duodenum downwards and to the left to the termination of the ileum. Its length was about 6 inches. Some 5 feet of small intestine, presenting a perfectly normal appearance, were also found in the sac. The second part of the duodenum, which was also in the floor of the sac, had a continuation of the mesentery attached to its left side, but was adherent behind to the posterior abdominal wall in a fairly normal way. The third part of the duodenum was freely movable, having a common mesentery with small intestine from which it was indistinguishable. It was not crossed by the superior mesenteric artery, neither was there any trace of a duodeno-jejunal flexure. The whole length of the small intestine was only 9½ feet.

Developmental considerations.—At an early stage of development the intestine is a straight tube of nearly uniform calibre attached to the posterior abdominal wall by a continuous mesentery. The growth of the liver and intestine causes the mid-gut—i.e., that portion between the entrance of the common bile-duct into the duodenum and the splenic flexure—to form a U-shaped loop, which is forced through the widely open umbilicus into the umbilical cœlom. To the convexity of the loop is attached the vitelline stalk, which may persist as a Meckel's diverticulum. The mesentery of the loop is continuous anteriorly with the dorsal mesogastrium and posteriorly with the hind-gut mesentery. Running in the loop mesentery is the superior mesenteric artery, which divides the mesentery into a pre-arterial and a post-arterial part. This condition may be seen at the fifth week. The pre-arterial part of the mesentery is destined to form the greater part of the mesentery of the small intestine; the post-arterial part forms the mesentery of the ascending and transverse colon and the lower part of the mesentery proper. At the

so that the superior mesenteric artery comes to lie in front of the third stage of the duodenum. The continued growth of the small intestine presses the descending and iliac colon with their mesenteries against the peritoneum of the posterior abdominal wall, and secondary adhesion takes place between them, so that normally these parts of the large intestine have no mesentery.

Application of these facts to the case under consideration.—In all probability rotation of the U-shaped loop ceased at the point where the distal limb lay in front of the proximal limb. Secondary adhesion of the distal limb—the future ascending colon—to the peritoneum of the posterior abdominal wall occurred early and imprisoned the proximal limb of the loop from which the greater part of the small intestine is formed. Thus the cæcum was *prevented from swinging upwards and to the right* to its position beneath the liver. The small intestine developed towards the right chiefly, and in its growth pushed the large intestine to the left side of the abdomen. The peritoneum connecting the right part of the posterior surface of the ascending colon to the posterior abdominal wall (right layer of ascending mesocolon or right parietocolic fold) became greatly stretched and formed the anterior wall of the sac. The abnormal position in which the small intestine developed accounts for its extreme shortness and also explains why the descending and iliac colon have both a mesentery. The form of the duodenum, the presence of its mesentery, the absence of the duodeno-jejunal flexure, and the position of the superior mesenteric artery all show that rotation stopped at the abovementioned stage. The conclusion is, therefore, that this form of hernia is due to an abnormality of development occurring at a very early stage.

My thanks are due to Professor Edward Fawcett for kind suggestions during the preparation of this article.

HÆMORRHAGIC TYPHOID FEVER.

BY ADRIAN CADDY, M.D., B.S. LOND., F.R.C.S. ENG.;
AND
BARRÉ MOLONY, M.B., CH.B. EDIN., F.R.C.S. EDIN.

DURING the past two years we have had under our care three interesting cases of typhoid fever, two of the cases developing very unusual symptoms. In the first case during the course of the fever there developed an extensive purpuric eruption, which was followed by a generalised bleeding from the mucous membranes—viz., the tongue, fever continued high, varying from 102° to 104°, but otherwise there was no point of special interest. The quinine was discontinued after he had taken 30 grains daily for a week, as it had not had any influence on the fever. This course of quinine excluded the possibility of any malarial infection. The blood was now tested by the health department of the corporation, and Widal's reaction for typhoid fever proved positive. On Oct. 5th some bleeding from his gums was noticed. On the 6th a purpuric eruption started on his legs and gradually spread all over his body, the spots remaining discrete and varying in size from a pin's head to that of a pea. The spots kept on coming out until his death. On the 7th a hæmorrhage occurred into his bladder. This bleeding was so severe that clots formed and the bladder was washed out to get rid of them. On the 9th there was a big hæmorrhage from the bowel. A small pin-point on the dorsum of the tongue started oozing freely. On the 10th there were further hæmorrhages from the gums and intestines, and he gradually sank and died the next day.

CASE 2.—*The patient, aged 30, a European overseer employed in a jute mill eight miles from Calcutta*, was admitted by us into a nursing home with the following history. He had been suffering from fever since Sept. 16th, 1912, but continued his work until the 22nd, the day he saw us. In the nursing home the fever continued, varying from 101° to 103° F., and was uninfluenced by quinine in quantities of 30 grains daily continued for a week. The blood was tested and Widal's reaction for typhoid fever found positive. The temperature touched normal on Oct. 7th, the pulse having varied from 70 to 90 during this period. The temperature remained intermittent for a few days, and then commenced rising again, reaching 104° on the evening of the 11th. Quinine was again started in doses of 20 grains daily without effect. On the 14th the temperature dropped to 100°, and the pulse rose to 120 per minute; this was followed by his bringing up a large amount of blood. It was a little uncertain whether it was vomited or coughed up. *On the 15th he brought up more bright red blood; this time there was no doubt that he vomited it*; also he passed bright red blood by the bowel. This vomiting and passing of blood continued during the next two days, the temperature varying from 100° to 104°. He died on the 18th, after another large hæmorrhage from the bowels.

CASE 3.—The patient, a European aged 24, an employee in a jute mill, was admitted into a nursing home under our care on March 30th, 1914, with a history of having suffered from fever for six days. When we saw him his temperature was 104° F. During the next two weeks it varied from 101° to 103·5°. We gave him quinine in quantities of 30 grains daily for five days, and then stopped it, as the temperature was going up and the quinine seemed to be causing diarrhœa. On the twelfth day of the fever Widal's reaction for typhoid fever was positive. His fever continued steadily with some diarrhœa for 22 days. The temperature then shot up to 105·6°. Sponging rapidly brought this down to 102°. In the course of a few hours his temperature fell to normal, and this was followed by a hæmorrhage from the bowel. *These bowel hæmorrhages occurred on five occasions* during the next four days and his condition became very serious. Then he gradually took a turn for the better. The temperature in the course of ten days came to normal. The diarrhœa ceased, the bowels became constipated and had to be relieved by enema. His temperature has now (June 10th) been normal for three and a half weeks; he is sailing for Japan in a day or so for a sea voyage to complete his recovery.

Remarks by DR. CADDY.—It will be noted that in each case the patient was forthwith put on to a course of quinine. Although malaria is uncommon in Calcutta, still two of the cases developed their fever at the period of the greatest incidence of malaria in the year—viz., September. None of the cases actually resided in the city of Calcutta, two of them living eight miles outside, and one coming from Dacca, over 100 miles away, where malaria is much more prevalent.

It is very *uncommon for Europeans* living in the English quarter of Calcutta to get infected by malaria. Europeans who perform all their service in Calcutta without ever living in other parts of India generally escape malarial infection. One might say that all cases of fever coming from the country districts are put on a course of quinine forthwith. *It is uncommon* to find malarial parasites in *Europeans; so habitually* do they dose themselves with quinine for slight colds and chills, that the parasites are driven out of the peripheral circulation. The quinine is given in doses of 30 grains daily in solution for five days. If the temperature has not fallen to normal in that time, one may exclude the probability of malarial infection. The dose of quinine required to reduce a malarial temperature to normal was worked out some seven years ago at the General Hospital, Calcutta. It was found that if only 20 grains daily were given to an uncomplicated case of malaria the fever took a week to abate. If, however, 30 or 40 grains were given daily the temperature came down to normal in four days. A still further increase in the dose to 60 grains daily did not shorten the period any further, and in addition was in the danger zone of quinine blindness.

This quinine treatment in cases which eventually prove to be typhoid often seems to me to aggravate the disease. The headache is made worse, the stomach is often irritated, and diarrhœa is brought on. But one is on the horns of a dilemma. If suspicions are correct and the case turns out to be typhoid all is well. On the other hand, one must bear in mind that the common malarial infection is malignant tertian. I once saw an English army officer die through omission to give quinine. The patient had fever; the blood was examined by his medical attendant and no parasites found. Three days latter he became comatose; parasites were then found in large numbers in his blood by another medical man. In spite of quinine solution being given intravenously he died.

As regards purpura complicating typhoid and hæmorrhagic typhoid fever we have been able to find very few references in current literature. Sir Thomas Barlow[1] has described a case of typhoid fever with extensive purpura, some of the mucous membranes being affected. The patient passed into a state of coma lasting 48 hours, but subsequently recovered. She died later from a relapse of the fever, and there was found a large hæmorrhage in the subarachnoid space, also hæmorrhages into the mediastinum and retroperitoneal tissues. The best description of a case of hæmorrhagic typhoid fever is given by Goodall.[2] His case is very similar to our own. His article contains several references to the current literature on the subject. In his own experience of 1733 cases in 11 years at the Eastern Fever Hospital, Homerton, he only saw one marked case. In 14 other cases hæmorrhage other than intestinal had occurred, affecting the fauces, nose, pleura, lungs, conjunctiva, mesentery, and uterus. All but 3 of the 15 cases died. Hence he thinks that a purpuric or petechial eruption is of grave import in typhoid fever.

In THE LANCET[3] is quoted a paper by Pissary and Gauchery, of Paris, describing a case of typhoid fever complicated by acute hæmorrhagic nephritis. These authors found records of five similar cases in the "Thèses de Paris." McCrae[4] in a series of 1500 cases at the Johns Hopkins Hospital had only

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[1] Barlow: Royal Society of Medicine, vol. i., p. 123, Clinical Section.
[2] Goodall: Clinical Society's Transactions, vol. xxxvi., [illegible], p. 19.
[3] THE LANCET, 1911, vol. i., p. [illegible]
[4] McCrae: Osler and McCrae, System of Medicine.

3 cases of hæmorrhagic typhoid fever—that is to say, cases in which bleeding occurred from various parts of the body. In this same series purpuric spots were noted in 38 cases. In the majority of these rose spots first appeared which later became hæmorrhagic. In 9 of these cases the rash was regarded as hæmorrhagic, 3 of them being the hæmorrhagic type noted before.

Remarks by DR. MOLONY.—In discussing the question of treatment (other than dieting and nursing) of these cases one must think of them as examples of two different types of hæmorrhage as it occurs in the course of typhoid fever—viz., (1) due to widespread damage to vessels in *different* parts of the body; and (2) due to gross damage by ulceration to one or more vessels in the gut. Case 1 is an example of the first type; Cases 2 and 3 are examples of the second type. The aims of treatment (we are not discussing prevention) are, first to stop the bleeding, and secondly to make up for the loss of body fluids.

To stop the bleeding the first essential is to rest the bleeding part. This, as in the third case, may be obtained by administering opium, in the form of pil. plumbi c. opio, 4 grains every three hours. The coagulability of the blood may be increased by giving calcium salts. A patient on three pints of milk per diem has a daily intake of about 100 grains of calcium salts, chiefly in the form of phosphate, in the 24 hours—an amount sufficient, one would think, for his needs. In the second case the hæmorrhages were so sudden and profuse and came from so high up the intestinal tract, possibly from the stomach, that drug treatment was unlikely to be successful. In all future cases one would certainly use emetine hydrochloride as advocated by Low,[3] who reports success from its use in cases of bleeding from cancer of the rectum and from gastric ulcer. In the first case a different line of attack is obviously necessary, but the attack is even more of a forlorn hope than in the other type of case. There seems as little hope of checking the bleeding in this type of case as there is in stopping the hæmorrhage in the last stages of acute lymphatic leukæmia, a condition which Case 1 resembles. One might try normal horse serum, but there is little hope of success.

To make up for loss of body fluids it seems logical that one should transfuse these cases of the second type, and hypertonic saline, as likely to help in increasing the coagulability of the blood, would be the fluid of choice. Against transfusion it may be said that Case 3 made a rapid and complete recovery without it. One doubts very much whether any transfusion could have saved Case 2, so rapid and profuse was the hæmorrhage. As for transfusion in Case 1, the bleeding here seems rather the expression of a profound toxæmia and was merely a contributory cause to the fatal issue, whereas in the other cases the actual loss of body fluid was the chief feature to be combated. In the third case it is interesting to note that a dose of antityphoid vaccine was given the day before the fever started. It is difficult to say whether this influenced the result one way or another.

Calcutta.

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[3] Low: Recent Researches on Emetine, Royal Society of Medicine, [illegible] and Pharmacological Section, p. [illegible], March, [illegible].

SOUTH-WEST LONDON MEDICAL SOCIETY.—The [illegible] annual dinner of this society will take place at the [illegible] Hotel, [illegible], on Wednesday, Oct. 7th, at [illegible] P.M. The honorary secretary is Mr. R[illegible] F. [illegible], 28, Westside, Wandsworth Common, S.W.

ORAL SEPSIS IN THE DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS.

BY R. C. WINGFIELD, B.A., M.B. OXON., M.R.C.P. LOND.,
MEDICAL OFFICER IN CHARGE OF THE TUBERCULOSIS DEPARTMENT, ST. THOMAS'S HOSPITAL.

THE results of the first year's coöperation between the dental and tuberculosis departments at St. Thomas's Hospital have been sufficiently encouraging to make me think them worth recording. Every tuberculosis officer knows the trouble of the doubtful case with its suspicious but indefinite history of loss of weight, occasional irregular pyrexia, cough, and expectoration of muco-purulent sputum, repeated examinations of which fail to demonstrate the presence of tubercle bacilli. The physical signs in the chest, as also the X ray findings, may be suggestive, but at the same time not conclusive of pulmonary tuberculosis, while the complement-fixation test and experimental inoculation of the patient's sputum require some time for their completion; meanwhile the patient, in spite of general tonic and hygienic treatment, may show no signs of improvement, and the original problem, "Is this or is this not a case of early pulmonary tuberculosis?" remains unsolved. Further, one may have the uncomfortable feeling that the time and money of the tuberculosis department are being spent upon patients who are in reality non-tuberculous. It is true the facilities afforded by observation beds often assist the officer in arriving at a proper diagnosis by more careful clinical observation or by the employment of diagnostic injections, but it must be remembered that not only are the doubtful cases too numerous for the application of these procedures, but also many dispensaries are not equipped with observation beds at all. Early diagnosis is important if the disease is to be cured or arrested, but at present no specific method has been discovered whereby the early diagnosis can be made with certainty.

I have found, and I expect many have made a similar discovery, that the routine examination and treatment by an experienced dental surgeon of the mouth of all dispensary patients is not only of value in the treatment of chronic pulmonary tuberculosis, but is also of considerable use in eliminating numbers of doubtful cases. A clean mouth is the exception among the poor, although many of this class, it is true, enjoy good health in spite of the constant septic absorption thereby entailed. But once infection by a chronic debilitating disease such as tuberculosis has occurred, oral sepsis undoubtedly plays a large part in dealing with, and perhaps altogether preventing the acquisition of, that high degree of resistance by which alone a cure can be effected. Chronic cases with a tendency to relapse who have had full sanatorium treatment require the greatest care and the best environmental conditions if the working capacity, which after all is of essential importance, is to be maintained: untreated oral sepsis under these conditions may frequently turn the balance adversely for the patient.

The number of cases dealt with during the year in the tuberculosis department of St. Thomas's Hospital is hardly large enough to allow of definite conclusions being drawn as to the efficacy of the radical treatment of oral sepsis in chronic pulmonary tuberculosis, but it is sufficient to give an indication which may be worth while following up.

It will be noticed that out of the 41 cases collected 21, or roughly 50 per cent., were diagnosed as ? pulmonary tuberculosis—that is to say, they were sent to the dispensary as tuberculous patients, and though the diagnosis could not be definitely proved it is probable that in some of the cases at any rate it was correct. This being so, seeing that all these patients had severe degrees of oral sepsis, the supposition arises that oral sepsis may play an important part in determining the reaction to infection by the tubercle bacillus. For in an overwhelming majority of cases a man with a clean mouth must be in a better state of health than a man with a dirty one, and perfect health is our greatest asset when we have to deal with tuberculous infection.

The coöperation between the two departments mentioned above is not so easy in actual practice as it sounds. The first difficulty is to get the patient to see the dentist at all. This can best be got over by arranging for the dental surgeon to examine the patients in the dispensary at the time of their ordinary attendance to receive medical treatment. If this is not done it is generally found that nothing short of raging toothache will induce the patient to have his teeth seen to. The second difficulty consists in persuading the patient to submit to the treatment advised, and is less easily surmounted. The ordinary patient employs two criteria and two only in judging of the soundness or otherwise of his teeth, and if they both enable him to bite his food and cause him no pain he supposes them to be healthy. One can hardly be surprised, therefore, if he hesitates to have what he believes to be healthy teeth extracted in bulk for a condition of his gums which he can neither understand nor appreciate. Sternness in refusing all treatment until the oral condition has been dealt with is the best method of overcoming this difficulty, while a great deal can be done by getting patients who have derived benefit from the removal of their teeth to talk to the more refractory cases.

TABLE I.—*Cases of Chronic Pulmonary Tuberculosis which showed Improvement.*

No.	Age and sex.	Diagnosis.	Condition, and how treated.	Result.	Weight, how affected.
1	33, F.	C.P.T.*	Pyorrhœa. Septic teeth removed.	Improved.	Gained 3 lb.
2	45, M.	C.P.T.	Pyorrhœa. All removed.	Marked improvement.	No gain.
3	50, F.	C.P.T.	Pyorrhœa. All removed.	Marked improvement.	Gained 5 lb.
4	49, F.	C.P.T.	Pyorrhœa. All removed.	Marked improvement.	,, 6 lb.
5	40, M.	C.P.T.	Pyorrhœa. All removed.	Improved and restarted work.	No gain.
6	45, M.	C.P.T.	Pyorrhœa. Septic roots removed.	Improved.	Gained 3 lb.
7	55, M.	C.P.T.	Pyorrhœa. All removed.	Improved and restarted work.	No gain.
8	25, F.	C.P.T.	Pyorrhœa. All removed.	Marked improvement.	Gained 1 st.
9	29, M.	C.P.T.	Pyorrhœa. Some removed. (Sanatorium.)	Improved.	,, 7 lb.
10	23, M.	C.P.T.	Pyorrhœa. All removed. (Sanatorium.)	Improved.	,, 4 lb.

* C.P.T. = Chronic pulmonary tuberculosis.

In Table I. are the cases of undoubted pulmonary tuberculosis which improved after the removal of oral sepsis. The disease in all cases was of the chronic type. Two, Nos. 9 and 10, had sanatorium treatment, so that their improvement as the result of dental treatment is not proven. In the other 8 cases there was well-marked improvement, and Nos. 7 and 5, though they did not gain weight, both became well enough to resume the work which

TABLE II.—*Cases of Chronic Pulmonary Tuberculosis which showed no Improvement.*

No.	Age and sex.	Diagnosis.	Condition, and how treated.	Result.
1	32, M.	C.P.T.*	Pyorrhœa. All removed. (Pulmonary tuberculosis active.)	Worse.
2	35, F.	C.P.T.	Pyorrhœa. All removed. (Pulmonary tuberculosis active.)	Died.
3	41, F.	C.P.T.	Pyorrhœa. All removed. (Pulmonary tuberculosis active.)	Unaltered.
4	28, F.	C.P.T.	Septic roots removed.	,,
5	35, F.	C.P.T.	Pyorrhœa. All removed.	Worse.
6	35, F.	C.P.T.	,, ,, ,,	Unaltered.
7	42, F.	C.P.T. Lupus.	,, ,, ,,	,,
8	33, M.	C.P.T. Subacute.	Pyorrhœa. All removed. (Sanatorium. Pulmonary tuberculosis active.)	Worse.
9	21, F.	C.P.T.	Pyorrhœa. All removed.	Unaltered.
10	35, F.	C.P.T.	Septic roots removed.	No marked improvement.

* C.P.T. = Chronic pulmonary tuberculosis.

TABLE III.—*Cases of (?) Chronic Pulmonary Tuberculosis which showed Improvement after Radical Treatment for Oral Sepsis.*

No.	Age and sex.	Diagnosis.	Condition, and how treated.	Result.	Weight, how affected.
1	30, M.	? C.P.T.*	Pyorrhœa. All removed.	Discharged well.	Gained 8 lb.
2	30, F.	General debility. ? C.P.T.	Pyorrhœa. All removed.	Discharged well.	,, 3 lb.
3	30, F.	General debility. ? C.P.T.	Pyorrhœa. All removed.	Discharged well.	No gain.
4	33, F.	? C.P.T.	Pyorrhœa. All removed.	Marked improvement.	Gained 12 lb.
5	27, M.	? C.P.T.	Pyorrhœa. All removed.	Marked improvement and restarted work.	,, 4 lb.
6	35, M.	? C.P.T. B. & E.†	Pyorrhœa. All removed.	Marked improvement.	No gain.
7	37, F.	Chronic broncho-pneumonia.	Pyorrhœa. All removed. Influenza vaccine ? due to teeth ‡	Marked improvement.	,,
8	35, F.	? C.P.T.	Pyorrhœa. All removed.	Improved.	,,
9	30, F.	? C.P.T.	Pyorrhœa. All removed.	Improved. Ceased to attend.	,,
10	47, F.	? C.P.T.	Pyorrhœa. All removed.	Improved. Ceased to attend.	Gained 14 lb.
11	30, M.	General debility. ? C.P.T.	Pyorrhœa. All removed.	Improved. Started work again.	,, 3 lb.
12	47, M.	B. & E. ? C.P.T.	Pyorrhœa. All removed.	Marked improvement.	,, 8 lb.
13	37, F.	Bronchitis. ? C.P.T.	Pyorrhœa. All removed.	Quite well.	,, 1 st. 2 lb.
14	35, F.	Pleurisy. ? C.P.T.	Pyorrhœa. All removed.	,,	,, 1 st.
15	30, F.	? C.P.T.	Pyorrhœa. All removed.	Marked improvement.	,, 3 lb.

* C.P.T. = Chronic pulmonary tuberculosis.
† B. & E. = Bronchitis and emphysema.
‡ Did not improve till date of vaccine commencement.

they had given up some months previously—a more important criterion of improvement than weight.

Table II. shows the cases of undoubted pulmonary tuberculosis which did not improve after the mouth was cleaned. Six out of the 10 cases remained unaltered. In 4 the steady progress of the disease was in no way arrested. In these 4 cases the disease was active. In no case did dental treatment appear to have a definitely bad effect on the patient.

Table III. shows 15 cases of doubtful pulmonary tuberculosis which improved after radical treatment for oral sepsis. Perhaps none of these cases were tuberculous. Most of the patients have been discharged well or have ceased to attend of their own accord. One of the most striking cases was No. 13. This woman had been under treatment for years at different institutions, her case always being diagnosed as "? pulmonary tuberculosis." No. 7 should, perhaps, not be included in this list. This patient was suffering from a chronic influenzal infection, and though her mouth was in a very bad state and was cleaned, there was no improvement until the case was treated with a vaccine of the influenza bacillus which was isolated in pure culture from the patient's sputum.

TABLE IV.—*Cases of Doubtful Pulmonary Tuberculosis which did not show Improvement after Dental Treatment.*

No.	Age and sex.	Diagnosis.	Condition, and how treated.	Result.
1	33, F.	? Syphilis. ? C.P.T.*	Pyorrhœa. All removed.	No marked improvement.
2	33, F.	Chronic bronchitis.	"	No improvement.
3	40, F.	? C.P.T.	"	"
4	45, F.	? C.P.T.	"	"
5	22, F.	? C.P.T.	"	"
6	30, M.	General debility. ? C.P.T.	"	"

* C.P.T. = Chronic pulmonary tuberculosis.

Table IV. is a list of the cases of doubtful pulmonary tuberculosis which did not show any improvement after dental treatment. These patients may be those who are really tuberculous.

The numbers in Tables III. and IV.—viz., out of 21 patients 15, or 74 per cent. roughly, showing well-marked improvement—have been sufficiently encouraging to lead me to turn my attention more thoroughly this year to the eradication of oral sepsis in my patients with already increasing good results.

Last year 150 cases were examined and treated by the dental surgeon in the department, but in this article I have only dealt with those cases in whom the report was "Sepsis; advised removal of all," and on whom the treatment was fully carried out. My thanks are due to Mr. R. McKay and his assistant, Mr. W. H. Dye, who have given such an immense amount of time and trouble to the

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AURICULAR FLUTTER FOLLOWED BY PAROXYSMAL AURICULAR FIBRILLATION.

BY E. B. GUNSON, M.D. EDIN., M.R.C.P. LOND.

(*From the Cardiac Department, London Hospital, E.*)

AURICULAR flutter is a condition in which the normal auricular contractions are replaced by rhythmical contractions arising at a greatly increased rate from an abnormal focus in the auricle. Some degree of heart block is usually present, the ventricle responding in many cases to alternate auricular impulses; in other cases the response is less frequent. A varying block may result in an irregular pulse.

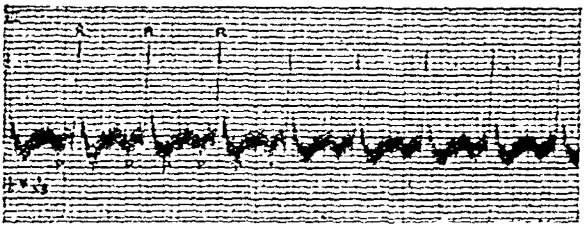
In auricular fibrillation the auricular contractions are replaced by a continuous fibrillary movement of the auricle. The ventricular response is haphazard and gives rise to complete irregularity of the pulse.

By means of the electrocardiograph it is easy to recognise these two conditions. The contracting heart muscle gives rise to an electric current, which is conveyed to a string galvanometer by means of two wires connected with the patient's body. The current produces deflections of the string, which are recorded on a moving photographic plate. From this plate the electrocardiogram is printed. In the illustrations the rise P corresponds to the auricular systole, the rises R and T to the ventricular systole. The P–R interval, the measure of the time occupied by the passage of the impulse from the auricle to the ventricle, is normally less than one-fifth of a second.

In all probability the majority of cases of paroxysmal tachycardia are due either to auricular flutter or to auricular fibrillation. The present case is an illustration not only of this fact, but it also shows the close relationship which exists between the two conditions.

The patient, aged 68, was admitted to the London Hospital on August 25th, 1913, under the care of Dr. James Mackenzie. Fifty-two years ago, when aged 16 years, he had an attack of acute rheumatism and was an in-patient of St. Bartholomew's Hospital. Four years later, when aged 20, he had a second attack of acute rheumatism and was an in-patient of the London Hospital. On discharge he had a systolic murmur at the base, but no other abnormal physical signs. Forty years ago, when aged 28, he had ague. For the past 25 years he had suffered from a winter cough, which had become more severe in recent years. Six years ago, when aged 62, he had pneumonia. He had been unable to work for four years owing to præcordial pain, which was readily induced by exertion and accompanied by a "choking sensation." General weakness and shortness of breath had gradually developed during the same period. For 15 months he had been subject to severe anginal attacks. The pain, which was accompanied by a tightness in the chest and a feeling of suffocation, affected the upper part of the chest, especially the second left interspace, and extended down the inner side of the left arm to the an anxious expression. He was at once admitted to the ward. The radial pulse was regular, with a rate of 155 per minute. An electrocardiogram showed the presence of auricular flutter, with 2:1 heart block. (*See* Fig. 1.) The apex beat was palpable in the sixth space, 6 inches from the mid-line. Deep cardiac dullness extended 1½ inches to the right and 6 inches to the left of the mid-line. The heart sounds were present and unaccompanied by murmurs. There was dullness at the base of the left lung; crepitations were present at both bases; rhonchi were general. The liver extended 4½ inches below the costal margin. There was no œdema. The urine contained a thick cloud of albumin. The Wassermann reaction was positive.

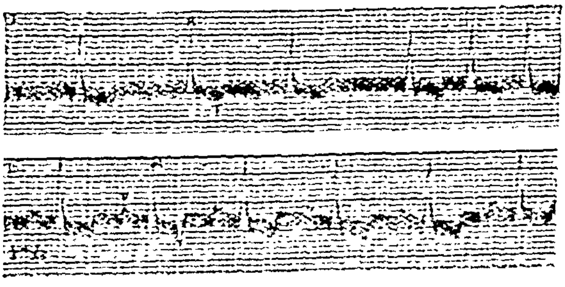
FIG. 1.



Electrocardiogram, Oct. 30th, 1913. Auricular flutter with 2:1 block. Auricles 320 per minute. Ventricles 160 per minute. The rise P indicates the auricular systole and the rises R and T the ventricular systole.

Course.—Polygraphic tracings were taken daily and electrocardiograms were taken when the nature of the rhythm was doubtful. Respirations numbered 20 to 30 per minute. The quantity of urine varied from 30 to 70 ounces per diem, the large amount being recorded after digitalis administration. The albumin diminished in amount and disappeared before discharge. The temperature remained normal and subnormal throughout. For several days after admission the patient's symptoms of distress persisted and he occasionally had Cheyne-Stokes respiration. Deep cardiac dullness and liver dullness increased slightly. On Sept. 1st digitalis was given for the first time. On the 4th, 10 days after admission, coincident with the onset of auricular fibrillation, the patient was distinctly more comfortable. He had then taken 2½ drachms of tincture of digitalis. After this date paroxysms of auricular fibrillation were frequent. The patient did not know when the changes in rhythm occurred, and they were not accompanied by any definite change in the other physical signs, but he was more comfortable when the rhythm was normal or when auricular fibrillation was present than during the paroxysms of auricular flutter.

FIG. 2.

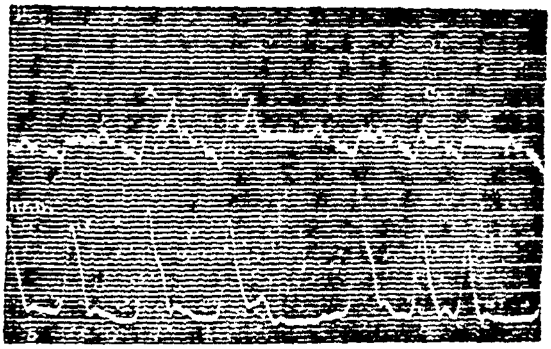


Electrocardiogram, Sept. 25th, 1913. Lead I.: Auricular fibrillation, approximately 96 per minute. Showing the absence of the rise P. Lead III.: Normal rhythm, 92 per minute. P = Auricular, R-T Ventricular systole. (Lead III. was taken immediately after Lead I.)

The patient was discharged on Nov. 30th, 1913. Before this he was able to walk about the ward with but slight shortness of breath. There was no œdema and no ascites. Deep cardiac dullness extended 1¼ inches to the right and 4½ inches to the left of the mid-line, compared with 1½ inches and 6 inches on admission. Liver dullness extended 2 inches below the costal margin, as compared with 4½ inches on admission. The pulse-rate was 87 per minute and the rhythm normal.

Changes in cardiac rhythm.—During his stay in hospital from Oct. 25th until Nov. 30th the patient showed a great variety of cardiac irregularities. There were two paroxysms of tachycardia due to auricular flutter. The first attack continued from August 25th until Sept. 4th, the second from Oct. 28th until Oct. 31st. There were two paroxysms of tachycardia, with a radial pulse-rate of 150 per minute, during which auricular flutter was suspected, but of which conclusive records were not obtained. There were 13 paroxysms of auricular fibrillation, the offset of two paroxysms being recorded. (See Fig. 2.) The first paroxysm was the longest and continued for nine days; the shortest lasted for three and a half hours. Premature auricular contractions, premature ventricular contractions, and interpolated extrasystoles all occurred when the rhythm was otherwise normal. (See Fig. 3.) Alternation of the pulse was frequently present during flutter and also during periods of normal rhythm. The various changes which occurred in the heart's rhythm, and their relation to digitalis administration, are shown in the accompanying table.

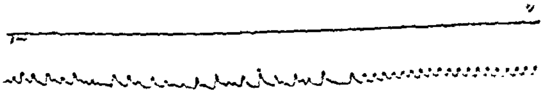
FIG. 3.



Electrocardiogram, with radial tracing, Sept. 17th, 1913. A, Premature and interpolated ventricular contraction. B, Premature ventricular contraction. C, Premature auricular contraction.

On Dec. 4th, four days after discharge, the severe thoracic pain returned, extending down into both arms, especially the left, leaving the fingers numb. The pain persisted; it was accompanied by shortness of breath, and soon followed by œdema of the legs. On examination at his home on the 17th the patient was dyspnœic and in great pain. There was moderate œdema of the legs. The liver extended 4 inches below the costal margin. The heart sounds were distinct at all areas; no murmurs were heard. A radial tracing showed a regular rhythm of 140 per minute. Pulsus alternans was present. On the 26th the patient was again seen at his home. Thoracic and abdominal pain had been very severe since the last visit. The heart sounds were unchanged. Radial tracings only were obtained and showed a regular rhythm of 136 per minute, with pulsus alternans. No irregularity of the pulse was noted by the medical attendant at subsequent visits. The patient became gradually worse and died on Jan. 1st, 1914. No necropsy was obtained.

FIG. 4.



Radial tracing, Sept. 25th, 1913. Offset of auricular fibrillation. Rate during auricular fibrillation approximately 110 per minute. Rate during each of five successive periods of six seconds, after the onset of normal rhythm, 83, 90, 92, 94, and 92 per minute.

Summary.—A fatal case of myocardial failure has been described in which auricular flutter gave

Date.	Digitalis.	Instrumental records.	Radial pulse.	Rhythm.
1913.			Per min.	
Aug. 5	None.	Electrocardiographic.	165	Normal.
Aug. 25 to Sept. 1.	"	E.C.*	150-160	Auricular flutter; 2 : 1 block.
Sept. 1.	ʒss. tr. dig.	—	—	—
" 2-3.	ʒi. tr. dig.	Polygraphic.	160-170	Auricular flutter; 2 : 1 block.
" 4.	ʒi. tr. dig.	Polygraphic. E.C.	100	Auricular fibrillation.
" 6-9.	ʒi. tr. dig.	Polygraphic.	65-75	"
" 11.	None.	Polygraphic. E.C.	66	"
" 12.	"	Polygraphic. E.C.	82	Normal.
" 17-24.	"	Polygraphic. E.C. (See Fig. 3.)	75-80	Normal. Numerous premature contractions, auricular, ventricular, and interpolated.
" 25—10.30 A.M.	"	No tracing.	100	Normal.
2 P.M.	"	Polygraphic. E.C.	110	Auricular fibrillation.
3 P.M.	"	E.C.	90	Normal.
5 P.M.	"	Polygraphic.	144	Auricular fibrillation.
10 P.M.	"	Polygraphic. (See Fig. 4.)	110	Auricular fibrillation. (Offset recorded.)
		E.C. (See Fig. 2.)	92	Normal.
Sept. 26-29	"	Polygraphic.	90-100	"
" 30—11.15 A.M.	"	"	150	? Auricular flutter.
1.15 P.M.	"	"	126	Auricular fibrillation.
2.45 P.M.	"	E.C.	104	Normal.
10 P.M.	"	Polygraphic.	116	Auricular fibrillation. (Offset recorded.)
10.20 P.M.	"	"	100	Normal.
Oct. 1—10.30 A.M.	"	"	95	"
3 P.M.	"	"	113	Auricular fibrillation.
5 P.M.	"	"	150	? Auricular flutter.
Oct. 4—11 A.M.	"	"	94	Normal.
9.30 P.M.	"	"	133	Auricular fibrillation.
Oct. 5—10.30 A.M.	"	"	97	Normal.
Oct. 6—11 A.M.	"	"	98	"
10 P.M.	"	"	135	Auricular fibrillation.
Oct. 7.	"	"	94	Normal.
" 8—9 P.M.	"	"	1[illegible]	Auricular fibrillation.
Oct. 9-10.	"	"	95-100	Normal.
" 11—[illegible] A.M.	"	"	[illegible]	Auricular fibrillation.
5 P.M.	"	"	91	Normal.
Oct. 12.	"	"	135	Auricular fibrillation.
" [illegible]	"	"	100	Normal.
" [illegible] A.M.	"	"	150	Auricular fibrillation.
[illegible] P.M.	"	"	122	Normal.
Oct. [illegible]	"	Polygraphic. E.C.	1[illegible]	Auricular flutter; 2 : 1 block.
" [illegible]	[illegible] tr. dig.	Polygraphic.	1[illegible]	"
" [illegible]	[illegible] tr. dig.	Polygraphic. E.C. (See Fig. [illegible])	1[illegible]	"
" [illegible] A.M.	[illegible] tr. dig.	Polygraphic.	112	Auricular fibrillation.
[illegible] P.M.	[illegible] tr. dig.	E.C.	[illegible]	Normal.
[illegible]	[illegible]	Polygraphic. E.C.	[illegible]	"

* E.C. = Electrocardiographic record.

place under digitalis to auricular fibrillation on two occasions. An intervening period of normal rhythm was interrupted by numerous paroxysms of auricular fibrillation.

I am indebted to Dr. John Parkinson for assistance in the preparation of this article.

THE BACILLUS OF BOVINE TUBERCLE AS A FACTOR IN PHLYCTENULAR AFFECTIONS OF THE EYE.[1]

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THE close relationship subsisting between phlyctenular affections of the eye on the one hand and "scrofula" or "struma" on the other has been known from early times, and was mirrored forth in the names "scrofulous" or "strumous ophthalmia" bestowed upon the disease by the older writers. After the discovery by Robert Koch in 1882 of the tubercle bacillus the clinical use of the word "scrofula" or "struma" became much restricted, if not actually abandoned. That tendency, as might be expected, was reflected in the nomenclature of the eye disease under discussion. The suggestion made many years before by the famous Dr. William Mackenzie, of Glasgow, that for the word "strumous" the word "phlyctenular" should be employed was very generally adopted in this country, and is so still. One never hears of "strumous ophthalmia" in England nowadays. Some of us, however, remained keenly alive to the fact that the ocular disease was frequently associated with the symptoms once termed "scrofulous," but now generally spoken of as "tuberculous."

About 14 years ago[2] I published an account of my personal investigations into the etiology of what may conveniently be termed "phlyctenulosis." Among a total of 669 such cases I found tubercle to be present in 214, or 31·98 per cent. A family history of tubercle was obtained in 72 per cent. of about 800 cases of phlyctenulosis. For purposes of comparison this could be got in 49·72 per cent. of 181 non-ophthalmic out-patients at the Evelina Hospital, London, and in 35 per cent. among 200 such children at the Queen's Hospital for Children, London. These facts and some others led me to express the opinion that a well-marked tendency to phlyctenulosis was to be regarded as indicating that the patient was, or was likely to become, tuberculous.

The general accuracy of my figures was borne out by those published by Dr. Vilmos Leitner some five years later.[3] Leitner found scrofulosis to be present in 45·1 per cent. of 371 children with various diseases of the conjunctiva, as against 88·7 per cent. of 585 children with phlyctenular affections of the conjunctiva. A few years later Dr. L. Weekers, of Liége, found active tuberculosis in 36 per cent. of his 156 phlyctenular cases, while a family history of tubercle was forthcoming in 56 per cent.[4] With the introduction of the various biological tests for tubercle, the opinion formed on purely clinical grounds has been confirmed, extended, and strengthened.

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[1] A paper read before the Oxford Ophthalmological Congress on July [illegible]
[2] Medical Press and Circular, Oct. [illegible]
[3] Zeitschrift für Augenheilkunde, July, [illegible]
[4] Bulletin de l'Académie Royale de Médecine de Belgique, vol. xxiii., [illegible]

In 1907 I applied the Calmette tuberculin test to the eyes of 6 children, all of whom were affected with long-standing and relapsing ulceration of the cornea, diagnosed as of phlyctenular type.[5] Of these patients two alone manifested obvious tuberculous lesions in other parts of the body. Yet the ophthalmo-reaction was obtained in all of them. Aubaret and Lafon[6] had previously elicited the Calmette reaction in 4 healed cases of phlyctenular disease. Since those early experiments other observers have found that by this method the reaction can be obtained in from 80 to 100 per cent. of the cases of phlyctenulosis.

As regards the injection of tuberculin, in 1907 I obtained a positive general reaction in 4 children suffering from phlyctenulosis. W. Stock[7] had a general reaction in 87 per cent. of 23 patients with phlyctenulæ of the cornea. Weekers[8] obtained a general reaction in 10 cases of phlyctenulosis after the subcutaneous injection of tuberculin, and a focal reaction was observed in 8 of the cases.

The results obtained by Dr. George S. Derby with the von Pirquet method were of considerable importance.[9] Of 43 instances of phlyctenulosis 89 per cent. reacted to the tuberculin, while in nearly 80 per cent. physical examination disclosed evidence of tuberculosis. Weekers[10] obtained a positive cuti-reaction in 91 per cent. of 156 children suffering from phlyctenulosis. In passing, it may be said that the test was positive in only 11 per cent. of the children not affected with phlyctenulosis. The experiments made with von Pirquet's test by Dr. J. A. Jamieson and myself[11] may be briefly quoted. We employed the method in 20 patients, whose ages were from 2 to 12 years, and found that the cutaneous reaction was positive in every instance. A local reaction as regards the conjunctiva or cornea was observed in 8 of the patients. It should be added that 50 per cent. of these patients had more or less obvious signs of tubercle, medical or surgical, while a family history of tubercle was elicited in 75 per cent.

Finally, employing the Moro inunction method, Dr. H. H. Bywater, of Preston,[12] obtained 16 positive results in 16 cases of phlyctenulosis, and Rosenbauch[13] in 50 such cases 96 per cent. of successes.

We may take it, then, that the association between phlyctenulosis and tubercle is proved on both clinical and biological grounds, and can no longer be doubted even by the most sceptical. The connexion, however, has recently entered upon a new and somewhat significant phase. It has been pointed out by Dr. Bywater that the subjects of phlyctenulosis respond to the specific tests for bovine tubercle. For example, in 15 juvenile cases of phlyctenular disease he had obtained a positive reaction in every instance to the Moro inunction test with bovine tuberculin.[14] Twelve of these cases had been previously tested with human tuberculin, applied by the same method, and had reacted positively. In a latter communication[15] Dr. Bywater stated that in 16 cases of typical phlyctenular disease in children from 3 to 17 years of age he had obtained positive results in every single instance, both with the human and the bovine product. In 56·25 per cent. of the patients there was a family history of tubercle. No phthisis was present, but some other signs of tubercle were general in the children, especially enlarged glands.

Dr. Bywater's results appeared to me to be of considerable importance, and so, with the assistance of Dr. L. W. Jeffries, I have recently investigated the point at the Queen's Hospital for Children, London, in 20 children, aged from 17 months to 12 years, who were suffering from various forms of phlyctenulosis. Von Pirquet's method was adopted. In every case a positive result, both as regards bovine and human tuberculin, was obtained. The intensity of the reaction with the two products varied according to the particular patient. Thus, in one-half of the children the reaction was recorded as equal; in 6 the bovine exceeded the human reaction; and lastly, in 4 the reverse was the case.

That the conjunctival phlycten is not a tuberculoma is universally admitted. Nobody has yet succeeded in reproducing tuberculosis by inoculating the anterior chamber of susceptible animals with such products. Tubercle bacilli have not been found in the efflorescence. The lesion itself does not present the histological structure of tubercle.[16] We may well ask ourselves in what way and by what means a focus of tubercle, latent or manifest, is able to produce a phlyctenule of the conjunctiva or cornea. Leber, as is well known, suggested that the phlyctenulæ were the direct result of dead bacilli set free from a caseous focus elsewhere in the body. The hypothesis was supported by a certain amount of experimental evidence. He found that an inflammation recalling phlyctenular keratitis sometimes followed the injection into the corneal parenchyma of dead tubercle bacilli.[17] To this it has been objected that any foreign substance would do the same. Bruns (a pupil of Leber's) produced changes resembling phlyctenulæ by the injection of dead tubercle bacilli into the blood stream.[18]

A somewhat similar view has been espoused by J. B. Nias and Leslie Paton[19] on the ground that in upwards of 50 patients the opsonic index of the blood behaved in a way that was typical of a definite tuberculous infection. In an earlier communication, however, it is to be noted that those authors seemed to think that the condition must be assigned to "tubercle toxins circulating in the blood apart from their bacilli."[20]

The best working hypothesis is probably that set forth with conspicuous ability by Dr. Weekers—namely, that the eye disease is due to the circulation of soluble toxins thrown off by the deposit of tubercle elsewhere in the body. The analogy that he institutes with the so-called "toxi-tuberculides" is very much to the point. Those eruptions, as is well known, occur in tuberculous subjects, and yet tubercle bacilli have not been found in them, neither can they be successfully inoculated into guinea-pigs. Exactly the same may be said of phlyctenulosis. Both the cutaneous and the ocular disease have on occasion been known to follow the subcutaneous injection of tuberculin (Hallopeau). The association of phlyctenulosis and of lichen scrofulosorum in one and the same subjects is, in my experience, not exactly an uncommon event. It may be reasonably suggested that such obvious tuberculous manifestations of the skin as scrofuloderma, lupus, and Bazin's disease (erythema induratum scrofulosorum) bear the same relationship to tubercle of the conjunctiva as is borne by lichen and acne scrofulosorum to phlyctenular affections.

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[5] Brit. Med. Jour., Oct. 19th, 1907.

[6] Gazette Hebdomadaire des Sciences Médicales de Bordeaux, August 4th, 1907.

[7] Tuberculose als Aetiologie der chronischen Entzundungen des Auges und seiner Adnexe, Leipzig, 1907.

[8] Loc. cit., 1909, p. 530.

[9] Archives of Ophthalmology, September, 1908.

[10] Loc. cit., 1909.

[11] Brit. Med. Jour., April 16th, 1910.

[12] Thesis, 1911.

[13] Von Graefe's Archiv für Ophthalmologie, Band lxxvi., 1910, p. 370.

[14] The Ophthalmoscope, July, 1910.

[15] Thesis, 1911.

[16] Leber, almost alone among authors, has described the phlyctenule as possessing a tuberculous structure. The nodule, according to his investigations, is composed of polynuclear leucocytes, epithelioid cells, and many giant cells. The vessels of the part show endarteritis. Caseation is not present.

[17] 29 Berichte der Ophthalmologische Gesellschaft, Heidelberg, 1902, p. 66.

[18] Von Graefe's Archiv für Ophthalmologie, 1906, p. 432.

[19] THE LANCET, Dec. 1st, 1906, p. 1500.

[20] Transactions of the Ophthalmological Society of the United Kingdom, vol. xxvi., 1906, p. 232.

The incidence of bovine tubercle as a cause of disease in human beings is known to vary greatly according to the locality. For example, as regards the Edinburgh district, Dr. A. P. Mitchell found bacilli of the bovine type in no less than 90·27 per cent. of 72 cases of cervical adenitis in children.[21] On the other hand, in Berlin Gaffky found them in not more than 3·84 per cent. among 78 instances of tuberculous glands. Gosio examined the type of the bacillus in 122 cases of human tubercle, and found the bovine variety in 0·81 per cent. only. The infection of human beings by bovine bacilli, indeed, appears to be as rare an event in some cities, as Berlin, as it is common in others, as Edinburgh. The figures brought forward by Dr. Bywater and myself apply to two cities only—namely, Liverpool and London. It will be interesting to see whether they are supported by returns from other cities of Great Britain.

If it can be shown that phlyctenulosis is usually associated with the bacillus of bovine tubercle, then the remedy lies at hand in the shape of a pure milk-supply. It is indeed possible that could such be secured by legislation, as at the moment appears to be very probable in England, phlyctenulosis might become one of the rarer affections of the eye in poor children instead of being, as it is at present, accountable for the vast majority of inflamed eyes in that class. The greatest cause of defective sight in childhood might be largely remedied. At all events, pending legislation, it would certainly seem advisable to sterilise raw milk before giving it to infants and children.

An even larger point, to which attention has been recently directed by an American physician, Dr. Louis C. Ager, of Brooklyn, should not be lost sight of. That observer urges that all children affected with phlyctenulosis should be submitted to expert physical examination for evidences of incipient tuberculosis, and that they should receive suitable treatment for that condition when present.[22] That raises the question whether the ophthalmic surgeon can be said to have discharged his whole duty when he dismisses the child suffering from phlyctenulosis with a little good advice and a pot of yellow ointment.

Welbeck-street, W.

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[21] Brit. Med. Jour., Jan. 17th, 1914; THE LANCET, March 7th, 1914, p. 674.

[22] Long Island Medical Journal, June, 1912.

MEDICAL MAGISTRATES.—Mr. Hugh Stott has just been placed on the commission of the peace for the county of Sussex. Mr. Stott, who resides at Lewes, is medical officer of health to the East Sussex combined districts. He held the office of Mayor of Lewes in 1911-12 and 1912-13.—Dr. Sylvanus Glanville Morris, of Maerdy, Glamorganshire, has been placed upon the commission of the peace for the county of Glamorgan.

A CASE OF FEMORAL HERNIA TREATED BY BONE TRANSPLANTATION.

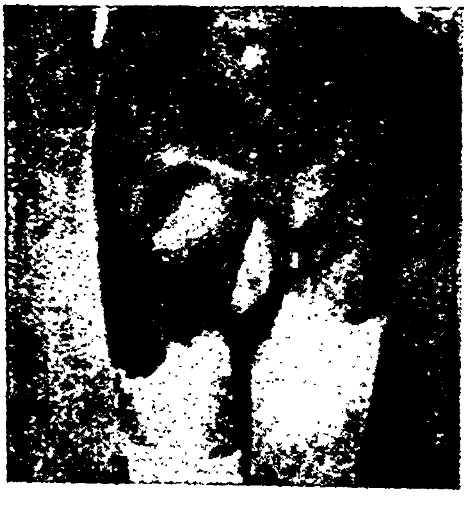
BY W. H. CLAYTON GREENE, M.B., B.C. CANTAB., F.R.C.S. ENG.,
SURGEON TO ST. MARY'S HOSPITAL, ETC.

FROM time to time surgeons have commented on the difficulty of dealing with the opening of a large femoral hernia. The method of approaching the neck of the sac from above Poupart's ligament and the subsequent suturing of the conjoined tendon to Cooper's ligament has given satisfactory results in ordinary cases, but where the opening is exceptionally wide other measures are required, and the implantation of filigree does not seem satisfactory in this situation.

The numerous articles recently published on the subject of bone grafting suggested to me the possibility of closing the entrance to the femoral canal by a bony transplant connected with the pelvis, and in this way increasing, as it were, the pelvic skeleton. The following is an account of a case in which the method was employed.

The patient, a male aged 57 years, was admitted to hospital with a double femoral hernia of about 14 years' duration. That on the right side was very large and caused great inconvenience; that on the left was smaller, but had recurred a year after an operation previously undertaken. (Fig. 1.) The right-sided swelling was reducible, and the whole hand could be introduced into the ring.

FIG. 1.

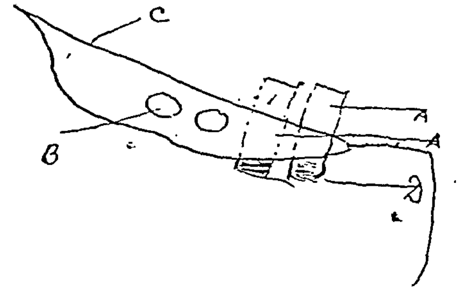


Large right and small left femoral hernia.

An operation was performed on May 28th when the sac was exposed by means of a transverse incision, the contents reduced, and the neck ligatured in the ordinary manner. About two inches of the eleventh rib were then excised subperiosteally and the bone was split into two pieces through the cancellous tissue. The femoral wound was then widely retracted and the bone grafts were introduced into pockets made in the periosteum at the back of the pubic bone. There was no trouble in fixing them, and Poupart's ligament was then drawn down to the pectineus fascia, leaving a firm bone plate on its abdominal aspect. The left hernia was dealt with by the ordinary method. The wounds healed soundly and the bone transplant can be felt firmly in position. The shadow of the transplanted bone can be seen in the X ray photograph.

I am publishing this case as it suggests a method of dealing with large inguinal as well as femoral hernias, and I am not aware of any case in which the method has been tried previously. The advantage of the natural material over foreign bodies such as silver filigrees is obvious, though I do not suggest that a rib is the most suitable site from which to take the graft. On another occasion I shall probably select the tibia.

FIG. 2.



After operation. A A, Bone transplants. B, Femoral vessels. C, Poupart's ligament. D, Pockets in pubic periosteum into which the grafts are fitted.

Note.—Since the above was written the man has been examined again and the bone transplants can be felt firmly in place. There is a good deal of bulging of both inguinal regions, but the femoral canal is quite secure.

Devonshire-place, W.

INTRAPHARYNGEAL ADMINISTRATION OF WARMED ETHER VAPOUR BY THE NASAL ROUTE.

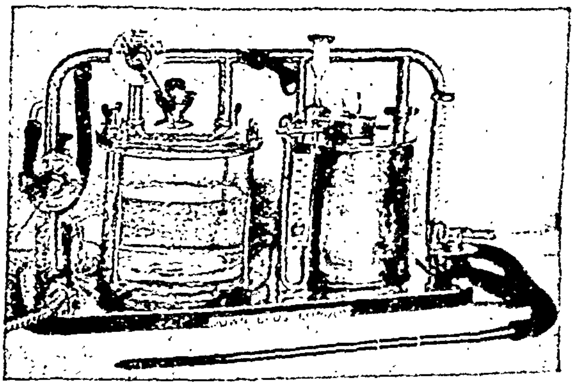
By H. M. PAGE, F.R.C.S. ENG.,

ANÆSTHETIST TO GUY'S AND THE WEST LONDON HOSPITALS.

AT the International Congress of Medicine, 1913, I read a report on Nasal Methods, in which I mentioned the experience of Souchon,[1] Thoms,[2] Pinneo,[3] and myself,[4] with ether by this route. Since then I have made further trial of the method with the help of an intratracheal apparatus. The advantages peculiar to intratracheal insufflation are the power of distending the lung and the prevention of blood and other matters from entering the trachea by means of the back flow of air. The other advantages incidental to the method are an even administration of a warmed ether vapour with the minimum of respiratory effort and the removal of the anæsthetist and his apparatus, with the exception of a tube, from the seat of operation. These incidental advantages can be obtained by intrapharyngeal insufflation.

For those possessing an intratracheal apparatus the method is perfectly simple and easy. A preliminary injection of morphia or omnopon and atropine, combined with scopolamine if desired, is of advantage in the case of adults, but is not necessary. Anæsthesia is first induced by one of the usual methods or drugs. If in a particular case a very light anæsthesia is indicated it is only necessary to produce a sufficient depth to enable the nasal tubes to be passed, but generally it is best to induce full surgical anæsthesia. Indiarubber catheters of suitable size are passed through the nares into the pharynx behind the tongue; they are coupled up with the delivery tube of the apparatus by means of a Y-piece, and the warmed ether vapour is delivered over the glottis. In some cases in children, for example harelip, I have found one tube to be sufficient.

The question of positive pressure used is, of course, quite unimportant as compared to the use of an intratracheal tube, but as I have found that the respiratory movements are less than normal with this method, though oxygenation is excellent, and as it must be possible to raise the intrathoracic pressure by closing the mouth if the nasal tubes fit closely, I have always set the safety valve of the apparatus to blow off at 15 mm. Hg. The pressure used as recorded by the manometer has been 3 to 10 mm. Hg. The mouth can be kept more or less closed according to the depth of anæsthesia required, but there must always be a way for expiration. As a matter of fact, in the majority of cases the mouth need not be interfered with at all. In some of my first cases, if resistant and "full" ether required, there was so much cooling of the ether that the dew was frozen on the outside of the reservoir with consequent loss of evaporation and weakening of the anæsthetic vapour, but the apparatus I now use is one of Kelly's latest pattern, to which Messrs. Down Bros. have added a simple water jacket to the ether reservoir as seen in the diagram, and this trouble is done away with.



To the left of the glass bowl forming the water jacket is seen the supply tube which is connected with an electric motor blower or foot bellows. The delivery tube is shown below.

The kind of cases in which I have successfully used the apparatus in this way are cleft palate, harelip, decompression, glands (neck), goitres, radical cure of hernia, cystoscopy, suprapubic cystotomy, and operations on the trunk and limbs and on bones. I have found it a particularly easy and good way of giving ether to children and I have had no trouble with adults. My youngest patient, aged 10 days, was a bad case of cleft palate with double harelip, another was aged 3 weeks, and there was a decompression in a patient aged 5. I have not yet tried this nasal plenum method in intraperitoneal operations, excepting hernias, but the authors mentioned above report favourably of its use in these cases. In the operations on the neck, such as glands and goitres, there was no trouble from interference with respiration. The absence of exaggerated breathing and the perfect oxygenation impress upon one the importance of the air way in anæsthesia, and point to the seat of obstruction or interference being above the glottis in the majority of cases. The nasal tubes take the place of an artificial air way passed through the mouth and act more efficiently.

I would particularly emphasise the possible advantages of this method in such cases as cleft palate, harelip, and cranial operations in children, in whom from their age and size it is difficult and perhaps inadvisable to pass a tube through the glottis or to use any appreciable increase of intrathoracic pressure, and in consequence chloroform is generally given. This method acts well in operations for goitre. In operations for exophthalmic goitre I consider it better than intratracheal insufflation, as in my opinion there is less chance of producing bronchitis, one of the special causes of death after these operations when done under general anæsthesia, and it obviates the necessity of inducing the deep anæsthesia which is a necessary preliminary to intubation. Full surgical anæsthesia is dangerous in well-marked cases of exophthalmic goitre, and is quite unnecessary in any case of goitre if morphia, &c., has been previously given and local infiltration with novocaine used as well. So far there has been no case of post-anæsthetic bronchitis or pneumonia, and no trouble from after-vomiting.

The important points in connexion with a plenum method by means of nasal tubes as here described are that there is an excellent air way, that the ether vapour is warmed, that the anæsthesia produced, though efficient, is light and even, and that ether can be given in certain cases where chloroform would otherwise be used.

Bibliography.—1. Medical News, Nov. 23rd, 1835. 2. Surgery, Gynæcology, and Obstetrics, December, 1911, p. 695; Yale Medical Journal, May, 1910. 3. Journal of the American Medical Association, June, 1912, vol. lix., p 1862. 4. Proceedings of Seventeenth International Congress of Medicine, 1913, Subsection VII. B, part ii., p. 100.

CASE OF PRIMARY CARCINOMA OF LIVER IN A CHILD 3 YEARS OLD.

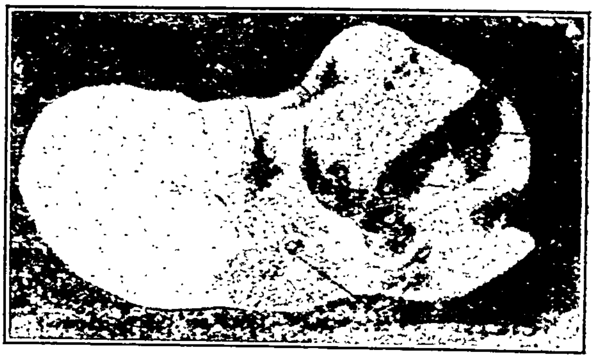
BY W. T. FREEMAN, M.D. DURH., F.R.C.S. ENG.,
PHYSICIAN, ROYAL BERKSHIRE HOSPITAL, READING.

THE patient, a male aged 3 years, was admitted into the Royal Berkshire Hospital under my care on Dec. 10th, 1913. There was a history of abdominal swelling extending over eight months, accompanied with dyspnœa, but with very little belly pain. Upon admission the urine was found to be normal, not containing albumin, sugar, or bile. The bowels were open. The heart was normal; the bases of both lungs yielded a few rhonchial and sibilant sounds. Abdominal examination showed that the belly was enormously distended. In the right hypochondrium for 2 inches below the costal margin a hard (very hard) and somewhat uneven ridge could be felt; this ridge extended across to just within the left hypochondrium. The main mass of the growth grew apparently from beneath this ridge and passed downwards into the right iliac fossa and pelvic region, and to the left an inch beyond the umbilicus and downwards well into the corresponding iliac fossa, but to a lesser extent than on the right side. The spleen was barely palpable and could be differentiated from the liver growth. No lymphatic glands and no other lumps could be felt.

The temperature was normal or subnormal until within four days of death (Feb. 17th, 1914). The abdominal measurements gradually increased from 21 inches on admission (level of umbilicus) to 25½ inches. There was gradually increasing cachexia, but the child took his feeds remarkably well; indeed, was ravenous until within a week of the end. Some vomiting occurred on Dec. 20th, and on Jan. 1st and 2nd, but upon no other occasions. Pain and tenderness during the child's residence in hospital were almost negligible symptoms.

In January the case was exhibited before the Reading Pathological Society, and the diagnosis was one of malignant growth of the liver with a possible alternative of Banti's disease. In this latter connexion the presence of a small amount of ascitic fluid was noticed. The blood examination report soon after admission by Dr. R. Donaldson was as follows: Red cells 4 × 10^6, hæmoglobin 55 per cent., colour index 0·6. White cells 15,000, polymorphonuclears 55 per cent., eosinophiles 4 per cent., small lymphocytes 33 per cent., mononuclears 6 per cent., and transitionals 2 per cent. The red cells showed ano- and polychromasia.

The accompanying figure (reproduced from a photograph) faithfully depicts a section through about the centre of the growth. The bile-stained (AA) and blood-stained (BB) portions were the only parts of the tumour showing some approach to normal liver tissue. A small amount of peritoneal fluid was found after death. No secondary growths were discovered anywhere. The mass weighed 51 oz.



The points of interest appear to me to be the primary malignant growth of a carcinomatous nature in a child of only three years of age, the absence of all secondary deposits, and until the end was quite near the comparative absence of pain, tenderness, or of decided dyspepsia or anorexia. Dr. Donaldson is publishing at a later date a detailed macroscopical and microscopical description.

Reading.

LITERARY INTELLIGENCE.—Mr. Henry Kimpton announces the following works for publication: "Gonorrhœa and its Complications in the Male and Female," by Dr. David Watson; "Practical Pediatrics: A Modern Clinical Guide in the Diseases of Infants and Children for the Family Physician," by Dr. James H. McKee and Dr. W. H. Wells; "The Diagnosis and Treatment of Digestive Diseases," by Dr. G. M. Niles; "Nutrition: A Guide to Food and Dieting," by Mr. C E. Sohn; "Surgery, its Principles and Practice, for Students and Practitioners," by Dr. A. P. C. Ashhurst; and also a second edition of "Practical Therapeutics," by Dr. D. M Hoyt.—It is intended that in the future the St. Bartholomew's Hospital Reports shall be published in three parts each year; the first two parts containing scientific and clinical papers, the remaining part the hospital statistics, &c. It is hoped that these parts will appear in July, December, and March of each year. The first part will appear at the end of the present month.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

CASE OF SEVERE INJURY TO AN EYE FROM THE CONTENTS OF A GOLF BALL.

BY WALTER H. H. JESSOP, M.B. CANTAB., F.R.C.S. ENG.,
SENIOR OPHTHALMIC SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

THE following case is interesting in demonstrating an unexpected accident. To most people a golf ball means a ball made solely of rubber. The eye of the patient whose case is here noted was very severely injured (and it is still doubtful how much his vision will be interfered with) in the course of discovering that some rubber golf balls contain other material than rubber.

The patient, a man aged 43, on June 9th was cutting away with a knife the substance of a zone zodiac golf ball to show its construction to a friend, when the core of the ball was pierced. This was followed suddenly by a discharge of a semi-fluid caustic substance with such force that it was deposited on the ceiling, about 10 feet high, and also thrown laterally. Unfortunately the patient's eyes were open, and the substance hit the right eye with great force, covering the cornea and conjunctiva with a greyish putty-like caustic substance. The eye was washed with boric lotion and this substance picked off in shreds. Mr. N. Rushworth found the external surface of the lids of the right eye very red and swollen; when I saw the case the same evening the ocular and palpebral conjunctivæ were much burnt and ecchymosed, and the cornea hazy. The treatment was olive oil and atropine. The next day the conjunctiva of the right eye was roughened, ashy-grey in colour, and ecchymosed; the cornea had considerable loss of surface, especially at the nasal side. With fluorescine the cornea stained green nearly all over its surface, and there was a marked crescentic deep ulcer at the nasal side.

June 23rd.—The patient has had great pain, especially at night, and there is marked photophobia. Right eye: conjunctiva very rough on the surface, and is in rags from ulceration in the nasal and inferior portion near the cornea; much vascular congestion, small ecchymoses, and chemosis; mucopurulent discharge. The cornea looks more opaque, and the ulcer at the nasal side is about the same; the staining by fluorescine is more marked. Vision: right eye barely counts fingers. Treatment: oil and atropine, fomentations, and the eye to be bandaged as much as possible.

June 26th.—The patient still in bed and in a darkened room. He cannot stand much pressure on the eye by bandage. Photophobia very marked and still much pain. The conjunctiva has still the ragged, rough appearance. The cornea is roughened all over the surface and is greyish in appearance; the ulcer is healing, but nearly the whole surface of the cornea stains with fluorescine.

July 3rd.—The eye looks much better, but there is still much photophobia. The conjunctiva, though congested, is smooth as to its surface. The cornea, hazy all over its surface, does not now stain with fluorescine.

July 6th.—Patient still has photophobia. The conjunctiva smooth, though still congested; cornea very hazy, but surface smooth; pupil well dilated under atropine. Vision, right eye 6/60.

Harley-street, W.

A NOTE ON THE EFFECT OF THE HYPODERMIC INJECTION OF ADRENALIN CHLORIDE SOLUTION.

BY W. MILLER, M.D. EDIN.

THIS note is based on the experience gained by treating during the past two and a half years 11 cases, 8 of spasmodic asthma and 3 of hay fever, with hypodermic injections of adrenalin chloride solution. Four of the patients were males and seven were females, and the ages ranged from 6 to 35 years. The injections were given once a week, and usually numbered eight or ten, but in one case 58 were given. The doses were small, varying from 10 minims of 1:15,000 to 10 minims of 1:5000 solution.

My general conclusions are as follows. About one minute after the injection the patient may complain of a feeling of oppression and sometimes of faintness; there is marked pallor, and the pulse as a rule increased to 110, being small and slightly irregular, and may attain to 130 per minute. These symptoms pass off gradually in from three to ten minutes, the patient grows comfortable, recovers colour and a pulse of good volume, which becomes slower by some ten beats per minute than before the injection, the slowness continuing markedly for some hours.

There are, however, considerable variations from this general story, not only in different individuals, but also on different occasions in the same patient. Thus:—

(*a*) Two patients showed no immediate effect.

(*b*) In a lady aged 25, after an injection of 10 minims of 1:5000 solution, the pulse remained small, rapid, and irregular for three hours, and there was no second stage of slowing and steadying. She felt and looked very ill, and it was some days before she recovered. There was no obvious heart lesion, but the pulse was normally small.

(*c*) A man, aged 34, was little affected by the first injection (10 minims of 1:5000), but after the second (10 minims of 1 : 5000) and third (10 minims of 1:10,000) the pulse, although increased only in rate about 15 beats per minute, became very irregular and remained so for quite 20 minutes. The drug was therefore stopped.

Intravenous injection produces startling results. It occurred accidentally on two occasions with the same patient, a lady aged 33, who was receiving weekly injections and responding in the usual way. On the first occasion the pulse before the injection was 85 per minute, regular, but soft. Ten minims of 1:5000 solution were injected under the skin of the forearm. No vein was noticeable at the site punctured, but on withdrawing the needle a drop of blood followed. Within a few seconds the face and lips became ashen and the patient leant back in her chair murmuring that she felt very ill. Respiration was quick and shallow, the pulse very small and so rapid as to be uncountable. She remained in this state for four or five minutes before improvement was noticeable. After about 15 minutes she was better, but felt rather shaken; the pulse was then 78 per minute, of fair volume and almost regular.

On a second occasion an attack of asthma was just commencing; the pulse was 100 per minute. Ten minims of 1 : 10,000 was given and a drop of blood followed the withdrawal of the needle. Again the same symptoms followed, but although the pulse was not countable, her condition was not so alarming, and after about three minutes began to improve. Within five or six minutes she was quite comfortable, the pulse 80 per minute, regular, and of good volume, while the respiration was normal.

I have never given a series of large doses (e.g., 10–20 minims of 1 : 1000 solution) for asthma, but I have given occasionally a single one for other conditions without noticing any initial lowering of the blood pressure. A colleague, however, who used the drug in a bad case of spasmodic asthma, accompanied by mitral disease, gave 10 minims of 1 : 1000 solution, which immediately relieved the breathing. He repeated this dose on two succeeding days, with the result that the patient's condition became extremely critical owing to delirium cordis. A week later, the heart having recovered and the asthma returning, he gave a single dose, but the heart symptoms followed at once.

The result in asthma is not cure, but temporary relief. That the injections may be utilised to enable other treatment to take effect was indicated by one of my 11 cases. A girl, aged 7, had suffered since the age of 2 from occasional attacks, which had gradually become more frequent and lengthy until they occupied three or four days of each week. There was enlargement of the bronchial glands. The usual remedies had no effect, so injections (10 minims of 1 : 10,000) were given once a week for 58 weeks, during which time general treatment was adopted for the glands. At the end of this time there had been no attack for three months, and since then (July, 1912) there has only been a return on a few occasions when the patient had colds. I do not attempt to generalise from so small a number of cases; I only indicate the points suggested: (1) the difference in the immediate effect of large and small doses is in accordance with physiological results; (2) individual variation in susceptibility may be great; (3) possibly a condition resembling anaphylaxis develops in some cases—for example, Case (*c*) and the case whose notes were sent me by a friend.

Rayleigh.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

Exhibition of Specimens.—Utero-rectal Adenomyoma.—Migratory Adenomyomata.

A MEETING of this section was held on July 2nd, Dr. W. S. A. GRIFFITH, the President, being in the chair.

Dr. H. R. ANDREWS showed a Uterus which he had removed after performing Cæsarean section. Labour was obstructed by a carcinomatous growth which had surrounded the external os, but had caused no symptoms. The patient, who was aged 39 years, was admitted to the London Hospital on March 1st, 1914, having been in labour about 24 hours. On admission the pains were strong and frequent. The cervix was rigid and only two-fifths dilated. More careful examination of the cervix found it to be extremely hard and firm feeling, as if a portion of a thick rubber ring pessary had been let into the tissues of the cervix on its anterior two-thirds; the posterior one-third was normal. There was no ulceration, but in front and to the left a raised everted edge could be made out. On examination with a speculum it was impossible to diagnose that it was carcinomatous by its appearance, but a sound sank into the tissue about half an inch with only gentle pressure. Cæsarean section was performed and the uterus then removed. The anterior wall of the cervix above the growth was so thin that it tore in separating it from the bladder. On examination after the operation a hard, white growth was found to occupy all the lower part of the cervix except a little more than an inch posteriorly. Sections showed squamous-celled carcinoma. It was very curious that in this case carcinoma which was sufficiently advanced to cause obstructed labour had produced no symptoms of its presence.—Remarks were made by Dr. HERBERT SPENCER and Dr. AMAND ROUTH.

Mr. JOHN D. MALCOLM showed a specimen of Fibromyoma complicating and masking carcinomatous disease of the cervix uteri. The patient was a healthy looking woman aged 53, who had for years suffered with a fibroma, but of late had very free red discharge and discomfort. On examination there was an obvious fibroid about four inches in diameter at the fundus, but there was also another growth in the region of the upper part of the cervix. There was no ulceration of the tissues, but a diagnosis was made that some active degeneration, either malignant or necrotic, was in progress. On opening the abdomen the fundus contained a large fibromyoma. Slight traction on this caused a laceration of the tissues of the cervix below the tumour, which was now found to be the seat of extensive cancerous disease. The removal of the malignant mass was found to be very difficult owing to its extensive connexions to the bladder and account of a curious mass in the recto-vaginal septum complicating the pregnancy. The pregnant uterus extended 9½ inches above the symphysis, and on its anterior surface was a flat sessile fibroid. There was some hydramnios. The mass in the recto-vaginal septum was ill-defined and soft and spongy in character, not bleeding on digital examination, but on exposing it with a Sims' speculum and touching it with dressing forceps free arterial hæmorrhage followed. The mucosa of the rectum was not invaded. A fragment of the growth was removed through the posterior fornix for examination. Abderhalden's test for pregnancy and carcinoma was faintly positive. The optical test was not done owing to insufficient material. During the following month the case was carefully watched, and it was found that the cervico-rectal growth had increased considerably, compressing the rectum and extending on the right side as far as the sacro-iliac synchondrosis. It was decided to try the effects of radium, and this was done, 100 mgm. of radium bromide being inserted into the middle of the growth, and two other tubes containing 37 mgm. of radium carbonate and 50 mgm. of radium bromide for 20 hours. In June the patient was in good health and the pregnancy apparently normal, with less hydramnios. Locally the cervico-rectal mass had diminished considerably. Nothing further was done, as it appeared that there was a good prospect of spontaneous delivery. Sections of the growth stained by Van Gieson's method showed large masses of typical decidual cells in a stroma of muscle and connective tissue. Within each mass was a cleft, lined by a thin lamina composed of flattened epithelial cells. In one part was a dilated gland tubule lined by low cubical epithelium and completely surrounded by large decidual cells. The histological characters of the growth seemed to be those of an adenomyoma, in which the stroma cells surrounding the gland tubes had undergone decidual reaction. The President thought that the decidual change supported the view that extra- as well as intra-uterine adenomyomata were of Müllerian origin.

Dr. ARCHIBALD LEITCH communicated a paper on Migratory Adenomyomata, with epidiascopic demonstration. He said that it was not uncommon to find endometrial tubules and stroma penetrating for some considerable distance into chinks in the musculature of the uterus where the organ was approximately normal, and in this way adenomyoma started. In the diffuse form of adenomyoma the connexion between the endometrium and the characteristic parts of the tumour was easy to establish; but sometimes the point of entry of the endometrium was restricted and the connexion was difficult to find. Further, in some intramural adenomyomata there was no association between the two, but their histological identity with the former group left little room for doubt that they had migrated from the endometrium. They might be found as subserous pedunculated tumours, or they might be extruded within the layers of the broad ligament. Finally, they might be quite separate from the uterus. A case was recounted of an adenomyoma in the base of the broad ligament still connected to the uterus by means of a very fine, long pedicle. The stage further would have been complete separation, and to explain the presence of a tumour containing glandular epithelium in such a situation the favourite theory was an origin from hypothetical Müllerian or Wolffian duct remains or a metaplasia of peritoneal inclusions. These hypotheses were rejected in favour of the migratory theory. He instanced two cases of adenomyoma of the recto-vaginal septum that had come under his notice. In one of these the gland tubules had actually penetrated the rectal wall as far as the submucosal layer. In both he could trace the tubules into the cervical portion of the uterus, and in both the cervical endometrium had penetrated far into the musculature, both approaching and, he thought, being continuous with each other. He reported in full a case in which a small discoid growth was found on the posterior wall of the uterus opposite to a tumour in the sigmoid loop of the pelvic colon. Both were typical adenomyomata, and the sections showed that the separation between the two was quite recent. He held that the original tumour had migrated through the uterine wall, had adhered to the dependent colon, and that the tubules had infiltrated the wall of the latter. Adenomyomata were infiltrating benign tumours of a migratory character, always arising from the endometrium, and in whatever locality they were finally found they had the markedly typical characters that separated them from all other conditions. He had two cases which had taken on malignant change.

Dr. CUTHBERT LOCKYER opened the discussion which followed on these two papers.—Dr. SPENCER said he did not think that the cases of retro-uterine and sigmoid adenomyositis shown by the President and Dr. Leitch were of endometrial or Müllerian origin; it was well known that the peritoneum formed decidua during pregnancy, and its presence in the case reported by the President was no proof of Müllerian origin. He looked forward to the future history of that interesting case. One of the most disastrous results of radium was the peri-rectal fibrosis it set up. Wolff had found X rays of little benefit in adenomyositis. Dr. Spencer had pointed out a year and a half ago, in discussing Dr. Lockyer's case of excision of the uterus and rectum for this condition, that the researches of R. Meyer, Amann, and Renisch showed that the growth arose in the peritoneal endothelium. The researches of Pick, Orloff, Ivanoff, Opitz, and others, and examination of the speaker's own three cases supported this view, which he was interested to see Dr. Lockyer now adopted. Migration of endometrium and the Müllerian and Wolffian theories did not explain some of the remote adenomyomata, which had been observed in the sigmoid, small intestine, stomach, pleura, pericardium, as well as in the pedicle of a ventro-fixed uterus. Dr. Spencer had in his last case performed hysterectomy and dissected the growth from the rectum with the galvano-cautery. The patient recovered, with normal defæcation. He agreed with Dr. Lockyer that adenomyositis was not a tumour except in the clinical sense. He thought also that the ordinary diffuse uterine "adenomyoma" was not a "tumour," but a hypertrophy and hyperplasia.—Dr. W. W. H. TATE and Dr. HERBERT WILLIAMSON also spoke.—The PRESIDENT and Dr. LEITCH replied.

Dr. GRIFFITH having delivered his Presidential Address, votes of thanks were given to the retiring officers of the section for 1913-14.

UNIVERSITY COLLEGE, LONDON.—In the Faculty of Medical Sciences at University College the following medals have been awarded: Senior anatomy class (silver), E. Sakoschansky; junior anatomy class (silver), G. V. Anderson; senior physiology class (silver), M. Schwartz; organic and applied chemistry (silver), J. de S. Wijeveratne; junior pharmacology class (gold), B. MacLean; hygiene medical course (silver), C. I. de Silva.

OXFORD OPHTHALMOLOGICAL CONGRESS.—The annual Ophthalmological Congress was held at Oxford on Thursday and Friday, July 9th and 10th, under the mastership of Mr. R. W. Doyne. It was attended by rather more than the usual number of members and proved to be one of the most successful yet held. The addresses given in the mornings were extremely interesting and led to some spirited discussions. On Thursday afternoon operations were described at the Eye Hospital by several surgeons, and some cases of interest were shown. On Friday afternoon a discussion was held on the Question of Compensation in Injuries to the Eye. It was opened by Dr. William Robinson, of Sunderland, Dr. Frank Shufflebotham, of Newcastle-under-Lyme, speaking next. Mr. Angus MacNab, Mr. J. Jameson Evans, Dr. J. Gray Clegg, Mr. G. H. Pooley, and Mr. R. J. Coulter also spoke. The annual dinner of the Congress was held in the hall of Keble College on Thursday night, Professor Arthur Thomson being in the chair. After the dinner a discussion on the future of the Congress was held, when it was decided, owing to the success of the meetings in the past, to continue to carry them on in the same way as before. This year the addresses, the scientific and commercial museums, were all held in the Department of Human Anatomy in the University Museum, kindly lent by Professor Arthur Thomson, the fact of them all being under one roof being a great improvement on the previous arrangement. Amongst the distinguished visitors to the Congress from abroad were Dr. Casey Wood, Dr. Wendell Reber, Dr. Brown, and Dr. Gifford from the United States, and Dr. Darier from Paris. The meeting, which terminated on Friday night with the usual smoking concert, reflects great credit on the master and the energetic secretary, Mr. Sydney Stephenson.

Reviews and Notices of Books.

Handbuch der Deutschen Schulhygiene.

Herausgegeben von Professor Dr. Med. HUGO SELTER. Dresden und Leipzig: Theodor Steinkopff. 1914. Pp. 760. Price 28 marks.

THE many pens that have gone to the production of this book have unfortunately not been in collaboration; the same subject is treated twice and even thrice over, nor does the repetition bring out as a rule anything new. Herr Graupner, a schoolmaster, discusses the defects of speech, of the eyes, and of hearing in pages 200 to 216. Professor Drigalski goes over the same ground in more detail on pages 440 to 468, whilst Professor Leubuscher returns to the examination of the special senses on pages 538 to 602. Despite this repetition important matter is omitted; there is no mention of myope schools, which have proved a great success since their introduction in 1908 in London.

Of strabismus Drigalski says that its only interest for the school doctor is the question at what age the child should be operated upon. There is no mention of orthoptic treatment or of treatment by glasses and atropine; both methods have been successfully carried on in young children at school. He recommends a 1 per cent. solution of homatropine for the estimation of difficult cases of hypermetropia. This solution is too weak, and it has been shown that without a mydriatic the results are almost valueless in estimating the refraction of children under 14.

Drigalski regards stammering as a neurosis which can be cured by appropriate physical exercises. He seems to think the failures are due to the exercises not being kept up at home (p. 480). Dr. Flachs more wisely remarks that stammering has many causes and depends upon a neurotic disposition. For successful treatment the whole condition of the child must be taken into account. Graupner has obviously more first-hand knowledge of the defect; he recognises that whilst improvement is *frequent so long as* the stammerer is under the specialist's treatment, the defect practically always returns when the patient leaves the specialist. He therefore regards all the breathing exercises and such like by specialists as treatment by suggestion, and on the whole recommends psychotherapeutic measures. Stammerers ought to be taken in hand as soon as the defect appears; in early years they can be permanently cured without exercises or operations. The paralysing influence this defect has upon the whole character of the sufferer can be realised only

with hygiene of the school building there is no mention of heating by gas, although many advantages have been claimed for this method, based upon the experience of German schools. In ventilation too much importance is still ascribed to Pettenkofer's formulas and too little to the circulation of air, its temperature, and moisture. The section on school lighting omits Engelbracht's (1905) formula: $f = \frac{F}{5} \times \frac{x2}{36}$ —the basis of recent work in school illumination. There is no mention of Harman's photometer, which is in every way superior to Wingen's and much cheaper. The authors, indeed, seem curiously unfamiliar with the school hygiene movement outside Germany. Burgenstein's book contained 27 references to London in the index; this work has but two, one of them is wrongly paged and the other is quite out of date.

School clinics are discussed in a few lines with a reference to The Hague and Lucerne, and Strasburg. We do not recognise Kowentree, who is the authority (without further reference) for the statement that out of four school children only two are willing to have free dental treatment. The clinics at Cambridge, Bradford, and Deptford in this country tell a very different tale. The authors, Drigalski, Flachs, and Leubuscher, who deal independently with the subject, seem to think that the last word in prophylaxis is Jessen's School Clinic. In England we have gone beyond that; the teaching of Sim Wallace and other dentists is bearing fruit in our public health. The work done by Dr. J. Wheatley on the prevention of caries in Shropshire has no right to be passed over in a book on school hygiene. Had modern English teaching on this subject been known the out-of-date and really dangerous diets recommended for children on pages 335 and 336 would not have been published.

It is true that inspection and treatment become an obsession in England; all that seems required by the authorities from the unhappy school doctor is that he should be looking at the mouths of unhappy school children, weighing them, and measuring them at a given rate per hour. The hygiene of education remains almost at a standstill, and here something may be learned from Selter's text-book. Sex instruction is dealt with by Flachs and Drigalski; we cannot, however, agree with either of those doctors that it should be the regular business of the teacher to give children this instruction. Such definite omission of home instruction is a mistake, a remark which, of course, does not apply to college students or to training colleges for teachers.

The Principles of Pathologic Histology.

By FRANK B. MALLORY, M.D., Associate Professor of Pathology, Harvard Medical School; Pathologist to the Boston City Hospital. With 497 figures containing 683 illustrations, 124 in colours. London and Philadelphia: W. B. Saunders Company. 1914. Pp. 677. Price 24*s.* net.

THIS book treats of pathology from the morphological and biological point of view, the author's aim being to portray as far as possible the cellular elements out of which the various lesions are built up, and then to trace the development of the lesions from the simplest to the most complex. In the author's opinion the morphologic side of pathology for many students is a dead subject. The book itself is based, so far as possible, on the study of lesions from the earliest to the most developed—not on what someone has written about them, the pathologic material having been collected during the past 16 years in the Boston City Hospital. As the author modestly states, the book is incomplete, but it affords a framework on which to build in the future.

It is divided into two parts. Part I. (pp. 17–410) deals with general pathologic histology under the following heads: inflammations; retrograde processes and the substances associated with them; special injurious agents and the lesions they produce; and tumors. Part II. is concerned with special pathologic histology (pp. 411–622), including the organs of circulation, respiration, digestion, the urinary and male and female genital organs, the blood-making organs, the organs of the central nervous system and locomotion and other organs—i.e., the adrenal and thyroid glands.

First and foremost what strikes one is the superb quality, artistic representation, and clear definition of the illustrations. Unfortunately, neither the magnification, the method of fixing, nor the methods of staining are indicated. Practically all the illustrations are histological, and only a few represent the naked-eye appearance in disease—e.g., gouty deposits in the ear, hands, and foot, typhoid ulcers, and keloid. Red blood corpuscles are described as "bell- or cup-shaped masses of protoplasm containing no nucleus." This is not the usual acceptation of their shape. Fibrin is described as "a pathologic product out of the serum which has exuded." Is serum the correct word? Under the head of special injurious agents and the lesions produced by them micro-organisms are dealt with. A succinct, well-illustrated account of the various pathogenic bacteria occupies over 100 pages, while a few pages are given to some animal parasites such as entamœba and dysentery, balantidium and trichinella spiralis. The remainder of the first part, pp. 251–410, is devoted to tumours. Their most striking characteristic is their autonomy or independence of growth. In the human body there are some 15 different distinct varieties of cells giving rise to tumours which may be denominated type cells. There are some type cells which do not seem to give rise to tumours (erythroblasts, megakaryocytes). The illustrations are here an outstanding feature.

About 50 pages are given to the pathologic histology of the organs of circulation, but there are no illustrations of the gross visible lesions of the organs concerned. In regard to the pathology of the lungs—unlike what occurs with the heart—toxic lesions play no important part. A little over 20 pages suffice for this subject. Beginning with the œsophagus, the digestive tract is dealt with in about 50 pages. Toxic lesions probably play a more important part in pathology of the liver than in any other organ. The histology of the pancreas is rather fully dealt with, and reference to recent experimental work on this organ is introduced. The chapter on the urinary organs is admirable, the toxic and infectious lesions being the most important. Having regard to the importance of the nervous system, 15 pages seem rather too short for the purpose.

The author has produced a noteworthy book on somewhat original lines—admirably and profusely illustrated—to set forth what he calls the principles of pathologic histology. That being so the reader must not look for a compendium of heterogeneous facts. A solid basis has been laid, and we sincerely hope that the opportunities offered by the Boston City Hospital on the one hand and an early call for a second and enlarged edition on the other will enable him to build largely on the secure foundation.

Diseases of Children.

Edited by Dr. M. PFAUNDLER and Dr. A. SCHLOSSMANN. English Translation edited by HENRY L. K. SHAW, M.D., and LINNAEUS LA FÉTRA, M.D. With an introduction by L. EMMETT HOLT, M.D. Vol. VI.: *Diseases of the Ear: A Work for the Practical Physician.* By ARTHUR J. BEDELL, M.D., Clinical Professor of Ophthalmology, Albany Medical College, Albany. With 130 illustrations. London and Philadelphia: J. B. Lippincott Company. 1914. Pp. 430. Price 21*s.* net.

WE gather from the introduction to this volume that it is an addition to the original treatise on diseases of children, published in Germany, and it is obvious that the attempt to write a book of the size of the one under consideration, of some 400 pages, on diseases of the ear in infancy and childhood, must of necessity be a very difficult task. Indeed, we think it open to question whether such a work is really as imperatively demanded as Dr. Bedell seems to think.

Practically the first hundred pages are occupied by a description of the anatomy and physiology of the ear, and testing of the hearing and ears, which includes the examination of the labyrinth according to the latest methods. The book that Dr. Bedell has given us would more easily, we think, be read as a general treatise on otology than as one dealing especially with children, for he describes sabre cuts as a cause of extradural abscess, although he certainly says they are rare in childhood, a statement with which we are thoroughly in accord. But he is certainly not very clear in describing the connexions which may occur between catarrhal and otosclerotic changes, nor about their differential diagnosis. This subject is a particularly difficult one, and it is a mistake in such cases to be too dogmatic. It is very interesting to notice that in the preface Dr. Bedell suggests that otosclerosis may be present in utero.

We congratulate Dr. Bedell on the excellence of the majority of the illustrations. These are practically all original and very clear and well executed. The book is admirably got up, though, like many American books, it is rather weighty. The best portions of the book are those dealing with the affections of the ear in general diseases, to be found in the final chapters. We cannot help feeling that, although one would be justified in praising this work on diseases of the ear in children as a desirable acquisition, in future editions it is capable of being transformed into a work on general otology which would be very useful to practitioners of general medicine.

A Manual of Bacteriology, Clinical and Applied.

By R. TANNER HEWLETT, M.D. Lond., F.R.C.P. Lond., D.P.H., Professor of Bacteriology in the University of London; Lecturer on Bacteriology, London School of Tropical Medicine, &c. Fifth edition. London: J. and A. Churchill. 1914. Pp. 658. Price 10s. 6d. net.

IT is needless to review in detail or to describe the character and arrangement of this well-known and popular text-book of bacteriology, which has now reached its fifth edition. Suffice it to say that the reader who approaches bacteriology from the standpoint of the medical student, the practitioner, or the medical officer of health will find all that he requires in this work. This edition has been very thoroughly revised, and the alterations and additions, though small, are very numerous, and suffice to bring the information up to date. Fortunately, also, the effect has been to reduce the book slightly in size, though this is in part due to alterations in type.

In the general portion of the book there are some changes, such as the introduction of Dobell's classification and his views on the nucleus, while in connexion with anaphylaxis Dale's striking experiments are given. In the chapters dealing with specific organisms the principal changes are found in those concerned with the streptococci, B. anthracis, B. tuberculosis, B. lepræ, B. typhosus, and Sp. choleræ. Organisms resembling the anthrax bacilli are described, and some of the later work on disinfection in connexion with this disease is given. Spengler's views on the existence of two types of human tubercle bacilli are introduced, with their possible bearing on the interpretation of cases of human tubercle caused by the bovine type of bacillus—cases which the author seems to regard as of relatively slight importance. Henderson Smith's classification of the non-lactose-fermenting bacilli has replaced Löffler's grouping of the typhoid-colon bacilli, while there is an increase in the number of types of dysentery bacilli which are recognised. Further work on the hæmolytic properties of the cholera spirillum is introduced. In the previous edition the increasing importance of the protozoa was recognised, so that the changes in this portion are such only as are required by recent additions to our knowledge. The classification of the yeasts has been altered, and sporotrichosis and thrush are now grouped with the hyphomycetes.

The book, as were the previous editions, is well produced.

Practical Prescribing, with Clinical Notes.

By ARTHUR H. PRICHARD, M.R.C.S. Eng., L.R.C.P. Lond. London: Henry Frowde. 1913. Pp. 397. Price 6s.

Mr. Prichard has adopted the plan of epitomising a number of cases to illustrate the effects of various drugs. These are shown side by side with the prescription sheet and clinical notes. This is a good practical plan and should prove interesting and instructive to students. For example, the course of a case of acute gout is described day by day, together with the treatment adopted and the prescriptions which were given, the reasons for using the various therapeutical measures being fully discussed. An attack of influenza is similarly considered. The various systems of the body are then taken in order, the remarks being based on illustrative cases. The therapeutic methods are on the whole sound and practical. A typical case of mitral regurgitation with failing compensation is described, and stress is rightly laid on the value of rest in such circumstances, and the administration of digitalis is explained at length. The treatment of diseases of the stomach is well given, an interesting case of cyclic vomiting and one of "habit vomiting" in a child being discussed.

We think this work will be found useful in general practice and to students when doing their ward work, and more especially to those who wish to obtain practical knowledge in prescribing.

The Treatment of Neurasthenia.

By Dr. PAUL HARTENBERG. Translated by D. ERNEST PLAYFAIR, M.B., M.R.C.P. Edinburgh, Glasgow, and London: Henry Frowde and Hodder and Stoughton. 1914. Pp. 284. Price 6s. net.

THE very number of books on the psychoneuroses may bewilder the practitioner from the multitude of counsels therein contained. Their variety is sure proof of the absence of any specific for the treatment of neurasthenia and allied conditions. Each successful physician advocates his own methods, for in his hands they lead to the maximum of results. Whether they will do so when applied by others is another matter; the physician does not allude, as a rule, to the personal factor when summarising his own achievements in therapeutics. Dr. Hartenberg's book, however, will meet with the approval of the average practitioner of medicine. It is wise without being pedantic, and practical without being too comprehensive. Some believe in the blunderbuss method of treatment, and load their weapons with every variety of shot in the trust that one or other will hit the mark. There is reason in the methods advocated by Dr. Hartenberg, however, and the reader will readily gather that he writes only of what he has practised and proved. His short, synthetic Chapter XIV., on the course to be followed in the treatment of a neurasthenic, could not, we think, be improved on: it contains the key to success. Another valuable chapter is on the manner in which every neurasthenic should be studied and examined.

Some successful physicians and practitioners of psychotherapy are unable to communicate the secret of their results to others, though with the best will in the world; possibly they themselves are not precisely acquainted with the elemental factors underlying their attainment of results. Dr. Hartenberg is able to indicate the signposts along the *via regia* of successful treatment of neurasthenia, and we heartily commend his book to the attention of the medical profession. The translation reads well, and we can testify to its accuracy in thought and language.

Text-book of Local Anæsthesia for Students and Practitioners.

By Professor Dr. GEORG HIRSCHEL, Heidelberg. With introductory preface by Professor Dr. WILMS. Translated by R. E. S. KROHN, M.D. Lond. With 103 illustrations in the text. London: John Bale, Sons, and Danielsson. 1914. Pp. 181. Price 8s. 6d. net.

THE chief merits of this book lie in the illustrations, which are numerous, well executed, and full of detailed information. The book, indeed, may well be regarded as arranged round these graphic representations of the various local procedures described and the sites over which they are carried out. There is but little general description of the principles involved in local anæsthetisation or even of the general technique and management of cases, but as a pictorial guide this work would be invaluable to anyone gaining his experience in local methods of anæsthesia. And the pictures are, of course, enhanced in value by the descriptive text. The book begins with a historical survey of local anæsthesia, and a short section is devoted to indications and contraindications for the method. The use of morphia in conjunction with local anæsthetics is strongly recommended. Novocaine in 1 or 2 per cent. solutions, to which suprarenin is added, is the generally recommended anæsthetic.

It is evident that local anæsthetics are far more widely used at Heidelberg, and probably in Germany generally, than is the case in this country. One reason for this, no doubt, is that less attention is paid there to the practice of general anæsthesia, and no body of men is to be found comparable to the specialists attached to the large hospitals in Great Britain who make the administration and teaching of anæsthetics their sole work. Dr. Krohn has done his work as translator well.

Surgery of the Vascular System.

By BERTRAM M. BERNHEIM, A.B., M.D., Instructor in Surgery, the Johns Hopkins University, Baltimore. With 53 illustrations in the text. Philadelphia and London: J. B. Lippincott Company. Pp. 104. Price 12*s.* 6*d.* net.

THE surgery of the blood-vessels will become of greater importance, but already we see that, though it is but at the beginning of its growth, it is of considerable value. There is, however, a danger that its progress may receive a check from its indiscriminate and unskilled practice by those who have not appreciated the niceties requisite to attain success. This little book contains full and careful accounts of the technique which has been found necessary for blood-vessel surgery. Chapters deal with the suture of vessels, transfusion, transplantation, the surgery of aneurysm, and the surgery of the heart.

The book is eminently practical; it gives the surgeon who is new to this branch of surgery just the information that he needs, and we consider that it forms a trustworthy guide to the surgery of the vascular system, but the surgeon must not overlook the fact that considerable practice is essential before reasonable certainty of success can be attained. The illustrations are very good.

LIBRARY TABLE.

The Progress of Eugenics. By C. W. SALEEBY, M.D., Ch.B., F.Z.S., F.R.S.E. London: Cassell and Co. 1914. Pp. 259. Price 5s. net.—This book is primarily a propagandist essay rather than a contribution to science. The author's aim is to exhibit the eugenic ideal in its pure form, disembarrassed of all those extraneous and even conflicting objects which tend to create prejudice against it and to hinder its progress. Thus he complains that its advocacy has been made a pretext for the inculcation of class prejudice, has been used as an argument against love, as a reason for unjustifiable operations, for the neglect of infancy, and "for wild talk about lethal chambers and stud farms." Dr. Saleeby insists that none of these things belong to the true conception of eugenics; they are, on the contrary, he asserts, the outcome of a false and shallow materialism with which its aims have nothing in common. It is, he points out, an abuse of Galton's distinction between "nature" and "nurture" to exalt one set of conditions at the expense of the other, the amelioration of both being equally indispensable to that of the race. Hence there is no real conflict between the aims of the eugenist and the social reformer, which are on the contrary complementary and interdependent. The whole of nurture is in fact admitted by the second clause of Galton's definition of eugenics as "the science which deals with all influences that improve the inborn qualities of a race; also with those that develop them to the utmost advantage." The first main division of the book deals with principles, the second with the search for knowledge, and the third with the progress of primary eugenics, positive, negative and preventive. One of the most interesting parts of the last-named section is that dealing with the problem of "the impure dominant"—individuals personally normal, half of whose germ cells carry a defect. The book bears on every page evidence of wide knowledge and enthusiasm. It is, however, marred by a complacency, strangely alien to the spirit of that great man, the founder of eugenics, for whom the author expresses so much admiration.

A Complete Handbook of Midwifery for Midwives and Nurses. By J. K. WATSON, M.D. Edin. Third edition, thoroughly revised. With over 150 illustrations. London: The Scientific Press. 1914. Pp. 360. Price 6s. net.—The author thinks that in a text-book of this kind some of the subjects treated should be those which a midwife would not have anything to do with in the practice of her art. He has therefore endeavoured to give such knowledge as can be assimilated by one who has not had the advantage of the scientific training of the medical student. He thinks that the midwife who has taken pains to become conversant with the theory of the subject will be more ready to appreciate her own dependence on medical assistance in times of difficulty. His aim, therefore, has been "too much" rather than "too little." This third edition has been thoroughly revised and some new illustrations added. The book is a good one of its kind, and although all will not agree with the views of the author as to its scope, as it concerns nurses and midwives only, yet they must admit that he has performed his task well.

The Royal Dental Hospital of London Annual Reports for 1913. London: John Bale, Sons, and Danielsson. Pp. 128. Price 5s.—The original communications in this volume reach a high standard of excellence. Mr. J. G. Turner, in an able paper on dental caries from a clinical standpoint, discusses the incidence of caries in the lower animals, the relation of the disease in man to food, and the mode of attack and progress in the individual. The paper is a very thoughtful and careful piece of work. Dr. Dudley Buxton contributes a paper on the nitrous oxide gas, and Mr. G. H. Berwick, in a thoroughly practical communication, deals with the treatment of difficult artificial dentures. Mr. J. F. Colyer writes on the subject of periodontal disease, and insists on the important relationship between mouth-breathing and the disease. He shows also that in some patients there are considerable toxic effects where the marginal gingivitis is marked and there is but little bone destruction. Dr. H. W. C. Austen records two extremely interesting cases of round-celled sarcoma of the mandible. The reports clearly show that dental surgery has taken its proper place in scientific medicine.

MISCELLANEOUS VOLUMES.

A BATCH of books lies before us having reference to various aspects of the sex problem, which seems to press so insistently on the present age.

With regard to the teaching of sexual physiology and hygiene, an admirable little book that aims to express in simple terms, understandable by pupils of elementary schools, the principal facts of growth and development, first in plant and then in animal life, and gradually to educe the relation of these facts and principles to human life, is *Plant and Animal Children: How they Grow* (London: D. C. Heath and Co., and George G. Harrap and Co. Pp. 230. Price 2*s.* 6*d.* net), by ELLEN TORELLE, M.A. The plan is excellent and will undoubtedly fulfil its express aim of making clear the ideas of evolution, heredity, variation, the effect of environment, and the evolution of sex without ever mentioning the names. These will be self-explanatory when they are encountered later by persons already well grounded in the ideas they represent. By the scheme of instruction adopted in this book the child will gradually and naturally be led up without any shock to the understanding of its own sexual nature.——*The Biology of Sex for Parents and Teachers* (same publishers. 1913. Pp. 105. Price 2*s.* net), by Professor T. W. GALLOWAY, Ph.D., is a more advanced and detailed account of sex facts intended to aid teachers in giving sex instruction. The author points out that, while the common objection is true that mere knowledge does not insure right conduct in any department of life, of those individuals who know the facts in a given situation a larger percentage make right choices than in the case of a mixture of informed and ignorant persons taken at random. We can approve the principles of sex instruction laid down in this book—that such instruction must be properly graded; that it must be different for boys and girls (who should be taught separately, at any rate after the broad impersonal studies of the preliminary classes in physiology); that it should follow on curiosity, but should precede the actual need of instruction, and should be incidental to other teaching; and that mere biology is not enough, all possible help from psychology, sociology, ethics, and religion being accepted.——*Hygiene for Girls: Individual and Community* (same publishers. Pp. 257. Price 2*s.* 6*d.* net), by FLORENCE HARVEY RICHARDS, M.D., is, on the whole, a commendable book. In view of the general teaching of elementary physiology, attention is mainly directed to its applied form—viz., hygiene. The book is in two parts, individual hygiene and communal hygiene. Both are good, but in the second part, while especially commending the sane restraint of the chapter on alcohol, we must take exception to the routine circulation of certain common statements in regard to tobacco, which are unsupported by fact—at least, in this country. The bald statement "Cigarettes are much more injurious than pipes or cigars because the smoke is inhaled" would be more correct if stated "when the smoke is inhaled." Thousands of habitual cigarette smokers never inhale; in fact, we should say that in this country inhaling is the exception. Further, we must altogether demur to the assertion, so often made in the United States, that "opium is common in cigarettes." Many examinations of cigarettes have been, and are being made from

physician or spiritual guide—as he puts it elsewhere, "Some individual teacher may be capable of giving the desired information privately to some individual scholar, with tact and in a few words"—there should follow a policy of reticence. The cultivation of purity must be based on character building and will power, and "how this will power can be cultivated without religious motive and without religious influence is incomprehensible." He quotes the witty saying, "It is now *sex* o'clock in literature and art."——The awakening towards the evils of the venereal diseases is the subject of M. A. CORBETT-SMITH'S *Problem of the Nations* (London: John Bale, Sons, and Danielsson, Limited. 1914. Pp. 107. Price 1*s.* 9*d.* post free). The author, who is not a medical man but a barrister, describes his book as a plain straightforward account of the greatest curse known to civilisation. As lecturer in public health law to the Royal Institute of Public Health he has found the doors of official statistical bureaux and Ministries of Health all over the world unlocked to him, and the names of the several eminent authorities, British and foreign, for whose "courteous and willing assistance" he returns thanks in his preface, lead us at the outset to expect a carefully reasoned statement of the human and sociologic aspects of these diseases. The broad facts are dogmatically summed up in his letter to his godson, which closes the book, while full details and figures on which that summary is constructed are given in the body of the book. As the author says, he has "deliberately set to work, in the guise of a journalist, to pick the brains of the specialists, to put this and that fact together and to build a composite whole"; and regarded from that point of view he has accomplished his aim creditably.

JOURNALS AND MAGAZINES.

The Psychoanalytic Review. A Journal Devoted to an Understanding of Human Conduct. Edited and published by WILLIAM A. WHITE, M.D., and SMITH ELY JELLIFFE, M.D. Issued quarterly. $5 per volume. The Journal of Nervous and Mental Disease Publishing Company, New York. No 1, November, 1913.—Dr. C. G. Jung, of Zürich, contributes an article on the theory of psycho-analysis. It consists of his lectures on the subject delivered in America in September, 1912, and is continued in the next number of the *Review*. Here the reader will find clearly stated Dr. Jung's position in regard to Freudism. He explains how he has moved away somewhat from his original conception of sexual libido, allowing that many important functions have no longer a sexual character, although originally derived from the instinct of propagation. The whole process of development consists in a desexualisation of the libido, which is conceived of rather as energy manifesting itself by vital processes.—Dr. L. E. Emerson contributes a short report of a case of self-mutilation in a young woman of 24. In this case the facts were well known to the patient, and no special psycho-analytic technique was necessary to elicit them; only when they are unknown to both patient and examiner is a special method desirable.—A case of hysterical amaurosis, in which the cause of the blindness was shown to be the patient's desire never to see his wife again, is reported by Dr. Thaddeus H. Ames.—Dr. Smith Ely Jelliffe are abstracted in the *Review*. It will be seen that the scope of the *Review* is wide and ambitious. It deals with much more than the strictly medical aspect of psycho-analysis, and appeals to the student of all phases of psychology.

Parasitology. Edited by G. H. F. NUTTALL, F.R.S., and A. E. SHIPLEY, F.R.S., assisted by EDWARD HINDLE, Ph.D. Vol. VII., No. 2. June, 1914. Cambridge University Press. Price 10*s.* net. Yearly subscription 30*s.*—The Trematode Parasites of North Queensland. II. Parasites of Birds, by William Nicoll, is a further account of the trematodes obtained by the author during the examination of numerous species of Australian birds. In the present paper no less than 11 new species are described belonging to the genera Opisthorchis, Orchipedum, Echinostomum, Echinochasmus, Clinostomum, Hæmatotrephus, and Platynotrema, the latter being a new genus, founded for the reception of two species occurring respectively in the gall-bladder and liver of a stone-curlew.—An Epidemiological Study of Filariasis in Ceylon, by P. H. Bahr, contains useful information regarding this disease, together with a map showing its distribution in Ceylon. Only Filaria bancrofti was found, and here it is definitely nocturnal in its habits. In the endemic areas its distribution is apparently of a most capricious character, for in some of the villages at least 26 per cent. of the adults are infected, whilst in neighbouring villages the inhabitants are quite free from the parasite and its associated diseases.—Studies on Malaria in Ceylon, with Special Reference to its Prevention in Agricultural Districts, by P. H. Bahr, is mainly concerned with malaria in Kurunegala. In this town malaria is mostly of the quartan type, and at least six well-known malaria-conveying anophelines were found. The paddy fields are the main and most extensive breeding areas of these mosquitoes, and therefore the author advises that wet cultivation within town limits should be forbidden, as being the only means calculated to abolish endemic malaria. This measure presents no insuperable difficulties, as may be seen from the perusal of Appendix V. of the paper, where it is definitely stated that the substitution of cocoanut for paddy cultivation is perfectly feasible, and is indeed commercially a profitable venture. This interesting paper is illustrated by maps and numerous plates, which give one a very good idea of the conditions affecting the transmission of malaria in Ceylon.—Observations on the Larvæ of Fleas, by A. W. Bacot and W. G. Ridewood, contain detailed descriptions of the external features, and also notes on the habits, of the larvæ of six species of fleas—viz., Pulex irritans, Xenopsylla cheopis, Ctenocephalus canis, Ceratophyllus fasciatus, Ceratophyllus gallinæ, and Heptopsylla musculi. Figures are given illustrating the various larvæ and also tables in which are summarised the differences in the characters of the larvæ of the six species investigated. This paper will prove very valuable to plague investigators who may be concerned with the rearing or identification of fleas.—The Posterior Stigmata of Dipterous Larvæ as a Diagnostic Character, with Especial Reference to the Larvæ Incriminated in Cases of Myiasis, by Malcolm Evan Macgregor, is a most useful attempt to classify dipterous larvæ according to the characters of their posterior stigmata. Both physicians and entomologists have long felt the want of some method of determining the immature stages of flies, for in cases of myiasis it is rarely possible to rear the larvæ to the adult stage. The author recognises two types of stigmata named respectively the schizotreme and ptychotreme types. Examples are then described of the stigmata of various common diptera, the differences between them being well shown in the excellent photomicrographs accompanying the article.—The Occurrence of Oxyuris Vermicularis in the Human Vermiform Appendix, by J. Alexander Innes and A. Elmslie Campbell, contains the results of a study in Aberdeen of 100 unselected cases of appendicitis, in which the appendices operated on were examined for the presence of intestinal parasites. 17 per cent. of the appendices were found to be infected with Oxyuris vermicularis, but no other parasites were found. Normal appendices showed a much lower percentage of infection, but the proportion is probably higher in children than in adults. The recurrent type of appendicitis was found to be most frequently associated with oxyuris infection, and the authors are of the opinion that there is probably a clinical type of oxyuris appendicitis. The suppurative type of appendicitis has practically no relationship to infection with this parasite. Trichocephalus trichiurus is not often found in the appendix in Aberdeen district, the authors not finding a single example during the examination of over 100 appendices.

British Dental Journal.—The issue of this journal for July 1st contains an abstract of Mr. J. Howard Mummery's paper before the Royal Society on the Process of Calcification in Enamel and Dentine. The author shows that the process is in great part a physical phenomenon, and that the actual deposit occurs in the form of calcospherites. In the formed tissues the shape of the calcospherites is not retained, and it is suggested that as phosphates are added from the blood the calcospherites break down and the disintegrated particles form the finally consolidated enamel. Dr. H. Vallow contributes an article on Tuberculosis in Relation to Dental Disease, and considers that every tuberculous patient should have the teeth efficiently attended to and that the money thus spent would be economically used.

CONFERENCE OF THE NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION.

THE Sixth Annual Conference of the National Association for the Prevention of Consumption and other Forms of Tuberculosis was held at Leeds on July 7th and 8th. The Lord Mayor of Leeds, Mr. E. A. BROTHERTON, presided over a well-attended assembly. After the Lord Mayor had welcomed the delegates, Dr. M. E. SADLER, Vice-Chancellor of the University, said that one of the highest duties and most hopeful tasks of a university was to share in the campaign for social welfare. He hoped the University of Leeds would be given means to develop in conjunction with the Leeds Infirmary its medical and pathological researches. He suggested that the economists present by the influence of their teaching might help the country to realise that there were changes which, by liberating the human soul and giving it a sense of greater power and opportunity, might richly repay by their results the initial cost of introduction. The University might also send out yearly a body of young people illuminated by knowledge and possessed of a sense of the duty of public service.

Housing and Tuberculosis.

Sir WILLIAM YOUNGER, in a paper on the House in Relation to Tuberculosis, said that so far as the evidence went the house was clearly a dominant factor in tuberculosis. He referred to his recent observations as a member of the Royal Commission on Housing in Scotland, and said it seemed heart-rending to send persons to sanatoriums if in a few months they had to return to surroundings largely responsible for the original breakdown. He cited the experience of Edinburgh and Glasgow to demonstrate the relation between congestion and insanitary housing and the tuberculosis rate. And the same story could be told for the country. He referred to the great increase in tuberculosis in the islands of the west coast of Scotland since the beginning of the nineteenth century, which was ascribed to the importation of the bacillus by servants returning home, the development of which was favoured, in spite of the open-air life, by the insanitary conditions of the housing there. Edinburgh and Liverpool, he said, showed what could be done by rehousing schemes in reducing the tuberculosis rate.

The Marquis of SALISBURY said that the most important point in building cottages was to build enough of them to avoid overcrowding with its injury to health and morals. He gave some practical hints on cottage building, and said that the garden city limit of ten houses to the acre had had excellent results on the children's health.

Sir ROBERT W. PHILIP said that the hope for the tuberculosis problem lay in projecting a searchlight into the home along scientific and humane lines, not by the inquisitorial visit of a lay officer, no matter what powers he might be endowed with. The future mothers and fathers of the race must be educated by skilled, sympathetic teachers. Men and women were wofully ignorant of the larger measures of healthy living and self protection. The object lesson of the sanatorium must be enforced in the home.

Mr. W. CARBY HALL, chairman of the development committee of the Leeds corporation, described some typical cottage designs which could be built in Leeds at the present price of building materials and labour for about £160.

Dr. J. SPOTTISWOODE CAMERON, medical officer of health for Leeds, pointed out that the phthisis mortality in Leeds had been steadily decreasing. At the Census of 1911 6 per cent. of the houses in Leeds had more than two persons to a room. During the last three years the new phthisis cases reported numbered 3472, and of these 57·9 per cent. lived in houses in which two or more persons occupied one room. Overcrowding in Leeds, as measured by two persons to a room, was greater among those suffering from phthisis than in Leeds as a whole, and among the patients in these crowded houses more than half had not a room, and nearly half not even a bed to themselves.

Colonel G. **Kyffin-Taylor**, M.P., Chairman of the Liverpool Housing Committee, said that Liverpool's experience showed that it was no use tinkering with slums, which must be swept off the face of the earth; and because slum dwellers were unable as a separate family to obtain a separate house, the municipality must see that the people were rehoused. After 12 years' work in the Scotland and Exchange divisions of Liverpool, in spite of all that sanitary science could do, the average mortality for the three years ending 1893 was in the Scotland division exactly the same as in 1873—viz., 35·1 per 1000, while in the Exchange division it had actually increased from 34·3 to 36·7 per 1000. The death-rate began to fall when the corporation began to clear and rebuild, the average death-rate for the three years ending 1913 being in both divisions 29·5, a saving of nearly 6 per 1000. Last year it was for Scotland division 27·5 and for Exchange 28·41. After the municipality began to make bold clearances, combined with rehousing, a fall in the tuberculosis mortality rate of 38 per cent. took place in 17 years.

Tuberculosis in Children.

At the afternoon session Professor R. **Lawford Knaggs**, of the University of Leeds, read a paper on Tuberculosis in Children from a Surgical Point of View. He said that whatever surgical treatment might be necessary at no time ought medical treatment to be omitted, for it was essential in every case of tuberculosis. Surgical procedure was based on one of two principles, either the removal of the disease focus or fluid alone, or cutting wide of that through surrounding healthy parts. The first principle was the only one admissible in certain cases—tuberculous ascites, pleuritic effusion, spinal and some glandular abscesses, and some cases of tuberculous inflammation of bone. The second, by dissection through the surrounding healthy tissues, designed to obtain a clean wound free from infected material, was suitable where the tuberculous trouble was confined within a definitely capsulated organ preventing rapid extension. Many cases of tuberculous glands and renal tuberculosis were best treated thus, and also the large group of bone tuberculosis. In aspirations of abscesses and erasion of joints the first principle was involved; in excisions and amputations the second.

Mr. H. J. **Gauvain**, medical superintendent of the Treloar Cripples' Hospital, Alton, considered the time had come when the knife could be absolutely dispensed with in tuberculosis, except to make good defects arising out of the former treatment. The conservative method of restoring and preserving the part attacked was the treatment of the future. That treatment needed large institutions in which it could be carried on. It was far more neglected in this country than on the continent. Crippling from tuberculosis was almost entirely preventable. He showed lantern slides demonstrating the treatment followed at Alton.

Mr. J. F. **Dobson**, of Leeds, concurred in discouraging operative intervention, and deplored the scarcity of beds whereby improved methods of treatment would become possible. This was due solely to lack of funds.

Mr. H. J. **Stiles**, surgeon to the Edinburgh Children's Hospital, said that in Scotland 75 per cent. of surgical tuberculosis among children was of bovine origin. In 37 per cent. of his operative cases in children there was histological evidence of tubercle in the tonsils, mostly the bovine bacillus. He urged inspection of milk adequate to secure a pure milk-supply.

Professor **Sims Woodhead** said every single measure—better housing, ventilation, adequate rest—against any one of the factors of tuberculosis was of great importance. He asked them as public health authorities to pay attention to each fact mentioned by the various experts.

Dr. **Nathan Raw**, of Liverpool, also emphasised the importance of milk as a causative factor.

Mr. [illegible] **Anthony** [illegible], of Liverpool, described the electrical sterilising process for milk in use in Liverpool.

In the evening Dr. **Nathan Raw** delivered the popular lecture on tuberculosis in association with the Tuberculosis Exhibition before a large audience, and particularly emphasised the need for suppressing the spitting nuisance.

The Prevention and Treatment of Tuberculosis.

On the second day Sir **William Osler** read a paper in which he divided the tuberculous public into three classes. In the first nearly all of those present were included, for probably some small tuberculous focus could be found in 90 per cent. of all people. That we did not all die was due to the fact that the human race had attained a certain measure of immunity. The second group comprised those in whom the disease was active enough to produce symptoms, but in whom cure was still possible, with restoration to working health. The third group consisted of the doomed, in whom progression took place to a more or less remote end. This was the fate of between 50,000 and 60,000 persons a year. A single problem was linked with each group. In the first it was to give such health of tissues to every unit, child or adult, in the kingdom, that the parasites might be as surely dealt with as the oak dealt with those on its bark. When the children enjoyed their proper heritage of health, the workers had a living wage, the houses were homes, and the nation spent in food what was now being spent in drink, there would be millions instead of hundreds of thousands of immunes. The problem of the second group concerned the 250,000 to 300,000 people with cough, loss of weight, fever, bacilli, and definite signs in the lungs or obvious involvement of some other part. There were three essentials to cure—education, control, and a rigid regimen. These were best obtained in a well-conducted sanatorium, or failing that by institutional treatment. The primary need in every district was a census of the cases. Patients must be made to realise that a long, hard, uphill fight was before them, but with rigid and effective control a regimen as strict as that of a sanatorium might be carried out at home. With regard to the third group, nothing was more important than the care of these chronic incurable cases. Safe care was almost impossible in houses, and an addition to the law was necessary by which segregation could be provided for and where necessary enforced.

On the various aspects of Domiciliary Treatment, papers were read by Dr. H. **de Carle Woodcock**, Dr. **Arthur Dennison**, Dr. **Cecil Wall**, Dr. H. J. **Campbell**, and Mr. H. W. **McConnell**. Dr. **Edgar L. Collis** and Miss **Emily Sadler** dealt with the Factory in Relation to Tuberculosis, Dr. T. D. **Lister** with the Home in Relation to Tuberculosis, and a general discussion ensued, in which Dr. **Halliday Sutherland**, Dr. A. **Christy Wilson**, Mr. **Harry Kew**, Major **Dod**, Mr. J. **Sullivan**, Dr. W. **Osborne Greenwood**, and the Chairman, Lord **Glenconner**, took part. Votes of thanks were passed to the Lord Mayor, the University and its Vice-Chancellor, the Infirmary Board, &c.

CONGRESS OF THE ROYAL SANITARY INSTITUTE.

The twenty-ninth Congress of the Royal Sanitary Institute was held at Blackpool on July 6th to 11th, under the presidency of the Earl of **Derby**. There was an attendance of upwards of 1000. Delegates appointed by over 230 authorities, including many of the over-sea dominions, were present, and there was a considerable proportion of women. Both the scientific and social arrangements were excellent, and the Congress was a great success. In the course of the Earl of Derby's address, delivered on the opening day, reference was made to health in its relation to the army. Whereas some years ago the presence of the military was regarded with misgiving, more especially on account of contagious disease and the soldier's easy carelessness, he urged that now not only could this feeling be no longer reasonably entertained, but also that individual soldiers, by their wholesome training in hygiene, constituted after their discharge healthy units of the community, from whom, indeed, their civilian associates could learn many useful lessons.

Discussions through the week [illegible] themselves into sections and conferences. The sections included sanitary science and preventive medicine, domestic hygiene, engineering and architecture, and hygiene of infancy and childhood.

The conferences concerned representatives of sanitary authorities, veterinary inspectors, medical officers of health, engineers and surveyors, sanitary inspectors, and port sanitary authorities. The variety and range of discussion prevent, in a limited space, notice being taken here at all commensurate with the value of the subjects treated. The effects of the later trend of legislation, especially as regards National Insurance, town planning, and care of children naturally came in for very general notice in many sections.

Working of Insurance Act.—Juvenile Employment.

The paper by Dr. J. Niven, medical officer of health of Manchester, on the Working of the Insurance Act attracted a large audience. He said that this far-reaching measure had not produced any great immediate effect on public health administration except as regarded tuberculosis, though it promised in the future to do so. He noted that so far provision of machinery had prevented local authorities from investigating the exact workings; nor had sufficient time elapsed to allow the determination of incidence and distribution of sickness. After explaining Manchester's provisions for tuberculosis, he questioned the value of the policy of the 6*d*. for domiciliary treatment. He was of opinion "that the effect of the sanatorium clauses of the Act will ultimately be that a great reduction in tuberculosis will occur, but time is required to complete the machinery." The Act, he considered, was in many ways imperfect, but it represented what it had hitherto been possible to accomplish.—In the discussion many points were raised, such as the lack of supervision of children suffering from tuberculosis, the abuse of the union infirmaries by recipients of pensions, and the interest with which England's experiments in insurance are regarded by our colonies.

In the same section a valuable paper was read by Dr. W. Stewart Stalker, medical officer of health of Swinton, in which he referred to juvenile employment. He said that medical inspection in schools had succeeded in obtaining partial or complete school exemption for children under 14 on account of physical disability; for 1912, 246,000 children were thus exempted. But following this step nothing more was done to follow these cases up when they sought employment. It was true that if they entered employment under the sphere of the Factory and Workshop Acts medical supervision again guarded them; but, as a matter of fact, only a proportion (133,000 out of 246,000) sought such employment. Consequently the remaining 113,000 children, already noted as physically questionable, passed uncontrolled into occupations in many cases positively dangerous. Dr. Stalker thought it desirable to extend the range of compulsory notification on the lines of the Factory and Workshop Acts, to coördinate the work of the school medical officers with the factory doctors, and by these means to lessen the chances of children engaging in work incoördinate to their physical capacity.

Other Papers and Discussions.

In other sections the value of training for mothers and the care of early infant life received much recognition. Professor H. R. Kenwood emphasised the importance of education of mothers. He said that an extended and coördinated scheme was required. Some hygiene might be taught in schools, but later training was of more value. Evening classes should be held for young married women, and local authorities should do everything to bring the same into notice and popularity. Finally, the present midwives and medical men could do far more for antenatal and infant hygiene.

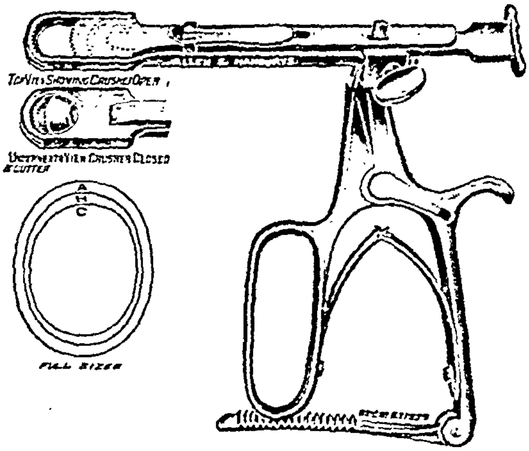
Sir Henry Tanner discussed White Lead and its Disuse for Painting. Mr. T. G. Lumb on Town Planning and Garden Cities, and Mr. Searles-Wood and Mr. Wickford Potter on the Housing of the Agricultural Labourer dealt with matters indirectly concerning practical medicine.—Mrs. Cloudesley Brereton read an interesting paper upon the Modification of Basement Houses.—Professor S. Delépine and Dr. A. Greenwood described their observations upon the Action of some Metals upon Certain Water and other Bacteria. They found that lead, iron, and aluminium, which were acted upon by water, were without appreciable effect (lead) or had only a slight inhibitory effect (aluminium and iron) upon bacterial growth. On the other hand, copper, silver, zinc, and mercury had a powerful inhibitory action; in smaller doses, however, these agents led to increased growth of bacteria. All bacteria were not affected in the same way or to the same extent. While soft water acting upon copper and lead was very rapid, the bact contents were not affected by the passage of lead into water; but copper passing in, was attended with comp or almost complete sterilisation in about half an hour.— sanitation was discussed by Dr. W. M. Willoughby on Plague and the Powers of a Medical Officer of Healt Cope Therewith; by Dr. Herbert Williams on Insanit Conditions on Shipboard; and by Dr. J. Howard-Jo on Diseases Incident upon Seamen and their Preventi These form some of the most suggestive and valuable the papers considered during the week.

An interesting health exhibition was well patronised, a the abundant facilities for excursions and amusements u which Blackpool can rightly pride herself ensured succ for the social amenities of the Congress.

New Inventions.

A NEW TONSILLECTOME.

This instrument was designed for the complete enucle tion of tonsils, removing them with their capsules fro their beds with practically no loss of blood. The meth used is approximately that of Sluder, but in addition to t one cutting blade there is a crushing blade which ente between the anterior faucial pillar and the tonsil a effectually crushes all vessels between the capsule of t tonsil and its bed. When the crushing blade has bee pushed home it remains locked in this position by th Hagedorn catch at the base of the handle of the instrument. A light pair of fixation forceps is then applied to the protruding tonsil (i.e., on the uvula side of the crushing blade) and the cutting blade, which enters between the crushing blade and the tonsil, pushed home. The tonsil is then lifted out on the fixation forceps. The crushing blade being still applied to the vessels which have been cut through may be left on for a few moments, and then gradually released by depressing the catch with the little finger. The method is a simple one. There is no bruising of the faucial pillars or surrounding tissues; no muscular tissue is removed, and in vigorous adults, where the risk of hæmorrhage may be great, it offers the safest possible way of preventing bleeding, in that all vessels which have been cut through can be held just as long as the operator pleases, and when released the proximal ends have been thoroughly crushed by the serrated edge of the crushing blade. The blades of the instrument are made in three sizes (see A, B, and C on the illustration), all fitting one handle, and the one chosen should be of such a size that the tonsil can be just comfortably pushed through the ring. I use a Doyen's mouth gag, but the gag should not be opened to its fullest extent as this tightens the faucial pillars unduly and diminishes the mobility of the tonsil. The fixation forceps are only necessary to prevent the tonsil from falling down when it has been isolated.



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See "BRITISH MEDICAL JOURNAL," February 4th, 1911, page 243.

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THE LANCET.

LONDON: SATURDAY, JULY 18, 1914.

Nurses' Registration.

RECENT events have once more brought the problem of nurses' registration into prominence, and it is desirable that every medical practitioner should consider the matter in all its bearings and form some definite ideas, both upon the general question and upon the particular measure which is now before Parliament. With regard to the general question, we suppose there are few of our readers who are not on principle in favour of some form of legislation which would standardise the training of nurses and regularise the conditions under which nursing is practised. To paraphrase the wording of the preamble to the Medical Act of 1858, "it is expedient that persons requiring nursing aid should be enabled to distinguish qualified from unqualified practitioners," and an Act is needed to regulate the qualifications of such practitioners. Some reform of this kind is, we think, called for in the interests of the public, of medicine, and of trained nurses themselves. But there are difficulties in the way of devising and promoting legislation which would achieve what is generally desired without introducing certain drawbacks, and these difficulties are rendered much more formidable by reason of the personal factor which has been imported into the controversy. It would naturally be more pleasant to pass over this aspect of the matter, but the fact seems clear that the present situation cannot profitably be discussed even in outline without admitting that a split exists and that its causes are largely personal as well as

into the House of Commons was permitted by 311 votes to 82, bears a certain likeness in general form and intention to the laws governing the registration of medical practitioners; and assuming that such a resemblance is desirable, it might be supposed that all the best elements in the world of nursing would combine to support a measure of this kind, and that medical men and hospital authorities would with one accord urge the Government to afford facilities for its speedy enactment. But such, of course, is not the case, and this was very clearly stated by the Prime Minister when he received a deputation of supporters of a similar Bill not very long ago. Moreover, it is noteworthy, if not significant, that among the present matrons and superintendents of nursing, who have very numerously signed a petition praying for facilities for the passing of the Nurses' Registration Bill, three only of the 12 great metropolitan hospitals with medical schools are represented. Whence, therefore, the opposition in some influential quarters, and the apathy in others, towards a measure whose avowed object is the benefit of the public through the encouragement of the best class of nursing by defining and safeguarding the status of trained nurses? The answer seems to be that this Bill, excellent in many respects as it is, is the product of one party only, and that within this party the leading spirits, who supply the driving force of the movement, are wholeheartedly committed to a certain line of policy which goes beyond the simple demand for State registration of qualified nurses. Thus there is reason for regarding the present situation not so much as a conflict between the supporters and opponents of State registration, as such, but as an encounter on a grand scale between those who assert and those who deny that it is possible to fix a time limit within which a nurse can be efficiently trained. We recognise that among the vigorous opponents of the Bill now before Parliament considerable appeal to the intelligence; while on the other side there is an equally determined body which makes out a strong practical case for leaving things very much as they are. And, indeed, so long as the London Hospital continues to serve the public and the medical profession so well in the matter of the nurses which it turns out, the advocates of State registration and a three years' curriculum merely weaken their cause by abuse of that institution. The only means by which, as it seems to us, a way out of the difficulty can be found is for the party of reform to recognise that the position cannot be stormed, although by "agreeing with thine adversary" some working measure of State registration might be got through Parliament.

Meat Inspection in the Argentine.

THE Sanitary Committee of the Corporation of the City of London have issued a valuable report made by their veterinary surgeon, Mr. T. D. YOUNG, and presented by their medical officer of health, Dr. W. J. HOWARTH, on the results of inquiries as to the conditions in which meat is obtained and inspected in the Argentine Republic. The object of the inquiry was to assist the City authorities in the duties of supervising the wholesomeness of the meat supply of London which fall to them at Smithfield market and in the large meat stores of the City. Its importance will be realised when account is taken of the fact that practically all the chilled beef which now comes to this country, and more than half of the beef which comes over frozen in quarters, is imported from the Argentine. Mr. YOUNG's report is not unsatisfactory as a whole. The conditions of the Argentine estancias are well known to be extremely favourable for the rearing of fat cattle, and both handling and management previous to slaughter have been developed on practical lines. The slaughtering establishments, frigorificos, and packing-houses appear to vary considerably in their sanitary equipment and are in some cases open to criticism. Objection has to be taken to the unsatisfactory conditions which result from wooden floors and other undesirable structural arrangements, and to places for the preparation of offensive by-products being often in close proximity to the places of slaughter, dressing, and chilling the meat. Codes of regulations providing for the cleanly handling of the meat are in some cases only partially observed, though in others much care seemed to be taken in this respect. On the other hand the large scale of the operations often enables systems to be followed in the Argentine which are in advance of ordinary practices in this country, and Mr. YOUNG notes that this is specially the case in the matter of washing the carcasses.

After a description of the system of economic disposal of the various parts of the animals, the report describes the system of inspection for disease at some length. The chief impression we gain on this matter is that a genuine and serious attempt is made in the Republic to detect and deal with disease in meat on satisfactory lines, and that pressure from this country for improvements in methods would be welcomed by the Argentine authorities. The inspecting staffs are appointed by the Government, which makes a charge to the owners of the frigorificos. Their code of instructions is, on the whole, a satisfactory one, and Mr. YOUNG's principal criticism is that the inspectors are not always distributed among the frigorificos to best advantage and sometimes are deficient in number. His estimate that an inspector cannot examine more than 100 beef carcasses a day without getting tired or inattentive does not seem improbable. In matters of organisation the system followed has some instructive features. A convenient arrangement for dealing with tuberculous meat depends upon the insertion into the carcass of skewers indicating by their colour the organs or glands which have been found affected. This is a very ingenious arrangement, and in other ways the presence of originality and direct thinking among those engaged in the meat trade of the Argentine is displayed. It is noteworthy that the proportion of tuberculous cattle in the Republic has been found to be as high as 4 per cent., and much of the doubt entertained by the City authorities as to the sufficiency of inspection in the Argentine has resulted from the discovery of tuberculous lesions when the carcasses have been cut up in the English markets.

Mr. YOUNG makes a practical suggestion, which is endorsed by Dr. HOWARTH, that in view of the enormous development of the Argentine meat trade a permanent British veterinary officer should be attached to the British Legation at Buenos Aires, with the duty of reporting to the Local Government Board (and for the information of the English meat inspecting authorities) on the efficiency of meat inspection, the classes of meat used, and the conditions of canning of food in the frigorificos and factories. Similar officers already act in London on behalf of various foreign governments, and the suggestion has much to commend it. Since the agitation for better and more wholesome conditions of meat preparation which arose with the so-called "Chicago scandals" about eight years ago the meat industry as a whole has realised that its ultimate interests lie in the promotion of hygienic methods, and health authorities have been much more active in securing the observance of such methods. In this country Mr. BURNS's Food Regulation Act, under which meat inspection is now undertaken at the ports of entry, must be credited with indirectly bringing about great improvements in the conditions of meat inspection and preparation abroad. But there are obvious and sometimes insuperable limitations to the inspection of meat foods when once they have passed the slaughter-house, and this is particularly the case with canned and prepared foods, the export of which from the Argentine may be expected to increase as the meat industry continues to develop there and competition increases. Here it seems probable that a relatively small amount of official investigation and first-hand information at the place of origin could save much of the time and labour now given by inspecting officers at the home ports and markets, and would also produce more efficient control over this important section of our food-supply.

Annotations.

"Ne quid nimis."

THE PREVENTION OF VENEREAL DISEASES.

WE understand that conferences have recently been held, under the chairmanship of Sir Thomas Barlow, to consider the formation of a National Council for Combating Venereal Diseases. Those present have included Sir Rickman Godlee, Sir Francis Champneys, the Bishop of Southwark, Major Leonard Darwin, Sir William Osler, Sir Clifford Allbutt, Sir Henry Morris, Sir A. Pearce Gould, Sir Wilmot Herringham, and Mr. Charters Symonds. It has been decided to form such a national council, consisting of representatives both of the medical profession and the general public. With this object a circular letter is about to be issued stating the objects of the movement, explaining its organisation, and inviting the recipients to join the council. This movement is in no small degree the outcome of the work and recommendations of the special committee of the Royal Society of Medicine, which has been in existence now for over two years, and which originated in a conference between the Royal Society of Medicine and the Eugenics Education Society.

BASEMENT HOUSES.

in domestic organisation and accentuates the difficulties of securing domestic service. Public opinion, in fact, has revolted against the basement house, and the inconveniences of basement rooms in London houses are responsible in great measure for migration to the outskirts and for the large number of empty houses so often found in typical London streets of middle-class dwellings. Property owners might often give more consideration to the question of adapting such dwellings to modern requirements, and would in many cases find themselves well repaid for the capital outlay required. Mrs. Brereton's remedies for the most part consist in removing the kitchen to the ground floor, where it would adjoin the dining-room, and adapting the basement rooms as storerooms, workshops, boxrooms, and the like. In some cases, where there is sufficient space or area in front, the underground room can be opened out to serve as a covered playground or even to store a small motor-car, though the original planning of the dwelling rarely can permit this modification. The number of habitable rooms will be reduced, but this is not always a drawback, and the loss of space can be compensated for by domestic labour-saving appliances. Some of these are suggested by Mrs. Cloudesley Brereton in a manner which deserves attention from those owning or living in houses of the kind here in question.

GOLF BALLS: A WARNING.

THE structure of a golf ball does not attract as a rule the interest of the player; his only concern about it is that its composition shall be durable and such as may add possibly to the flight of the tee shot, and that it shall be true on the green. The ball may possess a power for harm of which he is not aware, but which he certainly should be on his guard against in view of a distressing accident which befel a golfer a short become freely hacked, is likely enough to be the unwinding of its ingeniously wound rubber binding. The ball is, of course, not sold for this purpose, but there are directions now in which the good resilient qualities of the very superior rubber used in a golf ball can be turned to good account and the discarded ball may be selected as a source of this material. It ought to be known that the attempt to recover rubber in this way may be followed with disaster, and we consider that some warning should be issued with those golf balls which contain an inner liquid core of caustic consistency, subjected to the considerable pressure of its tight elastic envelope. As it is, no such warning is issued, though there may exist in the ball all the potentialities of a bomb if it is not carefully handled. Some experiments which we have made with such a ball show that the pressure exists only so long as the liquid core is held tight in the grip of its tense rubber binding. At this stage, if the liquid core is pricked by a sharp instrument, the contents are ejected with great force. If, however, the elastic binding is gradually released or unwound, the liquid core, we find, is disclosed at its full size, having had its pressure gradually relaxed, and the little bag of fluid is then practically incapable of discharging its contents. The bag of fluid, in our examination of balls of similar make to the one with which the accident occurred, consists of a little rubber bottle or flask containing a semi-fluid mass of soft soap or potash soap. The rubber bottle is closed at its neck by means of tightly bound string. Leakage is possible at this point, so that the contents may be discharged without the intervention of a sharp instrument. The potash soap we examined was very strongly alkaline, and no doubt would act as a corrosive in much the same way as free caustic alkali. Most people are aware of the exquisite pain which even soap made for toilet purposes gives when inadvertently the lather gets into the eye. When this happens with a strong, coarse alkaline potash soap used for common scouring purposes it may easily be imagined how intensified the action can be. But in the instance quoted the potash soap was also a projectile which came into contact with the sensitive tissue of the eye with great force. We think that makers of such balls should issue a caution in regard to the dangers of the liquid core existing under the great pressure of the tight rubber folds. For the sake of children who may get possession of old golf balls, we think that it should be widely known that to experiment with the structure of certain varieties is attended with grave risks.

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REMOVAL OF FOREIGN BODIES FROM THE PERICARDIAL SAC.

IN the *Annals of Surgery* for June two rather remarkable surgical feats are recorded. The first case was that of a man aged 46, admitted to the Montreal General Hospital under Dr. G. E. Armstrong, who reports the case, suffering from a wound in the chest inflicted by a 32 calibre revolver at a range of 5 feet. In the third left interspace, near the sternal border, there was a small punctured wound. There was little or no subjective discomfort, but in the afternoon of the same day the pulse became irregular. Skiagraphic examination showed that the bullet lay loose in the pericardial sac, turning to the right when the patient lay on his right side, and vice versa. The pulse became more irregular during the next four or five days, and tracings showed that this was a total arrhythmia of the type that is associated with auricular fibrillation. This, together with a slight change for the worse in the man's general condition, determined the surgeon in favour of operation. The patient was anæsthetised with ether administered by the intratracheal method. The pericardial sac was reached and incised through the fourth left space, but as this opening did not give free access to the bullet a part of the fifth rib was removed. By this means the bullet, which lay behind the heart, was brought within reach of the operator's finger and hooked out of the chest. The pericardial sac contained so little blood that the incision was closed without drainage. Within a few hours the rhythm was normal once more, and the patient seems to have done well. The other case is reported by Dr. Robert Proust, who gives a very full account of the steps by which he extracted a pistol bullet from the pericardial sac of a boy of 13. In this case there had been a good deal of hæmorrhage into the sac, and when the bullet was removed it came away embedded in a clot the size of the fist. The bleeding point was found on the front of the heart, near the apex and towards the left border. This was secured and the hæmorrhage checked, but drainage was inevitable. The small rubber drain that was used proved ineffective, and had to be removed on the thirteenth day after operation, this affording the patient much relief, since it allowed the contents of the sac to escape. The patient made a good recovery, and now, four years later, he is able to work. Examination with the X rays and with the electrocardiogram shows little if any trace of the injury, though by the former method it was said there was a relatively translucent area on the front of the heart near the apex which must have corresponded with the site of the scar in the cardiac wall.

"TENNIS ELBOW."

DR. W. P. Coues has published recently an important paper on the condition known as "epicondylitis," or "tennis elbow," which was first described by Bähr in 1900, and has been principally studied on the Continent. It is described as not uncommon in those who take much exercise, particularly lawn-tennis players. But Dr. Coues has found that athletics in which strenuous movements of the arm play an important part are not the only cause of the trouble. The history is usually as follows. Immediately after a stroke, occasionally some hours or days afterwards, pain is felt in the elbow, usually the right, near the external condyle. This pain may be so severe and sudden as to disable the arm temporarily. It is usually increased by extension of the forearm, not so much by flexion, and may be intermittent or constant, returning immediately the exercise is resumed. Examination soon after injury usually shows no marked swelling. Movement of the elbow is not, as a rule, limited, but there may be great pain on forced extension in the neighbourhood of the external condyle. Pronation and supination are, as a rule, painless. On pressure, an exquisitely painful spot is found over the external epicondyle. Here much pain *is felt on full extension of the forearm* and radiates down *to the fingers. The pain is increased* when the *fingers grasp an object.* It is also brought on by such *movements* as reaching a book on a shelf *or putting on the coat.* Sometimes there is a *suggestion of a slight thickening* over the external epicondyle. After a period of weeks or months, *with or without treatment,* the pain gradually disappears and the patient may again take up his *favourite sport,* with, however, possibility *of speedy recurrence* of the trouble. As to the *nature of the lesion,* several views have been *brought forward.* Tears of the fascia or of some *muscle bundle attached* to the epicondyle, as well *as some nerve implication,* have been suspected. *Dr. Coues suggests that* some of the muscles, exerting a powerful pull, tear off their attachments, *perhaps carrying small* pieces of bone with them. If the exercise is repeatedly attempted the process may *recur* in lesser degree, producing some periostitis of the external epicondyle. This may also be kept up by the ordinary movements of the arm. Simple rest of the arm for a short time does not cure the condition. It may become quiescent and the patient think himself cured, but the first stroke of his racket will bring back all his pain and disability. Dr. Coues reports the *following* cases. After half an hour's hard play at lawn tennis a man felt a sharp pain on the outer side of the elbow and forearm on making back-hand strokes, which require a fixed position of the arm half way between pronation and supination, and there was almost complete inability to make such strokes. At the same time fore-hand strokes, requiring simple flexion only, were made with little discomfort. On examination an exquisitely painful spot was found on the epicondyle. The disability and tenderness persisted three months after the injury. It was questionable whether there was not slight thickening of the periosteum over the epicondyle. In another case a left-handed athletic man while playing golf noticed pain in the right elbow immediately after a stroke, with a distinct sensation of something tearing in the neighbourhood of the external epicondyle. The injury was not severe enough to stop the patient's play that summer, but an exquisitely painful spot appeared over the external epicondyle, where flexion and extension of the fingers caused pain. Considerable pain and disability remained for six months, at the end of which the arm was not well. In this, as well as in another case, a skiagram showed a small spicule of bone which appeared to have been torn from the external condyle.

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[1] THE LANCET, April 4th, 1914, p. 967; and April 11th, p. 1057.

MURMEKIASMOSIS AMPHILAPHES.

UNDER the somewhat imposing name of murmekiasmosis amphilaphes Dr. A. J. Chalmers, director of the Wellcome Research Laboratories, Khartoum, and Dr. J. B. Christopherson, director of the Khartoum and Omdurman Civil Hospitals, describe in a recent number of the *Journal of Tropical Medicine* a very interesting case of a peculiar form of cutaneous wart characterised by an extraordinary facility for growth causing it to spread and to occupy practically the whole of the right side of the face and neck, involving the external auditory meatus, destroying the right eye, and invading the mucous membranes of the mouth, gums, tongue, and throat. As the most important clinical feature of this apparently new human disease is the warty growths, the authors propose to give it the name of murmekiasmosis amphilaphes, using the term "murmekiasmos" employed by Galen to denote "the breaking out of warts on the body," together with the Greek adjective for "spreading," and adding to Galen's word the termination "is" in order to bring it into accord with modern nomenclature. The patient was an Arab youth, aged 16, and it appears that the warts commenced to show themselves on his face not long after birth. Microscopically the points of interest in the warty masses in this case were the presence of numerous cryptococci, and the fact that the cutaneous warts were largely composed of an adenoma derived from sebaceous glands. A case in England somewhat resembling this in certain respects was published in 1912 by Dr. Lilley in the *British Journal of Dermatology* under the title of "Notes on a Case of Nævo-carcinoma (Melanotic) of the Scalp of a Boy aged 19," but upon examination the clinical description in this English instance does not agree with that of the Arab youth in the Soudan. It is, however, possible that the two conditions might perhaps be variations of the same disease—i.e., a warty growth associated with a proliferation derived from the sebaceous glands. Dr. Chalmers and Dr. Christopherson have made a considerable investigation of the literature of the subject without meeting with any reference to any species of cryptococcus associated with warts. In their opinion the cryptococcus found in the Soudan case does not correspond with any of the already named forms, so that taking all the facts of the case into consideration they think they are justified in regarding the organism as a new species, and they propose to call it by the Latinised name of Cryptococcus myrmeciæ, Chalmers and Christopherson, 1914. The warty growths do not appear *per se* to endanger life, but they destroy organs such as the eye, and when they enter the pharynx there is risk of the larynx becoming involved. The only effectual treatment seems to be by means of dissecting operations, leaving large superficial areas to be covered by skin flaps or by skin-grafting. In the early stages, if the diagnosis is established, the condition can easily be cured by operation—that is, before it had extended to the eye or the pharynx. Some time ago some of the warty masses were removed from the face of the Arab youth by operation, and there has been no reappearance of the growths upon the cicatrix. Owing, however, to the dangers involved no removal of the warty masses inside the mouth, on the tongue, or in the pharynx has been attempted.

THE BRITISH PHARMACOPŒIA, 1914.

AT its meeting on July 13th the executive committee of the General Medical Council formally adopted as "The British Pharmacopœia, 1914," the completed draft submitted by the Pharmacopœia Committee. It was resolved that copies in advance of publication should be made accessible to the public for inspection at the offices of the Council in London, Edinburgh, and Dublin on Monday, August 10th, at 10 A.M., and thereafter from 10 A.M. to 4 P.M., and that a copy for review should on the same day be placed in the hands of the editor of each of the medical and pharmaceutical journals on the Registrar's list. The official publication of the new British Pharmacopœia will be made by notice in the *London Gazette* on Friday, Oct. 9th, on which day copies will be on sale by the publishers, Messrs. Constable and Co., Limited, 10, Orange-street, Leicester-square, W.C.

DIGITALIS AND THE BLOOD PRESSURE.

THE view that the medicinal administration of digitalis causes an increased blood pressure has been so long maintained that the later clinical observations opposing it have even yet gained little general acceptance. It has been noted by Dr. F. W. Price that medicinal doses fail to affect blood pressure; Mackenzie agrees with this finding, and the observations of both were carefully and systematically controlled. On the other hand, it is certain that in animals under experimental, and naturally artificial, conditions digitalis does raise the blood pressure. But this is, perhaps, an instance where it is not safe to argue clinically from laboratory data. Dr. Charles H. Lawrence[1] has made some further observations respecting the effect of digitalis upon the blood pressure in a series of 26 cases, in all of which some degree of cardiac decompensation was present. Both the systolic and diastolic pressures were recorded, and the quantity of urine noted. Digipuratum was the preparation given. In only 19 per cent. was any rise of pressure detected; the maximum rise was 30 mm. Hg, and in this case there happened to be an added acute renal infection. On the other hand, 66 per cent. showed a fall of blood pressure and

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[1] Boston Medical and Surgical Journal, 1914, vol. clxx., p. 37.

15 per cent. showed no change in pressure. The effects of digitalis upon diuresis, too, were not what one has been led to suppose they would be. Diuresis is associated with fall of blood pressure, not the reverse. This is shown by the fact that where a rise of pressure was noted no cases showed diuresis; where the pressure fell, 88 per cent. showed a diuresis. Upon the diastolic pressure digitalis exerts a similar but less marked effect to that upon systolic. The changes are of less amplitude, and consequently there is a lessened pulse pressure (i.e., difference between systolic and diastolic pressures). The practical conclusions of these observations go to suggest that the fear of this drug's bad effects in cases of high tension, angina pectoris, or arterio-sclerosis, owing to its increasing the blood pressure, is unwarranted. Digitalis in such cases may do good since it rarely causes a rise of pressure, and frequently, by its reverse effect, appears to procure a considerable diuresis. Especially when there is some cardiac decompensation is its administration to be recommended.

Dr. Frederick Taylor, consulting physician to Guy's Hospital, has been elected President of the Royal Society of Medicine for the ensuing year.

Sir William Watson Cheyne, Bart., honorary surgeon to the King and surgeon to King's College Hospital, has been elected President of the Royal College of Surgeons of England.

WE sympathise deeply with the officers of the British Medical Association in having been unable to obtain a favourable answer to their request that the action Stevens *v.* The British Medical Association should stand over for retrial till next sittings. As matters are, the case, which was opened on Wednesday, may still be under hearing in London during the annual meeting of the Association at Aberdeen, a circumstance very embarrassing for all the officers of the Association.

LUNCHEON TO SIR ALEXANDER OGSTON.—As already announced in these columns, arrangements have been made to entertain Sir Alexander Ogston, K.C.V.O., to luncheon by his former house surgeons and dressers on Thursday, July 30th, at the Grand Hotel, Aberdeen. The chair will be taken at 1.30 o'clock by Sir James Porter, K.C.B., late Medical Director-General of the Royal Navy. Those desirous of attending should make application before July 23rd to the joint honorary secretary, Dr. James W. Cook, 26, Manchester-road, Bury, Lancashire.

PRIZE DAY AT GUY'S HOSPITAL.—On July 9th Viscount Goschen presided at the distribution of prizes and medals won by the successful students at Guy's Hospital. Dr. H. C. Cameron, Dean of the Hospital, referring to the Medical School Research Fund started many years ago by a gift of £1000 from the late Mr. Pierpont Morgan, said that it had already borne fruit under the chairmanship of Sir Cooper Perry, with the assistance of several of the heads of departments, in the establishment of a small ward for the study of diseases of nutrition in infancy. The increased accommodation at the school had made it possible to devote more attention to post-graduate students, and in the medical school alone there were now 30 workers, not including the hospital staff engaged in research. Sir George Reid, who presented the prizes, expressed his pleasure at the prominence which was given to research work. The medals awarded were as follows: The Newland-Pedley gold medal for practical dentistry, A. E. Lowein; the Golding-Bird gold medal and scholarship in bacteriology, W. A. Young; the Treasurer's gold medal for clinical medicine, C. de Wet Gibb, and for clinical surgery, C. S. L. Roberts.

ENGLISH MEDICINE AND SURGERY IN THE FOURTEENTH CENTURY.[1]

BY D'ARCY POWER, F.R.C.S. ENG.,
SURGEON TO ST. BARTHOLOMEW'S HOSPITAL, AND FORMERLY PRESIDENT OF THE HARVEIAN SOCIETY OF LONDON.

THE Harveian lecture was established in 1875 to promote the diffusion of exact scientific knowledge, and the office has always been held by one who has done pioneer work in the subject upon which he has lectured. I felt it an especial honour, therefore, when your council not only asked me to lecture, but invited me to choose some topic connected with the history of medicine, a branch of knowledge which had not previously been selected by any lecturer. I accepted the invitation with pleasure, and the more so as it obliged me to carry out a piece of work which I had long been wanting to do and might not otherwise have undertaken.

England in the Fourteenth Century.

I chose "English Medicine and Surgery in the Reign of Edward III." This king was born, as you know, in 1312, came to the throne in 1327, and died in 1377. He lived, therefore, practically through the fourteenth century—a century which closed mediæval history in Europe. It was heir to the wonderful advances in scientific knowledge which marked the twelfth and thirteenth centuries; it immediately preceded the equally wonderful revival in art and literature known to us as the Renascence, a revival which took place at the expense of what is now called "research" and "original work" in favour of art and literature. The men of the fourteenth century were in touch with the older beliefs and traditions, whilst they were endowed with the knowledge of science which had been gained by Roger Bacon and Robert Grosteste. The King of England still flew the Wessex dragon, the old Saxon flag of England when he went to battle, and his wounded men were treated as often by spells and wort-cunning as by clean dressings and primary suture of the bowel.

The fourteenth century is thus worthy of careful study, and nothing in it is more worthy than the practice and the practitioners of medicine. The country was at war with France for 100 years, and the upper and lower classes were as familiar with the Netherlands, France, and Spain as our own men are with South Africa. Trade was active and large sums of money were constantly changing hands. The Black Death, too, in the middle of the century was followed by a long train of epidemic illnesses. All classes of the medical profession profited, and all had abundant opportunity of practising their calling, whilst foreign victories by raising the national blood pressure made them sanguine enough to experiment and advance upon the older methods. The younger generation, too, proved receptive. It watched the results of its teachers and was ready to adopt all means which had proved successful. Surgery, perhaps more than medicine, was in a fair way of becoming a science; then suddenly came the Wars of the Roses, chaos, and all was lost for very many years.

John Arderne.

The fourteenth century was an era of really great surgeons throughout Europe. Lanfrank, the most distinguished pupil of William de Salicet, died in 1306; Henri de Mondeville lived from 1260 until 1320; Gui de Chauliac, prince of the mediæval writers on surgery, died in 1368; Jan Yperman, the Flemish surgeon, died in 1350. These great surgeons were foreigners. We had in England at least one original surgeon—John Arderne—worthy to be classed with them. (Fig. 1.) Born in 1307 he practised for many years at Newark, then a centre for England and a meeting place for Parliament. He came to London in his old age and died at the end of the century. Typical of the fourteenth century he was skilful in leechcraft, a believer in spells, as befitted one brought up in the older school of thought, and yet a skilful and original surgeon, owing no allegiance to authority, profiting by his experience, able to invent wholly new operations. I desire to speak of him for a short time because the kindness of Mr. Henry S. Wellcome and of Mr. C. J. S. Thompson enables me to show you a manuscript of his works which has not hitherto been thoroughly examined.

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[1] The Harveian lecture, delivered before the Harveian Society of London.

Manuscript of Works of Arderne.

The original manuscript is in the Royal Library at Stockholm. It is said to have been bought in London in 1759 for the sum of £15 by the Swedish Minister at St. James's, and it was presented by him to the king on his return home.

The manuscript (Fig. 2) is a roll of eight skins of vellum sewn together. It measures 17 ft. 8 in. in length by 15 in. The writing is arranged in two and sometimes in three columns which are separated by coloured figures illustrating the text. It is written in an early fifteenth century hand, and there is no reason to doubt the information added later that it was made in the year 1412. The roll has been exposed to considerable vicissitudes during the 502 years it has been in existence, and parts of it are quite illegible. I am, however, very greatly indebted to Mr. Eric Millar, of the Manuscript Department at the British Museum, for the great pains he has taken in transcribing all that can still be deciphered. It is clear from this transcript that the roll is a Latin version of a part of the works of John Arderne made a few years after his death by a copyist who had some knowledge of the "Lilium Medicinae" written by Bernard Gordon in 1305. It is, in fact, what the publishers would now call a revised edition of the works of the late Master John Arderne with additions. Like so many revised editions it is completely spoilt. It has lost its savour. Many additions have been made which Master Arderne would have resented, whilst much is omitted upon which he justly prided himself. Fortunately so many manuscripts of Arderne's works still remain—I have myself seen about 60—that we need not be troubled because this one has been edited.

Contents of the Manuscript.

I do not propose to weary you with a detailed account of the roll, and I will only give a few short extracts that you may be able to gain some idea of its nature and contents. The work is an abstract of Arderne's "Liber Receptarum" arranged in the same order as the corresponding chapters in Bernard Gordon's "Lilium Medicinae," which at the time was the ordinary manual of surgery throughout Europe; it cannot be called the text-book of surgery because it circulated in manuscript, as printing was not yet known. Arderne's roll deals with diseases of the head, throat, eye, ear, chest, lungs, digestive organs, liver, spleen, kidneys, and male organs of generation. There is a section on gout, details of cases treated by the author, and some midwifery. Like all Arderne's works it is remarkable in containing no account of fractures and dislocations, and its early character is shown by the very slight reference made to astrology. The religious character of the age is well shown in the short prayer to be said before giving any medicine. It runs—I give you merely the translation—"O Lord, who marvellously madest man and more marvellously reformed him, who hast given physic to regulate the health of men's bodies, pour down from heaven thy blessing upon this remedy or electuary or draught, &c., that into whosoever's body it shall enter they may be worthy to receive strength of mind and of body through Christ our Lord. Amen."

A single example will show the use made of charms or spells. It is recommended in epilepsy that the words Jasper, Melchior, and Balthazar be written with blood drawn from the auricular or little finger of the patient. The paper bearing the words should be worn by the patient, who was to say daily for a month three Pater Nosters and three Ave Marias for the souls of the fathers and mothers of these three kings. He was also to drink the juice of peony in beer or wine for a month. There is no doubt that Arderne had to treat the equivalent of panel patients, for he says, in speaking of constipation, "Let the man drink 'de brodio,'" which was the equivalent of beef-tea, "if he be rich, but if he is a pauper he may just drink his own urine."

These, however, are mere sidelights, for the manuscript contains a record of valuable experience. Arderne says that the following are fatal signs in quinsy: "If the patient foams at the mouth, if the corners of the eyes become black or green, if the pulse cannot be felt, if the extremities become cold, and if a cold stinking sweat exudes from the armpits; because in these cases the patient will die on the same day." He adds in another manuscript that he had treated very many cases of sore throat where the patient died suffocated in three or four days, so that he had probably seen some unrecorded epidemic of diphtheria.

Arderne's Skill as a Surgeon.

The following case shows his surgical ability in a case of stone impacted in the urethra. He says:—

> I saw a young man with a stone as big as a bean so lodged in his penis that it could not escape through its eye, neither could it be pushed back, but it remained in the middle of the organ as it is here shown. I cured him easily with an incision, for I put him on his back and tied his member with linen threads on each side of the stone to prevent it shifting, and after making a small cut with a lancet over the stone I squeezed it out. I then sutured the skin with a needle and thread over the hole, and dressed it with white of egg and finely ground flour, and having wrapped up the penis in a piece of old and thin linen I let him go in peace for three days. I cut and removed the thread at the next dressing, and in less than a fortnight I had cured him completely. There is no need for alarm in these cases, even though the urine escapes from the wound for three or four days after such an operation, for the patient will certainly be cured.

In like manner his treatment of a case of serious primary hæmorrhage was equally surgical, and was far in advance of his time, for he used cleanliness and sponge pressure when most of his contemporaries would have employed astringent ointments because ligatures and forceps to stop bleeding had not been thought of. Speaking of fistula in ano, Arderne says:—

> I cured a man from Northampton who had three holes in the left buttock and three in his scrotum, as is here shown. The blood escaped very freely after the rectum was divided, because the fistula had tracked deeply. I put a sponge into cold water and stopped the bleeding with it. I then stuffed a good-sized sponge into the bowel and made him sit on a chair. The bleeding stopped directly, and as soon as the patient had eaten a meal and had been put to bed he slept well all night without any farther hæmorrhage.

Another manuscript gives the name of this patient as John Colyer, mayor of Northampton, and the records of the city show that he was mayor in 1327, and again in 1339–40.

The roll also contains a very interesting section on midwifery which is well worthy of more careful study. It gives a series of "birth figures" like those found in Rösslin's "Byrth of Mankind." Each figure is accompanied by a short description which in many instances takes the form of question and answer, as if it had been designed for the oral instruction of midwives. The usual formula runs:—

> Quartus partus est si ambas manus foras ei invenerit. Quid facere debet obstetrix? duobus humeris ejus manus suas ex utraque infigens retrorsum eum revocet, sicut superius dixi, manibus compositum et apprehenso capite paulatim et leviter eum adducat. Si infans caput habet et si duas manus ejicit, oportet obstetricem prius missa manu sua caput ad orificium corrigere et comprehensis manibus infantis conari debet ne caput orificium vulve non obstipet, sed facillime omne corpus infantis exire possit quo priores manus exierant.
>
> (The fourth birth or position is when both hands present. What should the midwife do? Grasping the hands with the arms on either side let her push back the child arranged with its hands as I have said above, and having seized the head, let her draw it down slowly and gently, &c.)

And so I could go on with extracts for a long time, but as it would be at the risk of wearying you I shall pass on to more general matters.

Medical Practitioners in the Fourteenth Century.

The treatment of the sick in England during the fourteenth century was in the hands of the same classes of practitioner as it is at the present time. It was shared by the physician, the surgeon, the family medical attendant, and the quack. The apothecary, then as now, was a tradesman. In country places the ladies did what they could to relieve the illnesses of their poorer neighbours.

The English Mediæval Physician.

The physician was usually, but not necessarily, a churchman. He learnt abstract science in the monastery schools and the scientific side of medicine in a university. He then returned to his monastery, where he either remained as physician or received preferment, becoming attached to the household of some great man. Dr. Norman Moore[2] gives the names of eight physicians practising in or near London during the reign of Henry III. (1216–72). Two were physicians to the Queen—it is not stated whether or not they were in orders; two were canons of St. Paul's. Two were priests resident at St. Alban's, and it is to be noted that one of these priests was the son of "Adam the Physician," who was not therefore a priest. The last of the eight was a doctor of medicine, a doctor of laws, and a doctor of theology, a professor at Paris and Oxford, physician to the King of France and to the Bishop of Lincoln.

We know that no great change had taken place in the status of the English physician in the next hundred years, because John of Gaunt had two physicians in his retinue, John Bray and William Appulton. John Bray was John the Minorite, "Johannes de ordine Minorum, in armis bellicis strenuus, in physicâ peritissimus, domino Johanni duci Lancastriae familiarissimus" ("John of the order of the Minorites, courageous in war, most skilful in physic, most acceptable to My Lord, John Duke of Lancaster"). It was precisely because he was such a friend of the duke that the London mob beheaded him on Tower Hill after the Savoy was burnt in 1381. His colleague was Frère William de Appulton, "physician and surgeon," who received xl marks in time of peace from the honour of Pomfret; in war time other xl marks and ranked as a gentleman, clerk, esquire, or a chamberlain, having four horses and two grooms allotted to him. Bray had received £10 a year, with 3s. a day travelling allowance. He ranked as a chamberlain with an allowance of two horses and the wage of one groom.

The physicians attached to John of Gaunt, therefore, held a good position in his household. They were men of affairs and took an active part in counsels of war. It is clear from the description of Frère William that he was prepared to act as a physician or as a surgeon,[3] so that the line of division between the two branches of the profession was not so absolute as is usually described. The popular idea of a physician as he is represented in Fig. 3 was generally accurate. He was a learned man who taught pupils, gave advice, prescribed drugs, and ordered active treatment when he considered it necessary. In this particular case[4] the physician is represented in an ecclesiastical dress with a biretta (Fig. 3). He is watching a patient who has been ordered to take a dose of medicine. The stool with the basin beneath it shows the primitive sanitary arrangements of the time. It was not even a close stool, the first mention of which is in 1410, or more than 50 years after the time we are considering.

My friend Dr. H. P. Cholmeley has recently issued an admirable account of the English mediæval physician in his book on John of Gaddesden, who lived from 1280 to 1361, and as the book is easily accessible I need say no more about him except that on the two occasions when Arderne, his contemporary, refers to him it is in connexion with the diseases of women, so that he was evidently held in estimation as a gynæcologist.

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[2] The History of the Study of Medicine in the British Isles, 1908, p. 15.

[3] The Indenture appointing him is dated at the Savoy, March 12th, 1373, and runs: Ceste endenture faite parentre nostre seignur Johan Roy &c d'une part et frere William de Appilton physicien et surgien d'autre part tesmoigne que le dit frere William est retenuz et demourrez envers nostre dit seignur pour peas et pour guerre a terme de sa vie en manere qu'ensuit: c'estassavoir le dit nostre seignur ad done et grante a ly par an a terme de sa vie par le bon et agreable service q'il ly ad fait et ferra xl marcs d'esterlinges a avoir et prendre tant en temps de peas come de guerre de les issues de l'onour de Pountfreit, par les maines de le receyvour illoeques qi pour le temps serra, as termes de Pasques et de Saint Michel par oveles porcions. Et si le dit rent soit a derier par un moys apres aucunes des termes avantditz voet et grant nostre dit seignur que bien lise au dit frere William de destreyndre en la dite seignurie et chescune parcelle d'ycelle et les destresses retenir tanque gree ly ent soit fait. Et outre ce nostre dit seignur ad grante au dit frere William en temps de guerre autres xl marcs par an a terme de sa vie, a prendre par les mains del tresorer de guerre qi pur le temps serra (ainsi qu'il soit) tenu des travailler ovesque nostre dit seignur tant en temps de peas come de guerre en quelles parties q'il plerra a nostre dit seignur et de faire ses dites offices. Et serra le dit frere William a bouche en courte ovesque un gentil homme clerc ou esquier et un chamberleyn, et pren tra livre pur iiij. chivaux et gages pur deux garceons pur le temps q'il serra en courte, et a quelle temps q'il serra hors de courte as busoignes de nostre dit seignur par son mandement il avera gages pur chescun jour [illegible] la terme [illegible] les maines del tresorer del houstel qi pur le temps serra. En tesmoignance, &c. Donnee etc. a la Savoye le xv. jour de Marz l'an [illegible]. (John of Gaunt's Register, Cam. Ser. [illegible], Vol. I. Part I., No. 832.)

[4] Le Livre de Santé, par Aldebrandin de Sienne, Sloane MS. 2435.

FIG. 1.

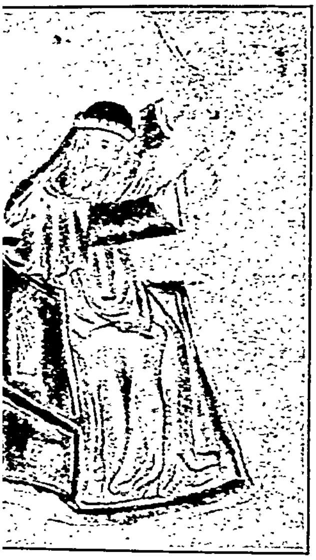


FIG. 2.

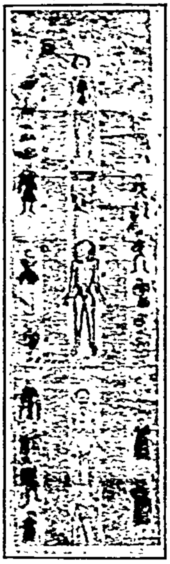


FIG. 3.

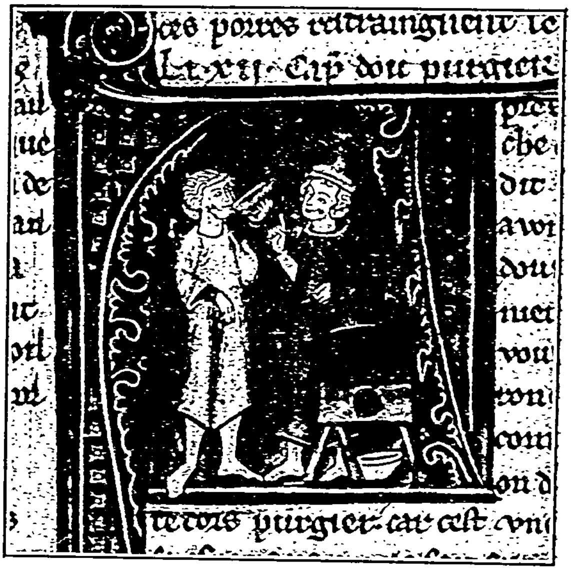


FIG. 4.

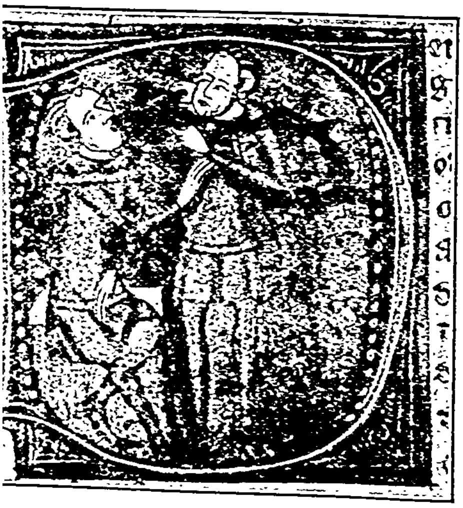


FIG. 5.

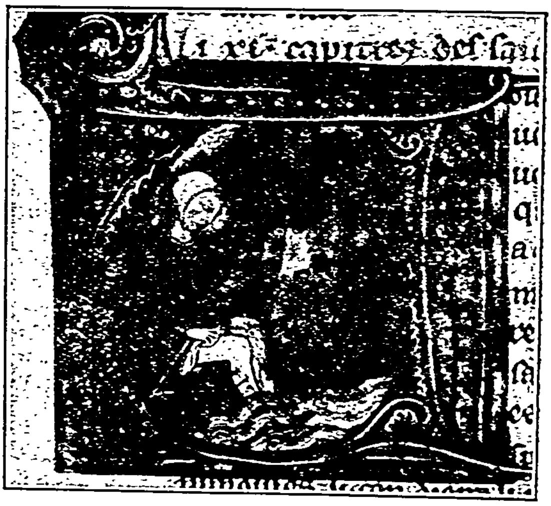


FIG. 6.

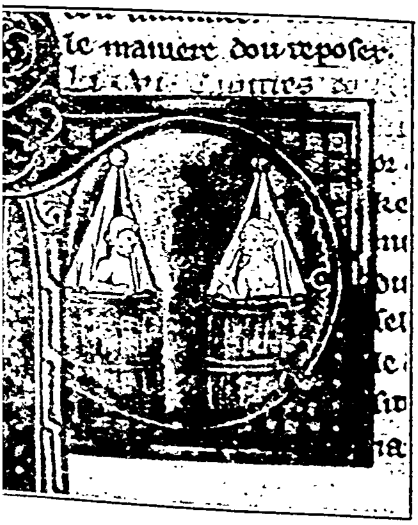
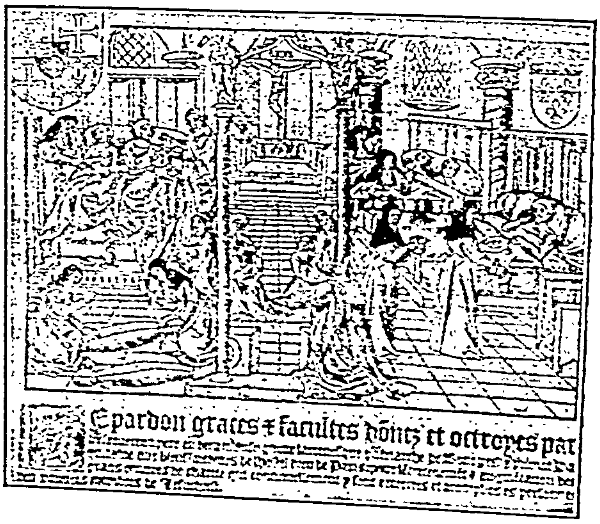

le maniere dou reposer.

FIG. 7.


Ce pardon graces et facultes donnez et octroyez par

The Operating Surgeon.

The operating surgeon—as a class—was in a lower position than the physician, and during the fourteenth century he was in a transition state. He was still itinerant because he went from house to house to do his cure—that is to say, he undertook for a certain fee to operate and attend the patient until he was well. This involved personal service, occasionally for long periods of time, and the fees charged were relatively large because it was impossible to have more than one case in hand at a time. The fee was paid partly in cash, partly in kind, and partly in the form of an annuity which the surgeon received so long as the patient lived. The operating surgeon travelled extensively, lived with the moneyed classes, and if he was a good fellow was received by his patients on a friendly footing. He also gained a large income.

Most of the operating surgeons in this century had seen war service, I imagine, and although there were a few in the provincial towns, the majority congregated in London where they became members of the Guild or Fraternity of Surgeons. Membership of this Guild gave them the right to call themselves "Master" or "Magister" with a special cap and robe, as seen in the picture (FIG. 1), and for a few years they arrogated to themselves the prefix "de," so that John Arderne when he was elected into the Guild became Magister Johannes de Arderne. Many operating surgeons had taken orders and were consequently unmarried, but they do not seem to have held Church preferment, as was the case with physicians. The attitude of mind of the lay surgeons was, however, sincerely religious when they belonged to the better class, and their religion was certainly not a pose. Arderne, writing in 1376, used to say, "I did my cure to him and the Lord being mene (Deo favente) he was helid perfectly," in exactly the same humble-minded spirit as Ambroise Paré—200 years later—said, "I dressed him, God cured him."

The Master Surgeons as a guild exercised control over the practice of surgery in London. Isolated notices of them occur as early as 1312, and the record of 1354 shows definitely the use to which the authorities put their knowledge. It says:—

> Be it remembered that on Monday next after the feast of St. Matthias the Apostle (24th Feb. N.S.) in the 28th year of the reign of King Edward iiird, the Prior of Hogges, Master Paschal, Master Adam de la Poleterie, and Master David de Westmerland, surgeons, were sworn before the Mayor, Aldermen and Sheriffs, to certify them as to a certain enormous and horrible hurt on the right side of the jaw of Thomas de Shene; whether or not such injury was curable at the time when John le Spicer of Cornhulle took the same Thomas under his care to heal the wound aforesaid. Who say upon their oath, that if the aforesaid John le Spicer at the time when he took the said Thomas under his care had been expert in his craft or art or had called in counsel and assistance to his aid, he might have cured the injury aforesaid; and they farther say that, through want of skill on the part of the aforesaid John le Spicer the said injury under his care has become apparently incurable.

I am inclined to think that John le Spicer was an apothecary seeking to practise surgery and that he was a member of the Fraternity of Spicerers.

The duties of the officers of the Guild had become stereotyped into an oath as early as 1369, but I quote the oath of 1390 because it states that women as well as men practised surgery in the City of London. It runs:—

> On Monday, 10th April in the thirteenth year of King Richard the Second Master John Hynstock, Master Geoffrey Grace, Master John Bradmore and Master Henry Suttone, surgeons were admitted in the Court of Guildhall in London before William Venour, Mayor, and the Aldermen. They were sworn as Masters Surgical of the aforesaid city well and truly to serve the people in working their cures, taking of them reasonable recompence, &c. To practise truly their trade and to make faithful oversight of all others both men and women, occupied in cures or using the art of surgery, presenting their lack both in practice and medicine so often as needs be to the aforesaid Mayor and Aldermen. They shall be ready when warned thereto to take charge of the hurt or wounded and to give faithful information to the servants of the City of such hurt or wounded as are in danger of death or not.

The Master Surgeons themselves were held in some estimation and consorted on fairly equal terms with the physicians, but the reputation of operating surgeons as a whole was not good. Their wandering life very often made them literally vagrants, and if a case was not doing well they had an unpleasant habit of slipping away and leaving the patient to Providence. In the popular estimation they were drunken, lascivious, boastful, and quarrelsome thieves. William de Salicet, writing for surgeons at the end of the thirteenth century, says gravely enough that a wise surgeon will refrain from stealing whilst he is actually in attendance upon a patient, and that he should not employ assistants with notoriously bad characters, not because it is morally wrong, but because such actions are likely to prejudice the patient against his surgeon and so spoil an otherwise good operation.

The best of the operating surgeons, however, did good work in the fourteenth century, and they almost succeeded in making surgery a profession. Their skill and boldness may be judged from this extract from the manuscript of an unknown surgeon whose work still lies unprinted at the British Museum.[5] The section treats "of wounds of the gut and liver.' It says:—

> Yf a gutte passe out of the wounde and it be not wounded reduce him in again, and yf you may not reduce him procede in this manner. ffirst chaufe ye guttes that ben oute and mollifie hem with a gret sponge (wetted) in water of ye decoccion of camomulle & anys & enoynte hem with hoote oile of camomulle & when they be chaufed with the aforeseid sponge putte hem in agen as well as you may & yff you may not reduce hem by this weye open ze wound a litell more liztly & widely & then reduce hem & sewe ye wounde & yf the gutte that passe out be wounded then that wounde ben dedlye but yet leve not the resonable cure of the wound.
>
> An ye guttes be kutte all otmest so that ther leve nothyng hoole thane natheless the wound is mortal and may not receive no curacion; but yf ze guttes be kutte on lengthe other in partie on breadth but not fully cut in sonder hardily conduce ye parties of ye gutte that is kutte, whether that it be kutte ye lengthe other brede, & sewe hem in ye manner as skynners sewen ther furroures [furs], for in this case it is ye best maner; & anone as it is sewed lay on a poudir that mo cleve together to the guttes & the sewing the weche is made in this manner: Take Mastic, draganth & gum arabick, &c.

In the same manner it is recommended that a ruptured liver should be treated by suture.

The Barbers.

The term "leech" was used familiarly as the term "doctor" is at present, and was applied to all members of the medical profession. The general or family practitioner, at any rate in London, was obliged to be a member of the guild or fraternity of Barbers. He was a Barber and was called a Barber or, at the best, a Barber practising surgery, for there were no Barber Surgeons, since the Barbers and Surgeons did not unite until 1540. Some jealousy existed between the operating surgeon and the barber who practised surgery, for Arderne says, in speaking of the treatment of thrombosed piles by incision: "And be the lech ware that non of tham that standeth ny about perceive when he openeth the lancet for if barbours know this doing they would usurp this cure, appropriating it to themselves unto unworschip and no little harm of the Master (surgeons)." It is clear, too, that the barbers held a somewhat lower position, for it is told of a fishmonger, who spiked his arm on the swingdoor of the Carmelite Church in Whitefriars, that "he was almost dead what with the aching, swelling, burning and improper treatment of a barber that put into the wound irritating tents of linen and had covered them with diachylon. All thes dressings I took away and about evensong replaced them with a simple dressing of oil. And before cockcrow the patient was relieved and in the morning he slept well and I cured him finally and thereby I got much honour."

---

[5] Gallen's Boke of Operacion, Sloane MS. [illegible], F. 1. [illegible]

Here is a case showing the ordinary course of surgical routine and the relationship between women, barbers, and surgeons in the fourteenth century. The priest had a cancer of his breast. John Arderne tells the story in one of his minor works. He says:—

> To a preest of Colstone faste by Bynghuame (Colston Bassett in Notts) ther felle a sore in the ryghte pappe withinne the skyne uppone the heed of the pappe as it were a litill knotte & in manner of a pese with ycchynge & so the forseyd knotte bi contynywaunse grew foorth tyll it was of the gretnesse of ane henne egge & that it came to the foorme & lyknesse of a topp. The colour of this sore was lyvyd medlyd with rednesse & waterynesse & hard in felynge & whane ii yere were passyd he was tawghte of a lady to leye ane emplastre therto & to drynke of the drynke of Antioche and whane he perceyved that the forseyde medicines prevayled hyme nowgth he went uneto the towne of Notynghuame to be leten blood & whane the barbour perceyved the forseyd knotte he asked of hyme whether that he wolde be holpen therof & tolde hyme that he hadde a cure therfore & coowde hele hyme therof. The preest seyd he wolde fayne be holpen but nevertheless he seyde to him he wolde aske counsell yf it myghte be done as he seyd unto him. And in the same towne ther was a wyse sirurgyane of the weche the seyd preest hadde wetynge & wente to hyme to aske counsell yf that he were curable or if that he myghte suffre ony kuttynge or corrosyne or ony suche other medicines. And the seyde leche warned him that he schulde in no manere wyse putte no corrosyve ne non other violent medicines ne lete no kuttynges come ther-ny for yf he dyde he promysed that yt wolde brynge hyme to the deeth withouten ony rekevere.

The barbers acted in their public capacity as health officers of the City of London. They had charge of the gates of the City and were formally appointed gatekeepers. They knew who came in and who went out, and their medical knowledge enabled them to segregate the lepers who were so fruitful a source of anxiety to every community throughout the Middle Ages. The barbers also had the superintendence of the Bagnios, which were little else than licensed brothels, and it is for this reason that in 1308 Richard the Barber, on his presentation to the Court of Aldermen as Supervisor of the Barbers, made "oath that every month he would make scrutiny throughout the whole of his trade and if he should find any among them keeping brothels or acting unseemly in any way and to the scandal of the trade he was to distrain upon them."

These duties interfered to a certain extent with the duties required of every citizen—the serving on juries and keeping of watch and ward. Both were irksome, and the early records of the Barbers are full of attempts to gain exemption. The City watch was especially onerous, for in times of unrest, and they were frequent throughout the thirteenth and fourteenth centuries, the streets of London were patrolled at night by a guard which the chroniclers tell us was as many as 10,000 men armed and grouped into bands under the different aldermen. In ordinary times a dozen men from each ward sufficed, but they had to be properly armed and accoutred so that they were a source of continual expense. The barbers obtained exemption both from serving on juries and from watch and ward, and the exemption, as you know, still holds good for us so long as we are in the actual practice of our profession.

The barbers took no responsibility with their patients. Every person under their care who was "in danger of death or maim"—that is to say, who was seriously ill or likely to suffer from permanent disablement—had to be seen by the Master or Wardens of the Barbers' Guild within three days of the first attendance. Any barber who neglected this rule of "the presentation" of patients was fined and might be imprisoned, whereas if he obeyed it he was held blameless—except in very gross cases of malpraxis—whatever happened. The rule worked well, and for 300 or 400 years there is no record of the attending barber being supplanted by the Master and Wardens whom he had called in to assist him. The women members of the Barbers' Guild and Company did not exercise their art and mystery, but were the wives, widows, and daughters of members who kept on the apprentices or received what would now be called a pension.

Subordinate Grades.

In the subordinate ranks of the profession were many different grades. They chiefly flourished in country places and travelled from town to town. The dentist, as is seen in Fig. 4, was known by the belt which he carried to display the number of successful extractions he had performed, but it is evident that his tools were of the rudest, even if allowance be made for inaccurate drawing. The coucher for cataract, the cutter for stone, and the curer of ruptures were well recognised itinerant occupations, whilst cupping, or "garsing" as it was called, was left to a special class, of whom the last survivor disappeared from the Blackfriars-road well within our own recollection. It seems, however, that only the operative part was left to these practitioners, for the surgical manuals of the time deal with the treatment of diseases of the eye, with the signs and symptoms of stone in the bladder and kidneys, as well as with hernia. The method of leeching seems to have been simple if Fig. 5 may be trusted, for the patient is sitting with her feet in the pond until the leeches fasten upon her legs.

Bathing in like manner was reduced to its simplest form, as is here shown. (Fig. 6.)

The Apothecary.

Very little is known of the apothecary in the fourteenth century. He practised a separate trade in London as a member of the Spicers' Guild—for the Guild of Grocers was not yet formed—and in all probability he was an offshoot of the confectioners. The Ward Robe Rolls show him as a court official who in the reign of Edward II., in 1313, received 7½*d.* a day. His name was Odin the Spicer, and when Madame the Queen was ill at Westminster in the November of that year, he bought things for her. He is called definitely "Odinus Apothecarius Reginae." In 1345 Coursus de Gangeland, an apothecary of London, was granted 6*d.* a day by Edward III. for taking care of and attending his majesty during his illness in Scotland, so that by this time he was definitely engaged in medical practice. In 1360 Peter of Montpellier was apothecary to Edward III., and Freind says in his History of Physic (vol. ii., p. 292) that J. Falcand de Luca in 1357 was the first apothecary to sell medicines in England.

The apothecary held a well recognised position as the "physician's cook," and Chaucer says in his prologue, when speaking of a Doctour of Phisike:—

> Ful redy hadde he his apothecaries,
> To send him drugges, and his letuaries,
> For ech of hem made other for to winne;
> Her frendship was not newe to begynne.

John Arderne makes several references to "the potecary." Writing in 1372–6 he says: "Euforbium is a gumme that potecaryes sellen," and in another place: "Agryppa is ane oyntment that potecaryes sellen, and it is whyte of coloure"; and yet again: "Thou mayest put to a wounde common unguentum album that apothecaries make."

The spicers and the pepperers were nearly all Italians in the fourteenth century, and the apothecary was necessarily a member of one of these guilds, or he could not ply his trade. There is a curious passage in one of Arderne's works which shows that these Italians were already assuming to themselves certain humble medical duties, for he says in speaking of clysters and their uses, "I have gotten an hundred times gret honour with lucre in diverse places. ffor why, at London when Lumbardez oft-times ministered clisteries on their manner to colic men and other men constipate, ne might not availe, I forsooth, with the aforesaid manner of clystering at the first time within the space of a forlong or two I delivered the patient for certayne, our Lord being mene." The passage is interesting apart from the reference to the Lombards as specialists in the administration of enemata, because it shows how prevalent constipation must have been when living was high, people were sedentary, and purgatives were few. The estimation of the action of clysters in terms of distance rather than of time seems to be wholly original. So far as I remember, however, the apothecaries never came into serious conflict with the surgeons or with the barbers of London in the exercise of their occupation. They were soon merged into the great Company of Grocers and developed into ordinary shopkeepers as retail sellers of drugs and spices. It was only when they were formed into a separate body as the Society of Apothecaries that they became a thorn in the side of the physicians, but this was more than 250 years later.

The Hospitals.

The hospitals in the fourteenth century formed a special branch of charitable work, just as they do at the present time. In London they had already existed for nearly 200 years. They were religious institutions nursed by members of the Augustinian order, and provided food, rest, nursing, and religious consolation for those who were acutely ill. There was no separate medical or surgical staff until the sixteenth century, and we have no knowledge as to the nature of the treatment followed. The patients were sick persons found in the streets of the City and all the wounded or injured who chose to apply for relief. Everyone was received freely and without question. Special servants of the hospital—the beadles—clothed in a distinctive livery and wearing a badge, were appointed to bring patients into the hospital. At St. Bartholomew's Hospital they still exist, and their sixteenth century charge ran:—

> Ye shall separate and divide yourselves into sundry parts of the city and the liberties thereof, every man taking his several walk. And if in any of your walks ye shall happen to espy any person infected with any lothely grief or disease, which shall fortune to lie in any notable place in the City to the noyance and infection of the passers by and slander of this house ye shall then give knowledge thereof unto the Almoners of this hospital that they may take such order as to them shall be thought meet.

We also know how such patients were received, for the order runs:—

> When the patient arrives he shall be received thus: First, having confessed his sins to the priest he shall be communicated religiously and afterwards be carried to bed and treated there as Our Lord, according to the resources of the house; each day before the repast of the brethren he shall be given food with charity, and each Sunday the epistle and the gospel shall be read with aspersion.

The patient was looked upon as the direct repreesntative of Christ, and was spoken of as Master or Lord, "Domini nostri pauperes," "Les Signors malades," "Our Lords the Sick," a very different form of address from the brutal terms of the eighteenth century, when they were spoken of officially as "the miserable objects."

The hospital consisted of a large hall (Fig. 7) ornamented with a high-pitched roof, a central louvre, beds in rows down the sides and in the centre, rather overcrowded to our ideas, with an altar raised a few steps at one end so that the patients could see the celebrant. The beds clean and neat, for there is a special order that they should be of sufficient breadth and length, and that the coverlets and sheets should be clean, separated perhaps by curtains, occupied certainly by two patients. This, however, was no hardship, because the proverb that "Travel makes us acquainted with strange bedfellows" is a remembrance of the time when it was usual for a person to share his bed with a stranger, and readers of literature even as late as the eighteenth century will recall many instances where the hero or the heroine has suffered loss at the inn where they have slept with a stranger who rose early and took the purse or the clothes of the heavier sleeper. Indeed, Sir Sidney Waterlow used to tell us when we were house surgeons and complained of the inadequacy of the accommodation offered us by the hospital, that when he was an apprentice he shared his bed with two others and that he slept *in the middle* because he was the smallest. The use of wooden bedsteads which was universal at the time made the bugcatcher an important and useful person at every hospital. The services of the Church compelled the constant attendance of the religious by night as well as by day, and the sick were therefore never left without supervision.

The *food* was as good as could be obtained and seems to have been liberally supplied, whilst extras were allowed on a somewhat lavish scale. Of the food and the extras these two stories have come down to us. The first was a miracle wrought by Alfun, the builder of St. Giles, Cripplegate, whom Rahere, the founder of St. Bartholomew's Hospital, had associated with himself when he felt age creeping on.

> It was the manner and custom of this Alfun [says the narrator] with servants of the church to compass and go

> about the nigh places of the church busily to seek and provide necessaries to the need of poor men that lay in the hospital and what was committed to him truly to bring home and to sundry men as it was need to divide. And there was a certain butcher Goderyke by name, a man of great sharpness and he was a mean man, the which not only to the asker would not give but was wont with scorning words to insult them. It fell upon a certain day that Alfun went about the butchers man by man and after other when he came to this Goderyke and moved him after the apostle with good and honest words importunately, because he was not willing to give, and when the old man beheld that not for dread, neither for love of God nor also for shame he might not temper the hardness of that indurate heart he broke out in these words, "O thou ungentle and unkind man! I beseech thee wretch put away a little and swage the hardness of that unfaithful soul and take in experience the vertue of the glorious apostle, in whom if thou trust I promise thee that every piece of thy meat that thou givest me a portion of shall the sooner be sold to other and nothing to the minishing or lessening of the price." He, not moved with the instinct or inward stirring of charity but overcome with the importunity of the asker, drew out a piece of the vilest and cast it into his vessell calling them truants and bade them lightly go from him; to whom Alfun answered "I shall not go from thee, till my word and promise be fulfilled." And without tarrying there was a citizen coveting to buy flesh for him and his household and of that heap of the which Alfun spoke before he bought at the will of the seller and bare it with him. And when this was divulged through all the butchery it was taken for a worthy miracle. And from that time they began to be more prompt to give their alms and also fervent in devotion.

The story is a pretty one, and is so graphically told that one has no doubt of its truth. The old priest, with the hospital servants behind him carrying a large wooden begging bowl, going from stall to stall in the meat market; the surly butcher, with the rest of the market looking on to see how Alfun would fare, the twinkle in the old man's eye as he knew that he had bested him; and the breathless citizen, who wanted to buy the worst meat at the highest price, bring back the whole scene and makes one wonder whether a part of it had not been rehearsed by Rahere and Alfun, who must have retained some sparks of that spirit which in youth had made them court favourites.

The story about the "extras" is told of the Knights Hospitalers of St. John of Jerusalem. It is said that Saladin desiring to prove for himself the indulgence of the knights to their patients disguised himself as a pilgrim and was received among the sick at the hospital in Jerusalem. He refused all food, declaring there was only one thing he fancied, and that he knew they would not give him. On being pressed, he confessed that it was one of the feet of the Grand Master's horse. The Grand Master was told, and at once ordered the noble animal to be killed and the sick stranger's desire satisfied. But Saladin thinking the experiment had gone far enough declared himself taken with a repugnance to meat, and the animal was spared.

Conclusion.

And thus ends a very short account of an interesting period of medicine in England. It is impossible in the scope of a single lecture to give more than a bare outline of the subject, but it has been my intention to show that there was a blending of the old and new during the fourteenth century. Wort-cunning, which still lingers amongst us at the herbalists, was the older Saxon leechcraft; spells were a reminiscence of the Danish rule; classical medicine was coming into vogue through the Arabic translations, and was brought to England from the schools of Salernum and Montpellier. Side by side with this knowledge, altering, modifying, and even creating, was the sturdy originality of the English mind. I shall have effected a part of my purpose this evening if this lecture induces some of you to go to the British Museum, to the university libraries, and to the cathedral libraries in search of the writings of our early predecessors which have escaped destruction but have never yet been printed. Such writings I believe to be numerous—some in Latin, some in racy translations, some in the original English in which they were written.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY meeting of the Council was held on June 9th, Sir RICKMAN GODLEE, the PRESIDENT, being in the chair.

The PRESIDENT reported the result of the recent election of five members of Council, which was published last week in THE LANCET, and he further stated that Mr. Stanley Boyd being fourth on the poll became substitute member of Council for Mr. R. Clement Lucas until 1917, and that Mr. Charles Ryall being fifth on the poll became substitute member of Council for Mr. Jonathan Hutchinson until 1915.

Mr. Ballance, Mr. Boyd, Mr. Thorburn, Mr. Eccles, and Mr. Ryall were introduced, made declarations in the terms of the oath prescribed by the Charter of 1800, and took their seats in the Council.

It was resolved—

> That the Council desire to express to Mr. William Pearson, upon his retirement from the post of prosector, their high appreciation of his services to the College during a period of 58 years. The Council believe that the many preparations added to the Museum as the result of his work are justly counted amongst the most treasured possessions of the College and that they will stand as a lasting record of his exceptional skill and industry.

The PRESIDENT reported that the following demonstrations would be given at the College in connexion with the Fifth Annual Session of the Clinical Congress of Surgeons of North America:—July 27th, 11.30 A.M., Professor A. Keith: The Nature of Peritoneal Adhesions; 28th, 11.30 A.M., Mr. Shattock: Specimens illustrating the Growth of Tumours; 29th, 11.30 A.M., Sir Rickman Godlee: Hunterian and Listerian specimens; 30th, 11.30 A.M., Professor Keith: Hunter's specimens illustrating Growth of Bone; 31st, 11.30 A.M., Mr. Colyer: Specimens from the Odontological Collection illustrating General Surgery; and at 5 P.M., Mr. A. H. Cheatle: The Surgical Anatomy of the Temporal Bone.

The PRESIDENT also stated that a reception would be held in the College from 4 to 6 in the afternoon of Wednesday, July 29th.

Election of President.

Sir William Watson Cheyne was elected President and Sir Frederic Eve and Sir Anthony Bowlby were elected Vice-Presidents.

The following appointments were made:—Erasmus Wilson Lecturer: Mr. S. G. Shattock. Arnott Demonstrator: Professor Keith. Hunterian Professors: Arthur Keith (six lectures), Rupert Farrant (two lectures), William Sampson Handley (one lecture), John Howell Evans (one lecture), Frederick Charles Pybus (one lecture), and Harry Blakeway (one lecture). Arris and Gale Lecturers: Frederick Wood Jones (one lecture) and David Waterston (two lectures). Mr. J. F. Colyer was elected to give two odontological demonstrations.

Sir Rickman Godlee was elected a member of the Executive Committee of the Imperial Cancer Research Fund.

DONATIONS AND BEQUESTS.—The Royal Dental Hospital of London has received a grant of £1000 from the executors of the late Sir William Dunn, being part of the residue of his estate.—Mr. William Hartmann has sent a donation of £1000 to the trustees of the Lord Mayor Treloar Cripples' Hospital and College for a "Meta Hartmann Cot" in the hospital at Alton.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the forty-fourth meeting of the Royal Commission evidence was given by Mr. J. E. R. Macdonagh, one of the surgeons of the Lock Hospital and by Mr. C. A. Parker, representing the State Medical Service Association.

Mr. Macdonagh said that at the present time the education of medical students in regard to venereal disease was quite inadequate, and it was very important in his opinion that compulsory clinical education of students in venereal disease should be adopted. He considered that widespread clinical experience would render public laboratories for the carrying out of bacteriological and other methods of diagnosing syphilis superfluous. The important thing in dealing with syphilis was to treat cases at the earliest possible moment, and these early cases could be diagnosed with greater certainty by clinical than by pathological methods. A negative Wassermann reaction in early syphilis did not exclude the disease, and if treatment were deferred until the reaction became positive the golden opportunity of cure was lost, however energetic the treatment might be. Syphilitic sores, moreover, frequently existed in which spirochætæ could not be found. Mr. Macdonagh was of opinion that syphilitic nervous lesions were steadily on the increase, and he considered that the spasmodic administration of salvarsan commonly practised in this country was likely to lead to a further increase. This spasmodic administration of the drug, moreover, gave a false sense of security and therefore rendered patients a greater danger to the community. He advocated that the Lock Hospital should be enlarged. The number of patients attending the hospital was steadily increasing. Mr. Macdonagh thought that medical research had been very insufficiently supported by the Government, and that much more might be done in this direction; he suggested that it might be an advantage if payment were only made for results.

Mr. Parker maintained that by the establishment of a State Medical Service many difficulties now connected with the treatment of venereal diseases could be overcome. It was essential that treatment should be efficient and confidential and in the last resort compulsory, and that the medical officers of health should be in touch with all cases of venereal disease. Efficient treatment would be procurable for the whole State service and would be open to all sufferers. The treatment would be confidential; there would be no special service of medical practitioners set aside for dealing exclusively with venereal diseases, by consulting whom patients would at once declare to the world at large the nature of their complaint. The size of the State Medical Service, its large and manifold functions, and its large and specialised staffs would render it impossible for the public to suspect the reasons which led the patient to ask advice. The treatment of venereal disease would be but a part of the preventive and curative treatment offered to all sufferers alike under a State Medical Service. No action whatever would be taken on the part of any public authority as long as a patient attended regularly and carried out the instructions of his doctor, but in the event of his failing to do so he would be proceeded against as a public danger in the same way as is done in the case of ordinary infectious diseases. Mr. Parker considered the difficult question of notification would be solved under a State Medical Service. Notification in the sense of a notice sent by a private practitioner to the medical officer of health would become unnecessary for all patients attending a State doctor would be registered with the history and nature of their complaint, and to those persons the medical officer of health, who would represent but another part of the same service, would have daily access. In the event of their being a body of private practitioners outside the service there should be notification of venereal disease either by name or number, and the medical officer of health would satisfy himself that the necessary treatment was being carried out by the patient. If this were not so the name of the patient would be declared, and he would be transferred to the charge of the State Medical Service. In order to obtain reliable statistics as to the fatal results of venereal diseases and their sequelæ it might be advisable to have a dual system of death certification—one for the purposes of the State Medical Department giving the fullest details as to the primary and secondary causes of death, and the other avoiding all facts which might cast a slur on the memory of the dead to be handed to the relatives of the deceased.

At the forty-fifth meeting the headmasters of Eton and Rugby appeared before the Commission. They considered that the ideal was that boys should be instructed in matters relating to sex by their parents, but their experience showed that that method was not likely at the present moment to be successful to the extent that it was desirable. Instruction at school should be given with much caution, and it should be the special responsibility of the headmaster to give it or to see that it was given. A propaganda based solely on hygienic principles would not bring in the chivalrous appeal which was necessary and was not likely to succeed. At the same time hard exercise, hard work, wholesome society, and moderation in diet and drinking were of great use as safeguards against indulgence.

At the same meeting Dr. Santoliquido, formerly Director-General of the Public Health Department in Italy, gave an account of the administrative methods adopted with regard to venereal diseases in that country.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns with populations exceeding 50,000 at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 9091 births and 4000 deaths were registered during the week ended Saturday, July 11th. The annual rate of mortality in these towns, which had been 12·9, 12·1, and 12·7 per 1000 in the three preceding weeks, fell again to 11·5 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these towns averaged 13·8, against 13·1 per 1000 in London during the same period. Among the several towns the death-rate last week ranged from 2·8 in Eastbourne, 4·3 in Exeter, 4·7 in Hornsey, 6·0 in Enfield, 6·1 in Wimbledon, and 6·2 in Southend-on-Sea, to 16·7 in Warrington, 17·0 in Gateshead and in Tynemouth, 17·6 in Liverpool, and 22·8 in Bootle.

The 4000 deaths from all causes were 421 fewer than the number in the previous week, and included 394 which were referred to the principal epidemic diseases, against 391 and 444 in the two previous weeks. Of these 394 deaths, 139 resulted from measles, 112 from infantile diarrhœal diseases, 77 from whooping-cough, 30 from diphtheria, 22 from scarlet fever, 13 from enteric fever, and 1 from small-pox. The mean annual death-rate from these diseases was equal to 1·1 per 1000, and was 0·2 less than the rate in the previous week. The deaths attributed to measles, which had been 140, 144, and 130 in the three preceding weeks, rose to 139 last week, and caused the highest annual death-rates of 1·4 per 1000 in Sheffield, 1·7 in Rochdale, 1·8 in Liverpool, and 2·1 in Oldham. The fatal cases of whooping-cough, which had been 99, 93, and 95 in the three preceding weeks, fell to 77 last week; the highest death-rates from this disease last week were 1·5 in Birkenhead and 2·1 in Warrington. The deaths from diphtheria, which had been 40, 35, and 64 in the three preceding weeks, fell to 30 last week; the highest death-rate was 2·7 in Great Yarmouth. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 79, 79, and 116 in the three preceding weeks, were 112 last week; and included 21 in London, 10 in Sheffield, 9 in Liverpool, 8 in Birmingham, and 4 each in Birkenhead and Wigan. The deaths from scarlet fever, which had been 24, 30, and 23 in the three preceding weeks, were 22 last week; of these 22 deaths 5 occurred in London. The deaths from enteric fever, which had been 8, 13, and 16 in the three preceding weeks, fell to 13 last week, and included 4 in London and 3 in Portsmouth. The fatal case of small-pox was recorded in Rochdale.

The number of scarlet fever patients under treatment in the London Fever and the Metropolitan Asylums Hospitals, which had steadily increased from 2352 to 3002 in the eight preceding weeks, further rose to 3100 on Saturday last; 414 new cases were admitted during the week, against 406, 440, and 442 in the three preceding weeks. These hospitals also contained on Saturday last 1935 cases of diphtheria, 256 of whooping-cough, 42 of measles, and 13 of enteric fever, but not one of small-pox. The 921 deaths from all causes in London were 227 fewer than the previous number, and corresponded to an annual death-rate of 10·6 per 1000. The deaths referred to diseases of the respiratory system, which had been 103, 141, and 125 in the three preceding weeks, fell to 111 in the week under notice, and were 5 above the number in the corresponding week of last year.

Of the 4000 deaths from all causes in the 97 towns, 193 resulted from different forms of violence and 348 were the subject of coroners' inquests. The causes of 29, or 0·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London, West Ham, Portsmouth, Bristol, Leicester, Nottingham, Manchester, Salford, Bradford, Leeds, Sheffield, and in 71 other smaller towns. Of the 29 uncertified causes of death, 8 were registered in Birmingham, 4 in Liverpool, and 3 in Stoke-on-Trent.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1158 births and 597 deaths were registered during the week ended Saturday, July 11th. The annual rate of mortality in these towns, which had been 14·6, 13·8, and 14·1 per 1000 in the three preceding weeks, fell to 13·6 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these towns averaged 15·5, against a corresponding rate of 13·8 per 1000 in the 97 large English towns. Among the several towns the death-rate last week ranged from 7·0 in Clydebank, 7·3 in Paisley and Kilmarnock, and 7·8 in Falkirk, to 14·1 in Glasgow, 15·7 in Edinburgh, 16·9 in Dundee, and 22·0 in Ayr.

The 597 deaths from all causes were 24 fewer than the number in the previous week, and included 41 which were referred to the principal epidemic diseases, against 52 and 41 in the two preceding weeks. Of these 41 deaths, 13 resulted from whooping-cough, 10 from measles, 10 from infantile diarrhœal diseases, 3 from scarlet fever, 3 from enteric fever, and 2 from diphtheria. The mean annual death-rate from these diseases was equal to 0·9 per 1000, and was 0·2 below the rate recorded in the 97 large English towns. The deaths attributed to whooping-cough, which had been 20, 18, and 12 in the three preceding weeks, were 13 last week, and included 9 in Glasgow and 2 in Coatbridge. The fatal cases from measles, which had been 17, 7, and 9 in the three preceding weeks, rose to 10 last week; of these 10 deaths 6 were registered in Glasgow. The deaths from infantile diarrhœal diseases, which had been 21, 10, and 13 in the three preceding weeks, fell to 10 last week and included 6 in Glasgow and 2 in Aberdeen. The 3 deaths from scarlet fever were slightly below the average in recent weeks, and included 2 which were registered in Glasgow. The 3 deaths from enteric fever exceeded the average in recent weeks, and included 2 in Glasgow. The 2 deaths from diphtheria, which also occurred in Glasgow, showed a marked fall from the numbers in recent weeks.

The deaths referred to diseases of the respiratory system, which had been 77, 64, and 63 in the three preceding weeks, further fell to 61 last week; 26 deaths were referred to different forms of violence, against 26 and 33 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 671 births and 368 deaths were registered during the week ended Saturday, July 11th. The annual rate of mortality in these towns, which had been 17·7, 15·7, and 16·2 per 1000 in the three preceding weeks, fell to 15·9 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these towns averaged 19·0 per 1000; in the 97 large English towns the corresponding rate did not exceed 13·8, while in the 16 Scottish towns it was 15·5 per 1000. The annual death-rate in the week under notice was equal to 15·0 in Dublin (against 10·6 in London and 14·1 in Glasgow), 17·0 in Belfast, 15·6 in Cork, 26·6 in Londonderry, 12·2 in Limerick, and 17·1 in Waterford, while in the 21 smaller towns the mean rate was 14·2 per 1000.

The 358 deaths from all causes were 7 below the number in the previous week, and included 38 which were referred to the principal epidemic diseases, against 36 and 47 in the two preceding weeks. Of these 38 deaths, 13 resulted from infantile diarrhœal diseases, 10 from measles, 6 from scarlet fever, 5 from whooping-cough, 3 from enteric fever, and 1 from diphtheria, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·6 per 1000, against 1·1 and 0·9 per 1000 in the English and Scotch towns respectively. The deaths attributed to infantile diarrhœal diseases, which had been 15, 11, and 14 in the three preceding weeks, were 13 last week, and included 5 in Belfast, 4 in Dublin, and 2 in Londonderry. The fatal cases of measles, which had been 19, 13, and 15 in the three preceding weeks, fell to 10 last week; of these 10 deaths, 6 were registered in Belfast and 4 in Dublin. The deaths from scarlet fever, which had been 8, 2, and 3 in the three preceding weeks, rose to 6 last week, and included 5 in Belfast. The deaths from whooping-cough, which had been 3, 6, and 10 in the three preceding weeks, fell to 5 last week, and included 2 in Belfast and 2 in Dublin. The deaths from enteric fever, which had been 3, 2, and 1 in the three preceding weeks, rose to 3 last week, and included 2 in Dublin. The one death from diphtheria occurred in Belfast, and was considerably below the average in recent weeks.

The deaths referred to diseases of the respiratory system, which had been 68, 57, and 41 in the three preceding weeks, were 53 in the week under notice. Of the 368 deaths from all causes, 109, or 30 per cent., occurred in public institutions and 7 resulted from various forms of violence. The causes of 9, or 2·4 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified deaths did not exceed 0·7 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Staff-Surgeon Frederick Francis Mahon has been promoted to the rank of Fleet-Surgeon in His Majesty's Fleet (dated July 11th, 1914).

The following appointment has been announced: Staff-Surgeon A. T. Gailleton to the *Falmouth*, on recommissioning.

ARMY MEDICAL SERVICE.

Surgeon-General William W. Kenny is placed on retired pay (dated July 14th, 1914). Colonel Tom P. Woodhouse to be Surgeon-General, vice W. W. Kenny, retired (dated July 14th, 1914). Lieutenant-Colonel Frederick W. C. Jones, from the Royal Army Medical Corps, to be Colonel, vice T. P. Woodhouse, promoted (dated July 14th, 1914). Colonel (temporary Surgeon-General) William G. Macpherson, C.M.G., Honorary Physician to the King, to be Surgeon-General to complete establishment (dated July 14th, 1914). Lieutenant-Colonel Thomas W. Gibbard, Royal Army Medical Corps, is appointed an Honorary Surgeon to the King, and granted the brevet rank of Colonel, vice Surgeon-General W. W. Kenny, M.B. (dated July 14th, 1914).

ROYAL ARMY MEDICAL CORPS.

Major Lionel A. Mitchell to be Lieutenant-Colonel (dated July 14th, 1914). Captain Francis Romney Coppinger, from the Indian Medical Service, to be Captain, vice J. B. Hanafin, who exchanges (dated July 15th, 1914).

Surgeon-General R. W. Ford, D.S.O., has taken up duty at Headquarters of the Northern Command at York as Deputy Director of Medical Services.

Colonel R. Kirkpatrick, C.M.G., Assistant Director of Medical Services to the Presidency and Assam Brigades, has been transferred from Calcutta to Darjeeling Cantonment. Colonel T. P. Woodhouse has taken up duty as Deputy Director of Medical Services to the Aldershot Command.

Lieutenant-Colonel F. Caton Jones has arrived home for duty from Meerut Cantonment. Lieutenant-Colonel C. H. Hale, D.S.O., has been transferred from Maymyo, Burma, to hold charge of the Military Hospital at Sialkot Cantonment. Lieutenant-Colonel F. W. Hardy has arrived home from India on leave of absence. Lieutenant-Colonel R. H. Hall has been transferred from the Military Hospital at Cosham to Tidworth Park Camp. Lieutenant-Colonel H. I. Pocock has been transferred from Campbellpore to the Military Hospital at Sialkot. Lieutenant-Colonel A. Kennedy has been placed under orders for service abroad. Lieutenant-Colonel J. J. Gerrard has been appointed Senior Medical Officer to the Sierra Leone Protectorate. Lieutenant-Colonel R. Holyoake has been appointed to hold charge of the Military Hospital at Kamptee Cantonment.

Major A. G. Thompson has arrived home for duty from India. Major R. W. Longhurst has been transferred from Ambala to Subathu Cantonment. Major W. Tibbits has been appointed to Mooltan. Major W. M. H. Spiller has been appointed to hold charge of the Military Hospital at Calcutta. Major J. Matthews has been transferred from Secunderabad to the Military Hospital at York. Major S. W. Sweetnam has arrived home for duty from Ambala. Major C. W. Mainprise has been transferred from Rawal Pindi to Kuldana Cantonment. Major E. E. Parkes has been transferred from Plymouth to the Military Hospital at Jubbulpore Cantonment. Major H. M. Nicholls has joined the Scottish Command. Major L. Cotterill has been transferred from Nowshera to Cherat Cantonment. Major J. G. McNaught, Major J. P. Silver, and Major C. W. Profeit have been placed under orders for service abroad. Major G. J. A. Ormsby has taken up duty in the Irish Command. Major J. F. Martin has been transferred from Sandhurst to the Aldershot Command. Major A. E. Hamerton, D.S.O., has been appointed to the Colchester District. Major R. H. Lloyd has taken up duty at the Military Hospital, Dagshai. An exchange on the roster for service abroad has been approved between Major R. W. Clements and Major S. H. Fairrie; the former officer will now proceed abroad during the coming trooping season instead of the latter. Major R. C. Lewis has arrived home on leave of absence from Gibraltar. Major J. C. B. Statham has embarked for a tour of service in the Sierra Leone Protectorate. Major H. Simson has been granted general leave of absence home from India for four and a half months.

Captain C. J. Wyatt has arrived home for duty from the Sierra Leone Protectorate. Captain G. A. D. Harvey has been appointed to the Egyptian Army. Captain D. P. Watson has been appointed to the Irish Command. Captain R. F. O'T. Dickinson has been transferred to the Home Establishment from India. Captain G. Petit has taken up duty in the Eighth (Lucknow) Division on transfer from the Third (Lahore) Division. Captain R. Storrs has joined at Winchester. Captain F. T. Turner has been appointed to the Southern Command. Captain F. A. H. Clarke has been transferred from the Military Hospital at Calcutta to Lebong Cantonment. Captain J. B. Hanafin has arrived home on leave of absence from Ambala Cantonment. Captain J. Fairbairn has been appointed to the Scottish Command. Captain D. Ahern has been transferred from Dublin to the Military Hospital at the Curragh Camp. Captain J. J. H. Beckton has been appointed to the Military Hospital at Rawal Pindi. Captain W. K. Beaman has taken up duty in the Northern Command. Captain E. B. Booth has joined at Tower Hill, West Africa. An exchange on the roster for service abroad has been approved between Captain H. E. Priestley and Captain H. B. Kelly; the former officer will now proceed abroad during the coming trooping season instead of the latter. Captain C. T. V. Benson has been appointed Staff-Surgeon at Fort St. George, Madras. Captain C. W. Bowle has been appointed to hold charge of the Military Hospital at Enniskillen. Captain F. W. M. Cunningham has been transferred from the Sialkot Cantonment to the Murree Hills. Captain W. W. Boyce has been appointed to the Aldershot Command. Captain C. M. Rigby has been appointed to officiate as Surgeon to the Governor of Bombay. Captain J. D. Bowie has been appointed to the staff of the Military Hospital at Calcutta.

Lieutenant A. F. C. Martyn has embarked for Egypt. Lieutenant O. W. J. Wynne has been appointed Specialist in Advanced Operative Surgery to the Eighth (Lucknow) Division. Lieutenant R. B. Price, Lieutenant J. B. A. Wigmore, and Lieutenant J. Hare have been placed under orders for service abroad. Lieutenant A. G. Bigham has been transferred from York to the Military Hospital at Rawal Pindi. Lieutenant H. F. Panton has been transferred from Lahore to the Mhow Division. Lieutenant R. W. Vint has been appointed to the Military Hospital at Lucknow Cantonment. Lieutenant W. O. W. Ball has been placed in medical charge of the Cavalry Barracks at Longmoor.

INDIAN MEDICAL SERVICE.

The King has approved of the retirement of Surgeon-General Aylmer Martin Crofts, C.I.E., K.H.S. (dated May 25th, 1914).

Lieutenant-Colonel L. F. Childe has been appointed Principal of the Grant Medical College at Bombay. Lieutenant-Colonel C. A. Johnstone has joined at Mhow. Lieutenant-Colonel W. D. Sutherland has been appointed Imperial Serologist. Lieutenant-Colonel P. Carr-White has been appointed Residency Surgeon and Assistant to the Resident in Nepal State. Lieutenant-Colonel H. B. Melville has been placed on special deputation duty at Delhi. Lieutenant-Colonel J. Jones has joined at Bombay. Lieutenant-Colonel G. Y. C. Hunter, superintendent of the Central Prison at Buxar, has been granted six months' extension of leave.

Major T. S. B. Williams has been appointed Residency Surgeon to Gwalior State. Major A. M. Fleming, civil surgeon at Jubbulpore, has been appointed to officiate as Superintendent of the Central Prison at Jubbulpore during the absence of Captain W. J. Powell, transferred to the Central Research Institute at Kasauli Cantonment. Major R. F. Baird has been appointed to hold civil medical charge at Benares Cantonment. The services of Major A. W. Greig have been placed permanently at the disposal of the Government of the Punjab for employment in the Prison Department. Major S. Hunt has been appointed Residency Surgeon in the Persian Gulf. Major F. S. C. Thompson has been appointed Superintendent to the Central Jail at Alipore.

Captain W. H. Odlum has been appointed Medical Officer to the 30th Lancers. The services of Captain H. H. King have been placed temporarily at the disposal of the Director-General for employment on special duty in connexion with the prevention of malarial fevers. Captain C. L. Dunn, Deputy Sanitary Commissioner to the United Provinces of Agra and Oudh, has been granted eight months' leave of absence home from India on medical certificate. Captain R. A. Chambers has taken up duty as Staff Surgeon at Bangalore. The services of Captain A. F. Babonau have been placed temporarily at the disposal of the Chief Commissioner of Assam for civil employment in the Medical Department. Captain T. H. Bonnar, civil surgeon to the Garo Hills District, has been appointed Magistrate in that area. Captain J. F. Boyd has been appointed to officiate as Civil Surgeon to the Bareilly District.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

The undermentioned Captains to be Majors:—William H. G. H. Best (dated April 30th, 1914). James C. Furness (dated June 18th, 1914).

The undermentioned to be Lieutenants (on probation):—Cadet George Harold Rossdale, from the Oxford University Contingent, Officers Training Corps (dated June 3rd, 1914). Henry Cuthbert Bazett (dated June 19th, 1914).

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd South-Western Mounted Brigade Field Ambulance, Royal Army Medical Corps: Lieutenant Rupert Waterhouse to be Captain (dated Oct. 15th, 1913).

1st West Lancashire Field Ambulance, Royal Army Medical Corps: Samuel McCausland to be Lieutenant (dated June 1st, 1914).

1st London (City of London) Field Ambulance, Royal Army Medical Corps: Cadet Lance-Corporal Eric Donaldson, from the University of London Contingent, Senior Division, Officers Training Corps, to be Lieutenant (dated July 11th, 1914).

2nd London Sanitary Company, Royal Army Medical Corps: William John More Slowan to be Lieutenant (dated June 9th, 1914).

For attachment to Units other than Medical Units.—John Livingston to be Lieutenant (dated May 23rd, 1914).

Attached to Units other than Medical Units.—Maurice Cameron Anderson to be Lieutenant (dated June 11th, 1914). Lieutenant Kenneth Mackinnon resigns his commission (dated July 11th, 1914).

JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

The July issue of this journal opens with a paper on Humidity and Heatstroke, by Colonel R. J. S. Simpson, C.M.G., which is intended to be read in connexion with Dr. M. S. Pembrey's article on Heatstroke in the June issue of the same journal. Major H. Ensor, D.S.O., writes an interesting description of a Day's Work on the Sudan Sleeping Sickness Commission, and Major J. C. B. Statham contributes a Report on a Series of 833 Medical Pyrexias occurring in the Sierra Leone Garrison during the period October 1912–1913, with remarks on the bearing of these diseases on the health of the troops. An important joint communication by Major S. L. Cummins, Captain C. J. Coppinger, and Lieutenant A. L. Urquhart appears under the title of Further Observations on the Presence of Antibodies for Micrococcus Melitensis in the Milk of English Cows. The paper is a report in some detail on the milk of one of a series of 7 cows from a London dairy examined for agglutinins. Two of these animals gave positive results, one of which, Cow 5, was found to agglutinate micrococcus melitensis in dilutions varying from 1 in 250 to 1 in 1000 on different dates. In the result the milk, whey, and blood serum of Cow 5 behaved towards micrococcus melitensis in a manner comparable to the body-fluids of animals suffering from, or immunised against, this organism, due allowances being made for differences in concentration of "antisubstances" and degrees of immunity. Colonel R. H. Firth discusses Osmosis in an article complementary to one on Colloids and Solutions which he contributed to a previous issue.

DEATHS IN THE SERVICES.

Staff-Surgeon Archibald Leslie Archer, R.N. (retired), at his residence, 2, Donegal-terrace, Stoke, Devonport, on June 17th, in his 87th year. Shortly after graduating as M.D. Edin. in 1849 he entered the Royal Navy as assistant surgeon. He served on H.M.S. *Nile* in the Baltic Sea during the Russian war of 1854–55, and was awarded the Baltic medal. He retired from the service in 1860. Staff-Surgeon Archer took a great interest in all public matters in Devonport; he was formerly a member of the local town council and on the honorary staff of the Royal Albert Hospital. In 1858 he was appointed assistant actuary to the Royal Naval Annuitant Society at Devonport.

EPSOM COLLEGE: FOUNDER'S DAY.—The President of the College, the Earl of Rosebery, K.G., is expected to attend the annual prize giving on July 25th, the last over which the present headmaster will preside. There will be service in the College chapel at 2.45 P.M., and the prizes will be distributed in the big schoolroom at 3.15.

THE GOVERNMENT OF INDIA'S SANITARY POLICY.

(FROM A SPECIAL CORRESPONDENT.)

THE Government of India have issued an important resolution on the subject of sanitary progress and development in India. The resolution lays down three broad principles on which sanitary work must proceed in India. It must rest on a knowledge of the people, their conditions of life, their prejudices, social customs and habits, their surroundings and financial means, and it must secure their coöperation. It must recognise the diversity of local conditions in a country which includes numerous communities, castes, and creeds, which exhibits almost every variety of climate, temperature, humidity, and level of subsoil water. Its introduction must be preceded by preliminary local surveys, inquiry, or experiment. The policy of the Government of India is to keep the control of research under itself, but to decentralise other branches of sanitation.

It then proceeds to consider the present state of our knowledge with respect to all the principal diseases of India, and also on such subjects as infantile mortality, vital statistics, urban sanitation, conservancy, water-supply, drainage, epidemic diseases, pilgrim centres and pilgrimages, the adulteration of food and drugs, adulteration of milk, town planning and relief of congested areas, and rural sanitation. On each point it indicates the state of knowledge so far reached and the broad lines of the policy which should be pursued in future. It concludes with the expression of the opinion that the diffusion of sound education will remain a most potent and penetrating instrument of sanitation among a population which still views it for the most part with hostility or unconcern.

Investigations into the Causation and Prevention of Disease.

Research is slowly lifting the veil which hides the secrets of disease and mortality and opening up fields of inquiry scarcely thought of a generation ago. In 1902 a research institute was founded at Guindy, in Madras, named the King Institute after Lieutenant-Colonel King, C.I.E., I.M.S., in view of his devoted efforts in the cause of sanitation in that presidency. The Central Research Institute has been established at Kasauli. The Plague Research Laboratory at Parel has been extended and re-equipped, and is now the bacteriological laboratory for the Bombay Presidency; and a proposal is under consideration to attach to it a school of tropical medicine. A research laboratory and school of tropical medicine are under construction at Calcutta. Pasteur institutes exist at Kasauli and Coonoor. A third is about to be established in Burma, and it is under discussion to establish others in Assam (where it will be combined with a research laboratory) and Bombay.

Besides the routine work connected with the bacteriological diagnosis of disease, antirabic treatment, the manufacture of various vaccines and sera, and general research, these laboratories at different times have been centres of many special investigations, notable amongst which are those on plague and enteric fever. It is hoped that before long each province in India will have a laboratory fully equipped for research. The foundation of the Indian Research Fund Association in 1911 has marked an important era in sanitary progress. The association has been active and can already point to some achievement. Out of an income of Rs.15 lakhs (£100,000) received since its incorporation and up to the end of 1913–14, an expenditure of over Rs.14 lakhs (£93,333) has been sanctioned. In 1911 Major S. P. James, I.M.S., was deputed to study yellow fever in its endemic area and to draw up proposals for protecting India against the introduction of the disease. These proposals are still under consideration. In the meanwhile, stegomyia surveys have been carried out in Calcutta, Bombay, Madras, Karachi, Rangoon, and other seaports. Antimalarial schemes based on preliminary surveys have been carried out at a cost of Rs.6,02,000 (£40,133). Investigations are at present in progress into the problems connected with the prevalence of cholera, kala-azar, dysentery, leprosy, and goitre.

Malaria and Plague.

The report states that the conditions and causes underlying the prevalence of malaria vary greatly in different places, and no one antimalarial measure is suitable for all. Quinine both as a prophylactic and curative agent is of great value to the individual. Its powers of saving life, alleviating sickness, and destroying sources of infection cannot be overestimated. There should be no relaxation of the efforts to educate the people in the use of the drug, and its sale by shopkeepers in rural areas might well be encouraged. The regular administration of quinine to children in schools during the malarial season is a practical measure of easy application and of proved ability; it is valuable alike for its immediate good effects on the health of the scholars and as a means of spreading knowledge of the use of quinine. The treatment of permanent collections of water is important whether it be effected by water tidiness, through sloping of banks and clearing of weeds, or stocking with fish of proved ability as mosquito destroyers or by both methods.

As regards plague, the chief conclusions that have been reached so far may be summarised as follows. In India, where the pneumonic form of the disease is relatively rare, plague is essentially a disease of rats communicable to man and a few of the lower animals; an epidemic amongst men is directly dependent upon an epizootic among rats. Plague spreads from rat to rat and from rat to man through the agency of the rat-flea. The plague bacillus under natural conditions does not long retain its vitality outside the body of the rat, the rat-flea, or man. Plague has a definite seasonal prevalence, generally constant for any given place, but varying in different parts of India; investigation shows that the plague season coincides with the season of maximum prevalence of rat-fleas. Infection is carried from place to place only over short distances by the spontaneous movement of rats; in other cases infection is carried either (*a*) by the agency of man or personal effects acting as a means of transport for infected fleas; or (*b*) by means of merchandise, which may contain rats as well as fleas. It is not yet established which of these two agencies is the more important, but recent work, both in India and the Far East, has emphasised the importance of grain as a vehicle for the transmission of infection.

In comparatively few places in India does plague infection survive the adverse conditions of the non-epidemic season: such places are usually either (*a*) large towns, or (*b*) places which have been infected late in the epidemic season. In places which have suffered from repeated and severe epidemics of plague the rats have become less susceptible to plague than are the rats in places which have remained plague-free or have suffered but slightly. These conclusions, says the resolution, have been arrived at after much careful and painstaking research, and constitute a great advance on the knowledge of plague which was available when in 1896 it first appeared in Bombay. They point apparently to a simple solution of the plague problem—no rats, no plague.

Urban and Rural Sanitary Problems.

The resolution then deals with other diseases, infantile mortality, scavenging, and the adulteration of food. While much has been done to provide drainage and pure water in large cities, there can be little hope of improving their sanitary condition permanently until measures are taken to relieve congested areas and to provide broader streets and buildings more open to sun and air. The constitution in 1898 of the Improvement Trust in Bombay marked a notable step in advance. By the end of 1912–13 the Bombay Trust had incurred an expenditure of Rs.488 lakhs (£3,253,333) towards schemes aggregating 802 lakhs (£5,346,666). Broad roads have been driven through the heart of the city, slum areas have been abolished, and dwellings provided for the accommodation of the poorer classes.

The difficulties which surround rural sanitation in India are well known and persistent. Contaminated sites, polluted water-supply, badly constructed and insanitary dwellings, and the habits and prejudices of the people raise obstacles to progress, which in most provinces are still well-nigh insuperable. The Government of India have informed local governments that they are at liberty to expend a portion of the imperial grants for urban sanitation on rural sanitation, provided practical schemes for this purpose are forthcoming, but they have postponed special imperial grants for this purpose until such schemes are more generally advanced. They fully appreciate the enormous importance of rural sanitation in a country which is mainly agricultural. Past experience and present conditions, however, indicate that the subject is still one for experiment on lines conceived to attract the coöperation of the people. Without their cordial help no sanitary staff could effectively deal with the village sanitation of the 220,000,000 who inhabit rural areas in British India. The danger of employing low-paid and imperfectly trained subordinates in a matter so closely affecting village life is now generally recognised and should never be out of mind.

The resolution then points out the importance of education and concludes: There is room for many workers in the sanitary field. The Governor-General in Council appeals with confidence to all who are interested in the well-being of India to join with him and the local governments in a sustained endeavour to give effect to His Imperial Majesty's most gracious wish that the homes of his Indian subjects may be brightened and their labour sweetened by the spread of knowledge with all that follows in its train, a higher level of thought, of comfort, and of health.

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

MANCHESTER.

A Visit of American Surgeons.

A PARTY of American surgeons visited Manchester on July 8th. The visit was organised by the American Gynæcological Society in order that its members might have the best opportunity of seeing the work which is being done in their own departments away from home. Most of the chief cities and universities of the United States sent representatives to Manchester, which is one of the five cities in England and Wales on the definite programme of the visitors. The Royal Infirmary, the St. Mary's Hospital, and the Lying-in Hospital were visited. At the Royal Infirmary our visitors were obviously much impressed by the arrangement and the very thorough equipment of the spacious buildings. The homeliness and comfort obtained simultaneously, and the decoration of the wards with flowers appealed to them. Surprise was expressed that, as usual, the public hospitals in this country have no accommodation for private patients who might wish for more luxurious surroundings. What, however, pleased the surgeons most was that they saw in the operating theatres of the institutions they visited "swift, skilful, and expert operating," and "sane, wise, direct, careful work"—I quote their flattering words.

Increase of Medical Students at Manchester.

The graduation ceremonial took place on July 4th. From the annual reports issued by the Vice-Chancellor we find that in the Faculty of Medicine during the session 1913–14 there were 305 students of medicine, 34 being women. In the Faculty of Medicine 129 students were working in preparation for the examinations of Manchester University; 4 for the University of London; 6 for other universities; 3 were preparing for the Fellowship of the Royal Colleges of Surgeons of England; 2 for the F.R.C.S. of Edinburgh; 2 for the L.S.A.; 33 were preparing for the Conjoint Examination of the Royal College of Physicians and Surgeons of England; 2 for the Diploma in Psychological Medicine; 3 for the Degree in Dentistry; 57 for the Diploma in Dentistry of Manchester; 13 for the Diploma in Dentistry of the Royal College of Surgeons of England; 53 were working in the following special departments—viz., pharmaceutical, 3; public health, 46 (37 of these were preparing for the Diploma in Public Health, 4 for the Diploma in Veterinary State Medicine, 7 for the tuberculosis course, and 5 carrying out research); and 4 were taking special medical courses. The number of beginners in medicine was considerably above that of previous years. The total number of students during the academic year was 1654.

Successful Appeal for the Radium Scheme.

At one time it seemed that the Manchester radium scheme might have to be either abandoned or postponed until the necessary £25,000 was obtained. The results of the initial appeal fell far short of the expectations of the committee. The address of Dr. Dawson Turner gave an enormous impetus to the scheme; the striking feature, however, is what has been done largely through the enterprise of the newspapers, more especially of those controlled by Messrs. Hulton and Co. All the arts, devices, and carefully worded appeals that energetic journalists know well how to employ have been used with almost magical and immediate results. For a long time there was a standstill at £8000. A "Radium Day" was instituted in Manchester and other towns; and appeals were made in all directions. As the cause was good, Manchester and the neighbouring towns have responded most handsomely, and the working men and women have contributed according to their means. In a little over a fortnight the total contributions have increased from £8000 to £18,450. The Joint Committee have appointed Mr. Hartley Lupton, of the Physical Laboratory of the University, to be physicist in charge of the radium department about to be instituted in the Royal Infirmary, while Dr. Marsden, of the same laboratory, will be consulting physicist. The department will be got ready under their direction, and it is hoped that an initial supply of radium will be available in October.

Poor-law Children and Ophthalmia.

Owing to the prevalence of ophthalmia amongst Poor-law children in Crumpsall, and also to the fact that there were more children at Crumpsall than there is accommodation for, the Manchester board of guardians decided on July 8th to ask the sanction of the Local Government Board in respect of the purchase of a building at a cost of £7250 to be used for children suffering from ophthalmia. The situation ought to be relieved by the proposed facilities for isolation of the affected children.

Lancashire and the Annual Factories Report.

The annual report of the Chief Inspector of Factories, which was issued on July 8th, contains some remarks which have a special interest for Lancashire. The total number of persons employed in factories was 4,488,774 and in workshops 638,335. Textile factories accounted for 18,323 accidents and non-textile factories for 145,495. It is stated that from 25 to 40 per cent. of all industrial accidents are preventable if all practical means are taken. The establishment of safety committees of men and officials is recommended. Action is being taken in the cotton area in regard to the lifting of heavy weights. Cases are mentioned of children lifting skips of cotton weighing 56 lb., and of others of 13 to 16 years of age lifting up to 82 lb. As to the removal of dust, it is stated that the cotton industry can claim one of the greatest successes in regard to the removal of the dust factor as a cause of many diseases. In regard to carding engines, the report states: "It is literally true that the conditions of life have been entirely changed for many strippers and grinders, and all who have been connected with the carrying out of this reform (whether operative, employer, or inspector—and all have had a hand in it) must look with intense satisfaction upon the results of their labours."

Small-pox in Several Lancashire Towns and some Indirect Consequences.

Some time ago there were a number of cases of small-pox in Milnrow, one case also occurred in Salford, two cases at Marland and Rochdale, and another at Oldham. There was one death from small-pox at Rochdale, this being the fifth case since the outbreak a month ago. The Rochdale patient who died was an unvaccinated child who had been taken to the Marland Fever Hospital to be treated in the fever section for scarlet fever. The health committee has decided that so far as practicable no further small-pox cases are to be treated at the fever hospital. Four cases —including the fatal one—have been reported from the vicinity of the fever hospital. One case is reported from Colne. The Rochdale board of guardians has been informed by the Lancashire asylums board that no lunatics from that district can be received in any of the five county asylums in consequence of the existence of small-pox in Rochdale union. These outbreaks have excited some alarm at the seaside resorts to which Lancashire people at this season flock in their thousands. To allay this alarm the Rochdale Trades Council decided to send a resolution to the trades councils at the various health resorts pointing out that the reported cases were of a mild type.

July 14th.

BRISTOL AND WESTERN COUNTIES.

A New Hostel for the University of Bristol.

THE University of Bristol has during its brief career already acquired various premises for use as residential hostels. Their latest purchase is the Imperial Hotel, which stands close to Clifton Down station, at a distance of about half a mile from the main buildings of the University itself.

Bristol Royal Blind Asylum.

As was stated in these columns a short time ago, the Bristol Blind Asylum is issuing an appeal for funds to create a capital sum, the interest of which is to be used for supplementing the wages of the blind workers of the institution from 9*s.* 9*d.* per week for men and 4*s.* for women to £1 and 12*s.* 6*d.* respectively. In order to realise this object increased subscriptions will be needed, as well as an endowment fund of £20,000. Half this sum has been anonymously promised on condition that the remainder is forthcoming, and additional promises totalling almost £4000 have also been made.

Working Hours of Nurses.

The Bristol health committee has approved of substantial reductions in the working hours of the nurses in the city isolation hospitals, a matter in which Bristol has been behind other large towns. This, if adopted, will necessitate an increase in the staff, and it cannot therefore take effect till further accommodation can be provided.

Memorial to Dr. Edward Adrian Wilson.

Last week, at Cheltenham, Sir Clements Markham, K.C.B., formally unveiled the statue in bronze of the late Dr. E. A. Wilson in the presence of a large and distinguished gathering. Dr. Wilson is represented in Polar dress, and the statue is 7 ft. high, on a pedestal of equal height, and was designed by Lady Scott. The inscription is as follows:—

> Edward Adrian Wilson, B.A., M.B. Cantab., F.Z.S., born in Cheltenham 1872. Chief of the Scientific Staff, Artist, and Zoologist of the British Antarctic Expedition, 1910–13. He reached the South Pole January 17th, 1912, and died with Captain Scott on the great ice barrier March, 1912. "He died, as he lived, a brave true man, the best of comrades, and staunchest of friends" (letter from Captain Scott).

The Proposed Tuberculosis Hospital at Torquay.

Considerable opposition is manifested locally against the proposal of the Devon county council to erect a county tuberculosis hospital at Torquay. The Torquay town council has also protested against the scheme, and owing to the requisitions of ratepayers the Local Government Board has decided to hold an early inquiry into the matter.

The British Dental Association.

The annual meeting of the Western Branch of the British Dental Association was recently held at the Devon and Exeter Hospital, Exeter, under the presidency of Mr. R. Willcox (Clifton). There was a good attendance. Mr. Willcox in his address alluded to recent changes which had taken place in dentistry, and which had brought dentists into closer coöperation with the medical profession. Mr. W. H. Goodman (Exeter) was later inducted to the presidency and gave an interesting paper on Anæsthetics in Dental Surgery.

Royal Devon and Exeter Hospital.

The committee of the Royal Devon and Exeter Hospital has issued a strong appeal for £10,000 for making several improvements to the institution, including the erection of a new wing. Up to the present nearly £1300 have been promised.

Death of Mr. H. B. Mugliston.

Mr. H. B. Mugliston has recently died at his residence, Brent Knoll, Somerset, where he practised. He was the son of Mr. G. T. W. Mugliston, surgeon, formerly of Pinner. After qualifying Mr. Mugliston held the appointment of house surgeon at the London Hospital. He was afterwards called to the Bar and joined the South-Eastern Circuit. He then went to Tasmania and entered into the political life of the island, being a prominent member of the Legislative Assembly. Mr. Mugliston later resided in Australia, and subsequently came to Brent Knoll, where he was highly esteemed.

July 14th.

IRELAND.

Tuberculosis in Ireland.

ALTHOUGH the death-rate from tuberculosis in Ireland is steadily falling it still remains lamentably high. In the year 1912, according to the reports of the Registrar-General for Ireland, 9437 deaths were registered as due to tuberculosis, being 2·15 per 1000 of the population. The whole question is critically considered by Sir John Moore in two papers recently published.[1] He points out that although Ireland was the first division of the United Kingdom to apply the principle of notification to tuberculosis by means of Act of Parliament, that notification was permissive and not compulsory. The Tuberculosis Prevention (Ireland) Act of 1908 allows any urban or rural sanitary authority to adopt notification subject to the approval of the county council. Ireland is divided into 311 districts for public health and local government purposes, and of these up to March 1st, 1914, only 55 have adopted the principle of notification—viz., three county boroughs, 20 urban districts, and 32 rural districts. An attempt was made in 1912 to render notification compulsory through the medium of an amending Bill rendered necessary to facilitate the treatment of insured persons under the National Insurance Act of 1911. The compulsory notification clauses were strongly opposed and had to be deleted. The Irish Local Government Board, commenting on this, observed: "It is much to be regretted that compulsory notification had to be omitted, as it leaves this country (Ireland) in the unfortunate position of being the only portion of the United Kingdom where it is not in force, although the disease is more prevalent in Ireland and consequently is more urgently needed." Sir John Moore shows that even in some districts where notification has been adopted, the notifications fall far below the recorded number of deaths; he concludes, therefore, that many cases of pulmonary tuberculosis are not notified at all in the largest cities of Ireland. He urges very strongly that for the crusade against tuberculosis in Ireland to be successful the following measures should be carried out. Notification of all forms of the disease should be made compulsory in all parts of the country. Whole-time county medical officers of health should be appointed, independent of local influences and responsible only to the Irish Local Government Board. The system of district nurses should be extended, and trained female sanitary inspectors should be appointed. An effective domiciliary treatment should be arranged for cases which cannot be accommodated in institutions, and instruction as to the rules of life should be widely given. Lastly, he points out the importance of the housing problem. Some statistics which he quotes give point to many of his recommendations. The Registrar-General for Ireland, Sir William Thompson, in his report for 1912, shows that in the Dublin registration area the death-rate from all forms of tuberculosis classified according to social state was as follows: in the professional and independent classes, 0·41 per 1000; among the middle class, 1·92 per 1000; among the artisans and petty shopkeepers, 2·94 per 1000; and among the general service class, 3·16 per 1000. Sir John Moore writes with conviction, and has made out a very strong case for the measures which he recommends. There can be no doubt that if they were effectively carried out the incidence of tuberculosis in Ireland would be greatly lessened.

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[1] Notification of Tuberculosis in Ireland and the Reasons Therefor. Dublin Journal of Medical Science, May, 1914. Tuberculosis in Ireland and the Crusade against it, Interstate Medical Journal, vol. xxi., No. 4, 1914.

Irish Medical Committee.

The first meeting of the new Irish Medical Committee was held in the Royal College of Surgeons of Ireland on July 14th. Dr. P. J. Macnamara, of Kilmallock, was appointed chairman for the ensuing year, and Dr. Johnson, of Belfast, vice-chairman. Mr. Gick, secretary of the Irish Medical Association, and Dr. Henessey, organising secretary of the Irish Committee of the British Medical Association, were appointed joint secretaries of the committee. The following subcommittees were appointed: Finance and executive, sanatorium benefit, matters affecting the Poor-law medical service, and hospitals.

Queen's University of Belfast.

The fifth graduation ceremony of the Queen's University of Belfast was held on July 9th, when, in the absence of the Chancellor, the Earl of Shaftesbury, K.C.V.O., the Vice-Chancellor presided, and the various degrees were conferred. At a meeting of members of convocation held on the same day it was decided to nominate a number of gentlemen for election as members of senate (convocation having the power to select eight). The following four members of the medical profession were chosen: Dr. R. W. Leslie, Dr. W. Calwell, Dr. John W. Browne, and Dr. T. S. Kirk.

Rainfall in Belfast for June.

During the past month of June rain—to the amount of 1·52 inches—fell on 16 days in Belfast, making a total of 15·55 inches for the present year. This rainfall for June is distinctly below the average for that month (3·06 for the previous 39 years); indeed, the total amount of rainfall registered for 1914 is only 15·55 inches, the amount for 1913 up to the same time (half a year) being 21·50 inches.

Public Abattoir at Ballymoney.

The committee appointed by the urban council of Ballymoney to inquire into the question of a public abattoir has sent in a very full report, in which they state that the present condition of matters made it obligatory for the council, as the sanitary authority, to take steps to have a public abattoir erected in Ballymoney. Consideration of the proposal was adjourned to September.

July 14th.

SCOTLAND.

Royal Visit to the Hospitals of Glasgow.

As I briefly recorded last week, the city of Glasgow, and the hospitals in particular, were honoured by a visit from the King and Queen, accompanied by their daughter Princess Mary. As Prince of Wales, His Majesty in 1907 laid the foundation-stone of the new Royal Infirmary, and last week he formally opened the building as the Glasgow Memorial of the Diamond Jubilee of Queen Victoria. Before leaving the infirmary a deputation from the Royal Faculty of Physicians and Surgeons of Glasgow presented an address to the King. After lunch a visit was paid to the new buildings of the Royal Hospital for Sick Children. The chairman of the directors presented the King with a key with which to unlock the door and declare the building open, and thereafter a minute inspection was made of the hospital. Later in the day brief visits were paid to the Western Infirmary and to the University, where Lord Rosebery, as Chancellor of the University, presented the Principal and several members of the Senate to Their Majesties.

Lister's Operating Theatre.

At a meeting of the Glasgow University Court it was announced that the managers of the Royal Infirmary were willing to accede to the request of the University Court that they might obtain the materials of the Lister ward and operating theatre in the old building of the Royal Infirmary. It is intended that the ward and theatre be reconstructed at the University as a memorial of Lord Lister's work.

Graduation Ceremony at the University of Aberdeen.

The summer graduation at the University of Aberdeen took place on July 8th, at the same time as the ceremony of installing Lord Elgin as Chancellor in succession to the late Lord Strathcona. Lord Elgin was introduced by Mr. D. M. M. Milligan, and Principal George Adam Smith, the Vice-Chancellor, amid much enthusiasm, administered the oath. In his address Lord Elgin alluded to his call from Mr. Carnegie, the present Rector of the University of Aberdeen, who was present to take the chairmanship of the Carnegie Trust and to the growing success of the trust. The Principal and Mrs. George Adam Smith entertained the honorary graduates to luncheon, and in the afternoon a garden party was held at Chanonry Lodge, when the members of the University had an opportunity of meeting Lord and Lady Elgin and the Rector and Mrs. Carnegie. In the evening the Chancellor was entertained to dinner by the University in the Portrait Gallery of Marischal College. There was a large and distinguished company. The Principal, in submitting the toast of the evening, stated that Lord Elgin was the thirty-eighth Chancellor since the foundation of the University and King's College in 1494. After alluding to the long and illustrious line of chancellors Principal Smith said that few political careers, either in our own time or at any previous period, had been tested, as Lord Elgin's was, by the emergence of sudden and terrible crisis of the severest kind in India.

Death of Dr. J. F. Robertson.

The death occurred at Lerwick, on July 10th, of Dr. John Fordyce Robertson, after a brief illness. Though in somewhat impaired health he was able to attend to his professional duties up to July 6th, when he was stricken with pneumonia. Dr. Robertson was educated at the Anderson Institute, Lerwick, and at Edinburgh University, where he was a brilliant student. Very soon after he graduated he started private practice in Lerwick, where he soon became a very popular and busy practitioner. He held the rank of captain in the R.A.M.C.(T.), and gave freely of his scanty leisure to further the affairs of the local Territorials, by whom, as by the general public, he was held in high esteem.

July 14th.

PARIS.

The Social Adaptability of Defectives.

IT is often said that the sacrifices made for the education of backward and mentally abnormal children are too often sheer waste, and that the results of this special training are only too commonly deceptive. M. Roubinovitch, who is the chief physician of the hospital school of Bicêtre and of the Vallée foundation, has communicated to the Academy some figures that show the real success which may be attained in a considerable proportion of such children. These are the "educable" children, among whom may be obtained, by rationally directed efforts, a complete adaptation to social life. The clinical history of 14 of these mentally abnormal subjects, affected at the time of their admission with mental debility, simple or complicated with instability or with various perverted instincts, is in this respect very convincing. These defectives, after a stay of from 3 to 12 years in the institutions, show such physical, intellectual, and moral improvement that they may be restored to ordinary life, to which they are perfectly adapted. Of these 14 children, 8 girls are now satisfactory housekeepers, domestics, or washerwomen, while 6 boys are good carpenters or shoemakers. In all, heredity must be accepted as the principal factor in their inferiority, but treatment, as may be seen, is not useless. These useful hospital schools would be much more valuable if they were not encumbered with a considerable proportion of idiots and incurable imbeciles, giving the impression that the expense is out of all proportion with the results to be obtained.

Thyroid Grafting in a Myxœdematous Child.

Dr. Voronoff, of Nice, who reported to the last Congrès de Chirurgie a completely successful case of ovarian grafting, has communicated to the Academy of Medicine the results of thyroid grafting in a child aged 14 years, affected with myxœdema from the age of 8 which followed on scarlet fever. The disease, besides the classic physical signs, was accompanied by a total arrest of intellectual development. The child was feeble, apathetic, and stupid, incapable of attention and of mental work. Dr. Voronoff engrafted in the neck a lobe of the thyroid from a monkey (*Singe papion*), attaching it by a large number of delicate sutures, but without anastomosing the arteries of the gland directly with those of the child, according to Carrel's method. This graft succeeded well, and new vascular connexions were rapidly established between the engrafted tissue and the subject. An interesting point is that, little by little, not only did the physical characters of myxœdema disappear, the obesity diminish, the puffy countenance become oval, the thick lips become thin, and the eye take on a live and alert look, but the intelligence also developed in like manner. The child became attentive and studious, and in six months its intellectual status had become entirely normal. Dr. Voronoff performed this operation at the Clinique Ste. Marguérite of Nice before a considerable number of medical men. He thinks that this method may become general, and that it will provide a mode of treatment in myxœdema more certain and more definitive than the internal administration of thyroid preparations, as hitherto used.

Death of Dr. Duguet.

Dr. Duguet has died at the age of 77 years. He had been professor agrégé at the Faculty of Medicine and subsequently médecin des hôpitaux. At the close of his career he had for a long time occupied the post of head physician of the Hôpital Lariboisière. He was vice-president of the Académie de Médecine, and would have been its president next year. He leaves behind him the memory of a learned clinician, whose researches have covered various parts of internal pathology, particularly that of diseases of the heart.

July 13th.

BERLIN.

Congress of the Medical Societies.

THE Congress of the Deutscher Aerztevereinsbund, held in Munich in connexion with the Leipziger Verband from June 25th to 27th, was especially remarkable from the fact that the subject of club practice, which has played so prominent a part in preceding congresses, was hardly discussed at all, the matter being now regulated by an agreement throughout the empire. One of the principal subjects of discussion concerned a motion brought before the Congress by the Dresden section, that medical coöperation free of charge with so-called charitable institutions ought to be made dependent on the consent of the local medical association. The motion was agreed to with an amendment excepting the Red Cross Society, subject to the condition that members of the Red Cross trained by medical men shall pledge themselves not to settle in practice as unqualified practitioners. In the discussion it was pointed out that certain institutions which required the help of the medical profession free of charge do not expect gratuitous services from other persons. Other subjects dealt with were the unsatisfactory position of midwives, and the courts of honour for medical officers of the reserve, which are exclusively composed of medical officers of the active army without the participation of the reserve medical officers. The struggle against quackery and unqualified practice also came up for discussion, the annual fee for members being raised 1 mark, the additional amount thus collected to be exclusively devoted to this purpose. The social side of the meeting was especially remarkable for a concert given by the medical orchestra of Munich, the performers all wearing operating dress. Dr. von Bary, formerly a medical man and now member of the Royal Opera of Munich, took part in the performance.

Statistics of Berlin University.

At the University of Berlin 8537 students have been matriculated this summer, or 500 more than in the preceding summer. The number of women students has especially increased, being 841, as against only 709. The theological faculty has 511 men and 2 women students, the faculty of laws 1564 men and 17 women, the medical faculty 2130 men and 176 women, and the philosophical faculty 3491 men and 665 women. The report further states that 5545 men and 665 women were Prussian, 897 men and 69 women Germans from other States of the Empire, 203 men and 21 women were Austrian, 502 men and 40 women Russian, 62 men and 4 women came from Roumania. 56 men and 3 women from Switzerland, 35 men and 1 woman from Turkey, 34 men from Greece, 33 men and 5 women from Servia, 30 men from Bulgaria, and 26 men and 5 women from England. From America came 109 men and 20 women, from Asia 80, from Africa 12, whilst Australia was not represented at all this summer.

July 13th.

KING'S COLLEGE HOSPITAL.—The following are the senior scholarship and prize examination results: Senior scholarship, Tanner prize in diseases of women, &c., class prize in diseases of children, D. J. Platts; Jelf medal, Todd prize in clinical medicine, class prizes in medicine, obstetrics, pathology, hygiene, and psychological medicine, E. Watson Williams; class prize in forensic medicine, H. Rivers Pollock.

CENTENARIANS.—The death occurred at Brighton (at the house where he had resided since his retirement from the Bar in 1864) on July 13th of Mr. William Augustus Gordon Hake at the great age of 103 years 3 months. Of late years he had suffered severely from bronchial trouble, but so remarkable was his vitality that he withstood the attacks again and again. An attack, however, at last brought about heart failure and a peaceful end. Mr. Hake was a native of Exeter, having been born at David's Hill on April 5th, 1811. He married in 1837 and was the father of nine children—five sons and four daughters. He was the doyen of the English Bar, having been called to the Middle Temple in 1835.—Mrs. Rebecca Clark died at Wood Green on July 4th at the age of 110, from shock after a severe thunderstorm. The aggregate ages of four of the children of the deceased who attended the funeral was 283 years.

Correspondence.

"Audi alteram partem."

ARTIFICIAL PNEUMOTHORAX: DEFECTS IN THE ACCEPTED TECHNIQUE AND HOW TO REMEDY THEM.

To the Editor of THE LANCET.

SIR,—Those who are interested in the subject of artificial pneumothorax will feel grateful to Dr. W. Parry Morgan for his praiseworthy attempt to improve on existing forms of apparatus (THE LANCET, July 11th), but before we adopt his somewhat complicated machinery we should like to be sure that the difficulties it overcomes really do exist, and also that it introduces no new dangers in place of those it is designed to remove. On neither of these points have I been able to satisfy myself in favour of Dr. Morgan's method.

The main defect which he discovers and sets himself to correct in the apparatus at present used is as follows. He contends that when the needle reaches the pleural cavity at a first operation the amount of gas entering from the manometer tubing would not suffice to produce a respiratory fluctuation were it not that the lung is always wounded by the needle and air flows in from this source. I should be far from denying that where a pointed needle is used this misadventure frequently happens *in practice*; indeed, Dr. Morgan brings striking testimony to prove that it has done so, even to the establishment of a "spontaneous" (!) pneumothorax, in his own practice. Such a wounding of the lung, unavoidable I think where a pointed needle is used at a first operation, is likely to be of considerable extent where the technique Dr. Morgan regards as usual is commonly followed. He says that if "movements do not appear in the manometer the needle is usually pushed forward and drawn back until they do so." This I should consider a faulty technique with any needle; if it is entered slowly with due regard to the structures it passes through, and with careful attention to the manometer, it should, in my opinion, never be necessary to draw it back save for its final removal. But I am among those who hold that a pointed needle should not be used at all at a first operation, and am in a position to show that where a blunt instrument is used and the lung certainly not wounded, yet ample respiratory movements are obtained in cases where there is a free pleural space. For at first operations I always use a small trocar and cannula; the trocar is removed as soon as the superficial structures are pierced, and the blunt cannula, which has also a side opening, is thrust forward alone through the parietal pleura which it pierces with a palpable click. With this instrument it is always clear when the pleura is passed, and it would certainly be impossible to wound the lung in cases where the pleural space is free. Yet with such an instrument the respiratory oscillation whose absence Dr. Morgan deplores is, in my experience, always present, and is maintained not only on quiet breathing, but even after deep breathing and cough, a test to which I always subject my cases before the admission of gas. The following small series of intrapleural pressures at first operations with this blunt instrument serve to make this clear:—

W. M.	– 8 to – 16 cm. of water.
B. E.	– 8 ,, – 22 ,, ,,
H. B.	– 4 ,, – 12 ,, ,,
A. A. G.	– 9 ,, – 13 ,, ,,
A. S.	– 7 ,, – 15 ,, ,,
A. M.	– 8 ,, – 12 ,, ,,

Only in cases of adherent pleura have I known the gas sucked out and not returned, being lost presumably among the pleural adhesions.

At the end of his paper Dr. Morgan describes his experience in certain cases where, even after the introduction of some gas, he has failed to obtain respiratory fluctuations when he has cut off the gas reservoir from the manometer. This occurrence seems best explained by a blocking of the needle, an accident which readily occurs with fine needles, such as those of the Brauns or Forlanini pattern, but is always avoidable by the use of a needle of larger bore. The blockage is usually with a piece of punched-out skin, and is generally partial in the sense that gas can be passed in but the manometer fails to record normally. Surely the *fact* that gas had already entered in these cases disposes of Dr. Morgan's apparent contention that it was the need of this which was responsible for the loss of the usual respiratory oscillation.

Certain further strictures which Dr. Morgan makes against the usual apparatus provided with a single water manometer seem to me to be hardly justified by the facts. For pressure with the finger and thumb on one or another rubber tube will make this manometer at once record either the intrapleural pressure, the pressure in the gas bottle, or the average pressure of the two combined, and from these it can just as well be deduced as from Dr. Morgan's two manometers, apart from watching the level of fluid in the gas bottle, whether the flow of gas continues and when it comes to a standstill. As to the risk of fluid being sucked back into the needle when the gas pressure falls to the level of the intrapleural pressure (which indeed need never be allowed), I would ask whether this accident ever occurs in practice; it has not done so to me in the needles with which I am accustomed to operate.

So much for the criticism Dr. Morgan brings against the simple water manometer with its double attachment to the needle and gas reservoir. The apparatus which Dr. Morgan would substitute for it is highly ingenious and compact, but it seems to me doubtful whether its working is not too complicated to commend it to the practical physician. To determine whether the needle is safely within the pleural cavity we are told to "take the reading of the reservoir manometer, then the reading of the intermediate, and from the second reading subtract half the difference between the first and the second." But if the needle is partially blocked two complicated formulæ must be worked out before it can be decided where the point of the needle has got to. I can assure Dr. Morgan from personal experience that the clinician is not always enough of a mathematician to remember or even to work out these formulæ at the bedside; he is likely to prefer the striking visual proof which the simple water manometer affords.

One particularly ingenious point of Dr. Morgan's apparatus is the use of flexible tubing attached to a movable reservoir to replace one arm of the water manometer; by this means the level can be so adjusted that high positive or negative pressures can be recorded on a quite short length of fixed glass tubing. I cannot help fearing, however, that the large volumed reservoir must, by its inertia, greatly damp down those respiratory fluctuations which are so important an index to the position of the point of the needle. Finally, I should have grave doubts myself as to the safety of the continuous flow of oxygen, which is, after all, the main feature of Dr. Morgan's apparatus. Gas embolism is doubtless less easily produced with this gas than with nitrogen, but can it be definitely stated that the risks of gas embolism are negligible so long as oxygen only is used? I do not believe myself that this is so, and it rests, I think, with Dr. Morgan to prove this fact before it can be admitted that his method is free from danger.

I am, Sir, yours faithfully,

Queen Anne-street, W., July 12th, 1914. CLIVE RIVIERE.

THE PLEA FOR IMMEDIATE OPERATION IN APPENDICITIS.

To the Editor of THE LANCET.

SIR,—In your issue of July 11th Mr. W. H. Battle writes:—

> I have said in a former letter that a surgeon can frequently give a correct opinion as to the pathological state of an appendix before its removal in an acute attack of appendicitis from a consideration of the history, symptoms, and local examination of a patient. Mr. Owen denied this.

Permit me to remark that I have made no such denial. For even I, who lay no claim to the gift of clinical or pathological prophecy, sometimes make a correct forecast. So do most surgeons, I suppose. But what I keep hammering at is this, that there are certain cases in which though mortification or perforation of the appendix has taken place, neither the temperature, nor the pulse, nor the aspect, nor the local condition gives warning of impending disaster. Such cases can be saved, if at all, only by immediate operation. And who can forecast them?

As I remarked in my previous letter, I have nothing fresh to say on the important matter which is being discussed in your columns, and I certainly should not have again intervened if I had not been provokingly misquoted.

I am, Sir, yours faithfully,

July 11th, 1914. EDMUND OWEN.

DEFERRED DEATH AFTER TRACHEOTOMY FOR LARYNGEAL DIPHTHERIA.

To the Editor of THE LANCET.

SIR,—In Dr. John Biernacki's interesting article in THE LANCET of July 11th on this subject there is no mention of the bronchoscope in his notes on the related treatment. The use of this instrument in cases of foreign body in the food and air passages has brought about an enormous reduction in the mortality. With some diffidence, owing to my ignorance of conditions in a fever hospital, I note some inconsistency in the paper. It is stated that "recovery is exceptional once obstruction develops to a degree which makes *extraction vital*," and later, "that extraction should be postponed until ...... the obstruction has become immediately dangerous." Naturally *there* is a wide difference between an ordinary case of *foreign* body and of a plug of desiccated mucus in the trachea. There being already a tracheotomy opening it appears that "lower" bronchoscopy need not subject the patient to any more strain than the process so well described by Dr. Biernacki, and that in expert hands it would be safer and more efficient. Naturally under the circumstances the surgeon would require special protection. This, however, presents no insuperable difficulty. It seems that if more than the exceptional cases alluded to are to be saved by clearing the trachea, and possibly the bronchi, the bronchoscope should be used at an earlier stage.—I am, Sir, yours faithfully,

T. JEFFERSON FAULDER.

Harley-street, W., July 13th, 1914.

ULTRAMICROSCOPIC VIRUS.

To the Editor of THE LANCET.

SIR,—In an interesting letter by Dr. J. T. C. Nash, published in THE LANCET of July 4th, it is suggested that very minute individual micro-organisms might escape notice if lying free, but should—theoretically—be easily detected by the microscope when occurring in colonies. To the soundness of Dr. Nash's observation I can fully testify in the case of mumps and of typhus fever. For example, in the case of mumps I have in the last few days found in the fresh urine of five consecutive cases in the stage of fever minute organisms which cannot when lying free be recognised to be organisms by the ordinary 1/12th oil immersion lens. When, however, they occur in clusters an ill-defined mass can be made out, which under a 1·5 mm. apochromatic lens is readily seen to be composed of myriads of well-stained organisms varying between about $0\cdot1\mu$ and $0\cdot3\mu$ in their greatest diameter. (The etiological relationship of these organisms to mumps is now being studied in monkeys.) Similarly in typhus fever, as Dr. W. W. Ingram and I have recently reported, large clusters of minute filter-passing organisms may be seen, especially in the fresh urine and cerebro-spinal fluid, though when lying free the individual organisms are beyond the range of vision unless a specially high objective be employed.

The difficulty of recognition of individual organisms of the small size described is greatly increased if they are embedded in the highly albuminous matrix of a blood film, but is reduced to a minimum in the case of cerebro-spinal fluid and of urine. I am, Sir, yours faithfully,

E. C. HORT.

The Lister Institute, July 8th, 1914.

THE CHILDREN'S COUNTRY HOLIDAY MOVEMENT AND INFECTIOUS DISEASE.

To the Editor of THE LANCET.

SIR,—May I ask you to find space for a few comments on the circular on "Children's Country Holidays," issued by the Local Government Board, and referred to in THE LANCET of July 4th? The Board draws attention to the allegation that from time to time infectious disease has been introduced or spread in country areas, and that overcrowding in country cottages has also been caused by the boarding out of town children during holiday time.

The Children's Country Holidays Fund, which sent over 45,000 London children into the country for a fortnight last summer, and since its establishment by Canon Barnett 30 years ago has provided holidays for more than 1,000,000 children, has for many years given close attention to the points mentioned in the circular. As the fund draws support from such a wide circle of sympathisers, I am sure your readers will be interested to know what regulations are laid down to avoid the dangers suggested.

1. To prevent any risk of sending children to cottages where infection or overcrowding might be possible, the Children's Country Holidays Fund allows no centre to be used unless a lady or gentleman resident in the place has undertaken supervision, and children are only sent to cottages which have been inspected by these honorary "visitors." The latter also see that the definite restrictions as to numbers accommodated in each cottage are observed, and visit the children during their stay so that no breach of the regulations may pass unnoticed.

2. The fund enjoys the coöperation of the London County Council, whose nurses inspect all the children on the score of health and cleanliness before they go away, and report three times on each child before the holiday is given.

3. Honorary assistants of the fund visit the home of every child at least once before the holidays, and in case of any suspicion of illness in the house or immediate neighbourhood a doctor's opinion is obtained. Before the children leave London their parents are required to see that they take with them a supply of clean clothes.

4. A special fund is set apart for medical assistance when required at the country centres, and this fund is drawn upon up to a specified amount in case of need for medical advice, special food, or hospital charges.

Seeing that the Children's Country Holidays Fund has been at great pains to minimise any risks attendant on its work, I should be glad if you would put this brief statement before your readers. I am, Sir, yours faithfully,

F. MORRIS,
Chairman of Executive Committee.

The Children's Country Holidays Fund, 18, Buckingham-street,
Strand, W.C., July 13th, 1914.

THE WORKING OF THE NATIONAL INSURANCE ACT IN GREAT YARMOUTH.

To the Editor of THE LANCET.

SIR,—An article on Medical Practice under the Insurance Act in Great Yarmouth which appeared in your columns last month and was copied by the *Yarmouth Independent* has recently come to our notice.

As it may have given very erroneous impressions we beg leave to point out, first, that there is no evidence but that of hearsay (repeated for the last six or seven years at least) that the local Medical Institute was on the eve of collapse; second, that the National Insurance Act has not given it a new lease of life. Quite the contrary. It is true that it receives more for the insured persons it has retained, but many have left it. Further, as pointed out *ad nauseam* in the medical press, the pledge taken by the medical practitioners prior to the passing of the Act involved points on which the British Medical Association changed its ground radically, breaking its side of the pledge. Being thus left an isolated community after Norwich, Lowestoft, and the surrounding country had given in, the Great Yarmouth medicos held several meetings at which the desirability of all acting together was frequently insisted on and generally accepted. At the last of these meetings the question was put whether a panel should be formed or not. The majority voted "Aye" and expected the coöperation of their colleagues who voted "Nay"; they, however, left the meeting, entirely to the surprise of the majority. It is only fair to say that two opponents put their names on the panel next day and a third offered to do so if we required more names. Subsequently the members of the panel formed a committee to look after their own affairs. They knew it was not a statutory committee then.

and never pretended that it was one. The Local Medical Committee was formed later in due order.

Your correspondent's charge against the members of the Great Yarmouth panel, that they pressed for allocation when contracting out was on the *tapis*, is simply untrue. It was evident from the first that contracting out was not to be allowed except in a few special cases, and allocation was not mooted till several months had elapsed. We were then asked to suggest plans for this step, and had to give our views. We cannot see that the active members of the hospital staff have anything to complain of; they chose their own position and had a special warning of what was coming in a letter which appeared in THE LANCET of June 10th, 1911, p. 1606, a printed copy of which was sent to each of them. Of course, there is room for improvement in the working of the Act and much to be done in reuniting the members of the profession, but we regret to be unable to see any tendency to either of these desiderata in your article. We request that you will kindly give our letter the same publicity that it has received, and remain, Sir,

Yours faithfully,
HENRY BLAKE,
Chairman, Panel Committee.
J. IVOR SANKEY,
Honorary Secretary, Great Yarmouth Division, British Medical Association.
VALENTINE H. BLAKE,
Honorary Secretary, Local Medical Committee.
Great Yarmouth, July 13th, 1914.

⁂ Our Commissioner's informants will not acquiesce in the charges of untruth or of error brought in this letter.—ED. L.

THE NATIONAL MEDICAL UNION.

To the Editor of THE LANCET.

SIR,—Mr. W. L. W. Marshall writing about the National Medical Union in THE LANCET of July 11th says "support may reasonably be expected from the consultant branches of the profession."

May I point out that the National Medical Union is to a very great extent a general practitioners' movement. It depends upon the support of the practitioner who is not on the panel. As numbers of new members have recently joined, and many are joining, it will become a power in the land, representing practitioners who will have nothing to do with the medical service under the present arrangements of the Insurance Acts. But consultants look for patients from panel men as well as from non-panel men.

If consultants learn that the National Medical Union has some backbone in it, and is linking up and giving power and influence to the non-panel practitioners, they will soon support it. It will be a very independent consultant who will ignore his opportunities for fees. There will be more guineas from non-panel doctors' patients than from those doctors who have to resort to the panel. The sick members of the public are seeing to that, and members of the National Medical Union know it.

I am, Sir, yours faithfully,
Hove, July 13th, 1914. THOMAS JOHNSTON.

ISOLATION OF DIPHTHERIA CASES.

To the Editor of THE LANCET.

SIR,—Dr. E. H. Snell did good service at the recent Sanitary Congress at Blackpool when he called attention to the futility of hospital isolation. I have for many years past in my annual and special reports fought against sending this class of patient to hospital. After 27 years the hopelessness of making any advance in dealing either with scarlet fever or diphtheria becomes more apparent. In some places a sanitary authority must contend with Socialism, so-called, in others feudalism, in others clericalism, and in others all three dispensations combined. The struggle for power in each case predominates, and each faction assumes that its knowledge extends to the sphere of infective disorders and that sanitary authorities are merely the servants of the dominant faction. At the present moment the knowledge claimed about germs is prodigious and very disastrous. Last year there were 130,026 cases of scarlet fever notified in England and Wales, against 107,417 in 1912 and 104,617 in 1911, and there were 50,850 notifications of diphtheria, against 44,687 in 1912 and 47,747 in 1911. The tightening up of official rules and regulations is obviously of no avail and never will be. Disease cannot lend itself to official methods, and refuses to be strangled with official red tape. Both diseases are caused by a local infection, and it appears reasonable to suppose that attention to the toilet of the throat and the disinfection of what comes from that region and its neighbourhood is of the utmost importance. Isolation, when these points are attended to, is a simple matter, and in country districts certainly can more often than not be carried out with sufficient completeness. At the present moment in an outlying part of my district two cases of scarlet fever are being isolated in a cottage without anything dreadful occurring; about one mile away there is a second case which developed five days after the return of another patient from hospital who was sent away only because the father worked in cowsheds

In the case of both scarlet fever and diphtheria there is a continual reinfection of patients whilst in hospital, without the symptoms of the disease, from which they are protected by the original attack. The agents of disease return with the patient, in the throat, either in some degree of attenuation or without any. A transference to a suitable soil is all that is required to restore the full vigour of disease production.

As these are my views, it follows that in my opinion responsibility should rest with medical practitioners who are in charge of the patients, and that that responsibility should not be removed from them. One of the great evils resulting from the present scheme under which National Insurance is worked is, that the practitioners who are in charge of the insured persons have in too many instances more patients on their lists than time in which to treat them properly. This is not, however, a matter for which there is no remedy.

I am, Sir, yours faithfully,
July 13th, 1914. LOVELL DRAGE.

HELIOTHERAPY IN SURGICAL TUBERCULOSIS.

To the Editor of THE LANCET.

SIR,—In THE LANCET of July 11th there appears an annotation on this subject. In it the writer remarks that "in this country a beginning of this method of treatment has scarcely been made."

Heliotherapeutic measures have, however, been employed at the Alton Cripples' Hospital almost since it was opened in 1908, and have always been regarded as an important adjuvant to the more generally recognised methods of conservative treatment of surgical tuberculosis. With increasing experience the value of insolation has become more thoroughly appreciated, and on any sunny weekday a couple of hundred children may at any time be seen receiving carefully graduated treatment in the sunlight. Heliotherapy is undoubtedly of great value in treatment, but its application must be gradually undertaken and requires considerable care. No material benefit appears to be received until pigmentation has been established, and it is interesting to note that in certain patients pigmentation cannot be obtained. Some cases of a pronounced cachectic type resist exposure and will not pigment. In these there is usually abundant evidence of marked tuberculous toxæmia.

Exposure of these patients to sunlight, either natural or artificial, has no beneficial effect whatever, and, indeed, may cause the patient considerable discomfort unless most carefully regulated. In some of these the power to pigment is subsequently acquired, and this pigmentary capacity is not infrequently synchronous with abscess formation and enhanced if the abscess formed is treated by aspiration with or without the injection of modifying fluids. Progress towards recovery is then usually hastened and the complete absorption of the abscess facilitated.

Red-haired patients frequently present great difficulties in treatment. In these the skin reddens and blisters unless great care be taken, and freckles are abundantly deposited, but the desired bronzing is exceedingly difficult to obtain. In the majority of cases, however, pigmentation is produced with comparative ease, and coincident with its establishment there is marked improvement. In no cases of tuberculous arthritis is the improvement more striking than where sepsis complicates the condition, and sinuses, which appear to resist all other methods of treatment, sometimes dry up with remarkable rapidity, leaving supple, non-keloidal, and less unsightly scars. The value of pure, dry air in assisting to obtain these results has, in my opinion, hardly been sufficiently recognised. The functional results which follow insolation of tuberculous joints are often extremely satisfactory, and cases of tuberculous peritonitis and adenitis often derive very considerable benefit. On cloudy days, at Alton, heliotherapeutic treatment is continued artificially with what appears to be the happiest results.

Heliotherapy is an adjuvant to treatment, and as an aid to treatment is of the greatest value, but the indications for its employment and its limitations should be very clearly recognised. It should not displace but should supplement those other well-recognised and valuable methods of treatment summed up by the term "conservative" to which, indeed, it forms an addition of the highest value.

I am, Sir, yours faithfully,

Harley-street, W., July 11th, 1914. H. J. GAUVAIN.

LOCAL ANÆSTHESIA.

To the Editor of THE LANCET.

SIR,—I must thank your reviewer for drawing attention to an overlooked misprint of a somewhat serious nature in my translation of Dr. Arthur Schlesinger's book on "Local Anæsthesia" in THE LANCET of July 11th. Dr. Schlesinger does not, of course, state that inflammatory processes heighten insensibility but the direct reverse—that they heighten sensibility. The statement as it appears in my text is so obviously contrary to experience that most readers will, I fancy, suspect a misprint or a *lapsus calami*.

As regards the other misprint to which your reviewer calls attention, that of supra- for infra-orbital (not the reverse as your reviewer states), it occurs in the original German. I must, however, plead guilty to having overlooked and failed to correct an obvious slip.

I am, Sir, yours faithfully,

Bovingdon, Herts, July 10th, 1914. F. S. ARNOLD.

*** Dr. Arnold is good natured in his willingness to accept responsibility, as translator, for a slip in the original.—ED. L.

THE NATIONAL INSURANCE ACT.

A STATE INSURANCE BILL.

THE Bill introduced in the House of Commons by Sir Richard Cooper, M.P., for which Lord Willoughby de Broke undertakes the responsibility in the House of Lords, has for its main object the institution of voluntary State-aided insurance as a substitute for compulsory insurance. It appears to be somewhat late in the day so far as securing support from the approval of the Friendly Societies is concerned unless the president of the National Conference of Industrial Approved Societies spoke without authority at the meeting held on July 3rd at Staple Inn. He spoke of a scheme of voluntary national insurance as impracticable and impossible in the present circumstances, and said—

> Although many of the leaders of the great Friendly Societies were strongly opposed to the introduction of a compulsory scheme of National Insurance, and cherished with great affection, and rightly so, the voluntary principle on which their societies were based, they have with one accord during the past few weeks denounced the substitution of a voluntary basis for the compulsory basis of the National Insurance Act, not only as impossible, but as unthinkable.
>
> I have said that the voluntary proposition is dead; but I think I may without exaggeration go a step further and say that it is in that yet more parlous condition attributed by a late Conservative statesman to a certain well-known and much-discussed economic doctrine.

There are many others besides Friendly Society officials who have viewed the National Insurance Act in the past with considerable hostility, but are now working hard to make it useful to the nation, and it is doubtful whether any substantial number of these would be in favour of a voluntary system as preferable for the promotion of the national health and well-being. To medical practitioners the clauses of the Bill relating to the administration of benefits by Friendly Societies and trades unions will be of interest, but it will be some time before any such measure introduced by a private Member will be sufficiently within the scope of practical politics for its provisions to demand criticism in detail.

THE PANEL MEDICO-POLITICAL UNION.

A few weeks ago a meeting, to which a selected number of practitioners on the London panel were invited, was held in one of the rooms at the Queen's Hall for the purpose of forming a medico-political organisation for practitioners undertaking the treatment of insured persons. The meeting referred to an executive committee of 12 members (six representing the north side and six the south side of the Thames) the framing of a constitution and rules, and these were submitted to an assembly of 80 practitioners at the Caxton Hall on July 10th. Before this stage was reached, however, the committee summoned a protest meeting of London panel practitioners to consider the attitude of the

London Insurance Committee in the matter of the unallotted funds. The meeting, said to have been attended by 500 practitioners, passed a resolution calling upon the Insurance Committee to distribute; it also appointed a deputation to wait upon the Commissioners and the Government. The reason why only a section of the panel practitioners were invited to the first meeting is said to be that the funds were *not sufficient to enable a circular to* be widely distributed. The promoters seem to have overlooked the possibility of calling the attention of the profession to their proposals through the medium of the medical press; THE LANCET, at any rate, has received no official *intimation* of the various proceedings here related. On July 10th it was decided to call the new organisation the "Panel Medico-Political Union" and to conduct it on trade union principles. Although some doubt appeared to exist in the minds of many of those present, discussion elicited the information that the organisation is not limited to London but is intended to cover the whole country. In view of its basis of election, as representing only the London area, the executive committee undertook to submit itself for re-election at an early date. The subscription was fixed at one guinea a year, membership to be restricted to practitioners on the panel.

Centres for the Coöperation of Panel Practitioners.

The London Panel Committee has given further consideration to the Budget proposals, especially in regard to the grants to be given towards the establishment of centres for the coöperation of practitioners on the panel. The possibilities of the grants being given to hospitals to encourage them to establish smaller institutions in various localities, or, alternatively, of being allotted to groups of panel practitioners, were discussed, and the committee expressed the view that the centres should provide consulting-rooms for a number of practitioners and accommodation for a trained nurse, an X ray operator, and a clerk; that arrangements should be made for the occasional attendance of consultants; and that the centres should be under the joint control of the Insurance and Panel Committees. The committee decided to wait upon the Insurance Commissioners and the Government to discuss the delay on the part of the London Insurance Committee in distributing the funds accumulated during 1913 in respect of insured persons who have not chosen a doctor. The delicate questions that arise in connexion with decisions as to what is or is not extravagant prescribing has led the Pharmacy Subcommittee to express regret that the question of the remuneration of the practitioner is bound up with the cost of the drugs and appliances he orders for his patient. The subcommittee has come to the conclusion that there is much to be said for a variation in the financial arrangements whereby the practitioners' fund and the drug fund are quite independent. The efforts of the Panel Committee would then be directed towards checking extravagant prescribing, not so much that the remuneration of the practitioner should be increased, but in order that the drug fund might be used to secure the greatest benefit to insured persons.

Sheffield Insurance Committee.

At a recent meeting of the Sheffield Insurance Committee dissatisfaction was expressed at the manner in which, it was alleged, certificates were signed by medical men on the panel for the purpose of patients obtaining sickness benefit, The chairman of the Medical Benefit Subcommittee added to this a complaint as to the illegibility of the certificates given, but the principal allegation was to the effect that certificates were frequently signed bearing the words "I have this day examined," when in fact the patient had not been seen by the medical man on that day or even recently. It was pointed out by medical practitioners upon the committee that to give such certificates did not necessarily involve any culpable intention upon the part of a medical practitioner, but it was evidently felt by many present that the practice was prevalent and should be put a stop to. In comment it may be observed that medical practitioners are bound by the Regulations if they undertake to accept service under the National Insurance Act, and that there is no obligation whatever upon them to act otherwise than in accordance with the letter of those Regulations. The infringement of a Regulation may appear to be justified by the apparent interest of a patient, but if Regulations are irksome it is for the patients who suffer from them to protest and to try to get them altered. It is for their benefit that the Act was passed, they contribute to its finances, and they can make their wishes felt through their societies and through the exercise of the parliamentary vote.

Bristol Insurance Committee.

At the last meeting of this committee a resolution was carried in favour of the establishment of medical referees, who shall also act as advisers to the Insurance Committees, a service of trained nurses, facilities for modern methods of diagnosis, and provision for further medical and surgical appliances.

Derbyshire Insurance Committee and Tuberculin Treatment.

At a meeting of the Derbyshire Insurance Committee Mr. J. Court expressed his intention of making public the result of inquiries made by him at dispensaries at which the tuberculin treatment was being administered, in order that the expense of the treatment in relation to the benefit derived from it might be seriously considered. Dr. S. Barwise raised a protest on the ground that as medical adviser to the committee he had not been asked to report on the subject, and pointed out that the institutions referred to were not intended for the purpose of tuberculin treatment. Dr. A. Boswell and the chairman of the Sanatorium Subcommittee also urged that the work being done was still in an experimental stage, that progress was being made, and that criticism was premature. Mr. Court, who assured the committee of his intention to make public the result of his investigations, was invited to print it and present it at a future meeting. At the same meeting of the committee a motion was carried declining to support a movement for the appointment of medical referees to be paid by the State. The question was raised by a letter which had been received from the Kent Insurance Committee asking for such support.

Surplus Funds at Edinburgh.

At a meeting of the Insurance Committee of the burgh of Edinburgh it was resolved after discussion that there should be equal distribution of the funds arising from unallotted insured persons among the medical men on the panel. In the course of the discussion of another proposal, which was negatived, that the money should be allocated in inverse ratio to the number of insured persons on the various lists, a councillor who opposed said that it would give an inducement to medical men to go on the panel and to restrict the number of their patients, knowing that they would so get a handsome sum from the yearly distribution of moneys accumulated. This argument seems to be based upon a misconception, apart from any question of the merits of the scheme against which it was advanced. The large sums which have hitherto been accumulated from the cause indicated have been due to the difficulties arising out of the administration of the Act in its early days. There should never be any such large accumulations again. Now that the Act is everywhere in fair working order, it will be the duty of Insurance Committees to see that newly insured persons either select their medical attendants or are promptly allotted to suitable practitioners. This duty is cast upon the committees by statute, and the Commissioners are sure to see that they perform it.

Medical News.

UNIVERSITY OF OXFORD.—The following medical degrees have been conferred :—

D.M.—G. H. Hunt, Christ Church.
B.M.—A. C. Ballance, A. B. Thompson, T. C. Davies, C. W. B. Littlejohn, and G. P. Selby, New College; and E. E. Mather, Exeter.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At the Second Professional Examination in Anatomy and Physiology held on July 2nd, 3rd, 6th, and 8th, 83 candidates presented themselves, of whom 49 were approved and 34 were rejected. The following candidates were approved :—

Esawy Ahmed, London Hospital; Douglas Harris Anthony, St. Mary's Hospital; Philip Ardern Ashcroft, Manchester University; Robert Aspinall-Stivala, Guy's Hospital; Youssef Aziz, Cairo Medical School; Percy Banbury, St. Thomas's Hospital; Noel Arthur Hamilton Barlow, Guy's Hospital; Maurice Charles Breese, King's College and St. Mary's Hospital; John Leycester Dudley Buxton, University College; Henry Hutton Castle, St. Thomas's Hospital; Edwin Alfred Clegg, Middlesex Hospital; Antonio Mario Clement, St. Thomas's Hospital; Geoffrey Francis Cobb, St. Bartholomew's Hospital; Cyril John Chesterfield Cooke, University College; Jean Crétin, St. Bartholomew's Hospital; Cyril Lister Curle, Guy's Hospital; Albert Victor Spurgeon Davies, St. Mary's Hospital; Alfred Beresford Dummere, London Hospital; Spencer Graeme Dunn, St. Bartholomew's Hospital; Frederick Oloff Fehrsen, Philip Edward Francis Frossard, and Aziz Girgis, London Hospital; Constance Hart, M.D. Pennsylvania, London School of Medicine for Women; John Anderson Hill, London Hospital; George Hoffmeister, Middlesex Hospital; Frederick Hunter Hyland, Leeds University; Luis Gregorio Chacin Itriago, M.D. Venezuela, Venezuela University and King's College; Mohammed Kamil, King's College; George Spencer Lajus Kemp, Sheffield University; George Edwin Kidman and Kenneth Fergus McAlpin, Guy's Hospital; Maurice William Holt Miles, St. Thomas's Hospital; Joseph Octave Roger Montocchio, Guy's Hospital; Richard Moser, St. Bartholomew's Hospital; William Watson Newton, Birmingham University; Arthur Leslie Packham, L D.S. Eng., Middlesex Hospital; John Alexander Percival Perera, Ceylon and London Hospital; Arthur Rose-Innes, University College; Ahmad Hussein Samy, St. Bartholomew's Hospital; John Andrew Adamson Prinski Scott and Nirendra Mohan Sen-Gupta, London Hospital; John Percy Reginald Tennekoon, Ceylon Medical College; Ismail Tewfik, Cairo Medical School and Guy's Hospital; Kenneth Robert Traill and Walter Aslatt Turner, Guy's Hospital; Percy Ward, Sheffield University; William Harold White, St. Thomas's Hospital; James Harry Wiseman, Sheffield University; and Alfred Frank Wyatt, London Hospital.

At the quarterly examination in Practical Pharmacy held on July 9th the following candidates were approved :—

Edward Beric Alabaster, Birmingham University; Hussein Amin, Cairo and St. Bartholomew's Hospital; George Kilpatrick Arthur, St. Bartholomew's Hospital; Errington Atkinson, London Hospital; Joseph Herbert Bailey, London Hospital; Edgar Richard Batho, St. Mary's Hospital; Alan Gabriel Bodman, Bristol University; Charles Martin Vincent Boucaud, St. Bartholomew's Hospital; Reginald Cade, Guy's Hospital; Percival Cheal, London Hospital; George Edwin Chissell, Middlesex Hospital; Percival Charles Collyns, St. Bartholomew's Hospital; Allen Robert Crane, London Hospital; Thomas Henry Ronald Davies, University College, Cardiff; Lionel Basil Anjou de Kretser and Edmund Rupert Dermer, Middlesex Hospital; Mohamed Ahmed El Dardiri, Cairo and King's College Hospitals; Ahmed Mostafa El-Mishad, Cairo and Charing Cross Hospital; Abdel Hamid El Rakshi, Cairo and St. Bartholomew's Hospital; Tyrrell George Evans, St. Bartholomew's Hospital; Moustafa Fahmy, Cairo and London Hospital; Alfred Foster, St. Bartholomew's Hospital; Abdallah Abd el Rahman Galak, Middlesex Hospital; Edward Francis Gillett, St. Mary's Hospital; Frank Eric Harger, St. Bartholomew's Hospital; Austin George Hewer, Middlesex Hospital; Charles Ewart Hopwood, Manchester University; Eric Llewelyn Ivens, London Hospital; William Anthony Jolliffe, St. Bartholomew's Hospital; Francis Claud Lapage and Guy Neville Lomax, Middlesex Hospital; Albert Victor Lopes, St. Bartholomew's Hospital; James McDonnell, London Hospital; Bagenal Harvey Mellon, F.R.C.V.S., National University, Dublin; Thomas Sidney Nelson, Oxford University and St. George's Hospital; Thomas Owen, St. Bartholomew's Hospital; Christopher Stanley Parker, Charing Cross and King's College Hospitals; Frank Young Pearson, University College, Cardiff; David John Platts, King's College Hospital; John Wootton Rammell and Charles Reginald Recklit, London Hospital; John Harris Ekin Sandford, St. Bartholomew's Hospital; John Milnes Smith, Middlesex Hospital; John Masfen Stack, Birmingham University; Frederick Reginald Sturridge, Middlesex Hospital; Clement Price Thomas, University College, Cardiff; Harry Mortimer Wharry, Oxford University and St. Bartholomew's Hospital; Robert Harvey Williams, St. Bartholomew's Hospital; and Shelsell Yahllevitz, London Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At a meeting of Council of the Royal College of Surgeons of England on July 9th diplomas of Member were conferred upon the following two candidates who have now complied with the necessary by-laws :—

John Robert Mitchell Collie, M.D., C.M. Dalhousie, Dalhousie University and University College Hospital; and Reina Mallet, Royal Free Hospital.

VICTORIA UNIVERSITY OF MANCHESTER.—At examinations held recently the following candidates were successful :—

Diploma in Public Health.—R. B. Berry, G. D. Dawson, James Ferguson, H. M. Fleming, W. M. MacIlraith, James Ramsbottom, E. A. Ramsden, G. K. Thompson, J. A. Tomb, and A. E. Townley.
Diploma in Psychological Medicine.—R. M. Stewart.

UNIVERSITY OF LEEDS.—The degrees of M.B. and Ch.B. have been conferred on the following :—

J. C. Gillies, H. R. Knowles, W. H. Lonen, H. Shochet (with second-class honours), and C. Wilson (with second-class honours).

The following pass-lists have been posted :—

SECOND M.B., CH.B. EXAMINATION.

Part I., Anatomy and Physiology.—E. W. Drury, E. E. V. Glover, K. Jaidka, and I. Silverstein.
Part II., Pharmacy.—Z. P. Fernandez, F. H. Goss, H. V. Horsfall, C. R. Knowles, and A. L. Telling.

FINAL M.B., CH.B. EXAMINATION.

Part I., Pathology and Bacteriology.—J. J. Digges La Touche, H. Hyman, W. L. Ingham, C. Leake, J. Rosenzweig, R. S. Topham, and A. Umanski.
Part II., Forensic Medicine and Public Health.—W. D. Anderson, S. N. Cohen, C. M. Gozney, A. S. Hebblethwaite, H. R. Knowles, H. S. Lockwood, H. W. Whitteron, H. Shochet, J. Wilkinson, and C. Wilson.

L.D.S. EXAMINATION.

First Professional Examination.—A. L. Fraser.
Final Examination (Part I.).—D. B. Clubb and E. A. Rogerson.

The Diploma in Dentistry has been conferred upon J. E. Gill.

UNIVERSITY OF ABERDEEN.—At the graduation ceremony on July 8th the following awards were made :—

Degree of Doctor of Medicine (M.D.).—Alexander Greig Anderson, Alexander Wilson Douglas Craig, William Brooks Keith, James Robertson Murray, William James Reid, Andrew Mackenzie Ross Sinclair, and Francis Wilson Stuart.
Degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.).—Neil Cantlie (second class honours), Alexander George Craib, Fergus Macandrew Davidson, John Dow, David Fetter, John Foubister, Rudolf William Galloway, Andrew Moir Gray, Wilfred Francis Hawkins, Alfred James Ireland, George Robertson Lipp (second class honours), Evan Alexander Mackenzie, David Murdoch Marr, James Morrison, John Forbes William Sandison, Ernest Tawse, Walter Bailey Thomson, William Walker, William Robert Watt, and James Mitchell Whyte.
Diploma in Public Health.—Winnifred Margaret Gray and James Henderson Yule.

The Straits Settlements Gold Medal (for best thesis on a subject dealing with tropical medicine) was awarded to Dr. Alexander Frank Wallace. The John Murray Medal and Scholarship (to the most distinguished graduate (M.B.) of 1914) was awarded to Dr. Alexander Elmslie Campbell.

QUEEN'S UNIVERSITY OF BELFAST: FACULTY OF MEDICINE.—At examinations held recently the following candidates were successful :—

FIRST MEDICAL EXAMINATION.

Chemistry and Physics.—Herbert Abernethy, Fredk. C. S. Bradbury, Frederick Campbell, Alfred E. Gallagher, John Grimason, William Hoey, George D. F. M'Fadden, Finlay S. Mayne, Thomas Montgomery, and Albert V. Morrison.
Physics.—Stanley E. Clarke, John W. C. Colquhoun, Alfred J. May, and John D. Pinkerton.
Zoology and Botany.—Herbert Abernethy, Samuel Acheson, Samuel F. Black, Winnifred W. Boland, Frederick C. S. Bradbury, [illegible] Breakey, James H. Calvert, Helen M. Calwell, Frederick Campbell, Thomas G. Campbell, Thomas I. Candy, John Caruth, Gladys [illegible] Chambers, Brice R. Clarke, Joseph M. Clearkin, Thomas D[illegible], Patrick J. Doherty, Samuel E. Duff, Stewart Fullerton, Alfred E. Gallagher, Samuel Hall, Arthur Henry, William Hoey, Mary E. Irwin, Michael G. Kierans, Albert E. Keown, Elizabeth A. K. La[illegible], David Loughridge, Gilbert L. Love, William J. Lytle, Geo. D. F. M'Fadden, John M'Garvey, Daniel J. M'Gurk, Daniel M'[illegible], Robert J. M'Neill, Henry F. Macauley, Edward A. Maguire, Jo[illegible] A. Martin, Finlay S. Mayne, Mary M. Merrick, William M[illegible], Thomas Montgomery, Albert V. Morrison, Samuel Owens, Harry [illegible] Paul, Henry Poston, Richard B. Quinn, W. W. Rentoul, David K. [illegible] Scott, Louis P. St. J. Story, Percival S. Walker, and Arthur Watson.
Chemistry.—David Crombie and Patrick J. Doherty.
Zoology.—James Craig and David Crombie.
Botany.—J. C. Carson.

SECOND MEDICAL EXAMINATION.

Anatomy and Physiology.—Joseph Adams, Samuel T. Allister, David D. Anderson, Olive M. Anderson, Annie E. E. Beattie, James Boyd, Charles [illegible], Gerard J. [illegible], William [illegible], John H. [illegible], Marion Crawford.

Dorothy I. Dobbin, Frederick Hopkins, John Lascelles, Daniel J. Loughran, John C. Loughridge, Robert N. B. McCord, Joseph McCormick, William C. McKee, Jeremiah O'Kane, Charles A. W. Ramsay, John E. Rea, Martin H. Turnbull Norman C. L. B. Tweedie, Thomas Wallace, and Cecil J. A. Woodside.

Physiology.—Olga R. I. Love and Peter Macarthur.

Third Medical Examination.

Pathology and Materia Medica.—William L. Agnew, Eileen M. Bell, William Bryars, *George Chesney*, *Alfred C. Dickey*, Grace M. English, Mary E. Henry, Mary M. Keirns, Arabella C. Kirker, Arthur L. M'Creary (Pathology only), Nathaniel M'Cullough, Joseph P. M'Ginley, Bernard W M'Kinney, Michael M'Menamin, James C M'Millan, Hugh F. M'Nally, Frederick M'Sorley, Patrick J. M'Sorley, John J. Marner, David Mitchell, Frank P. Montgomery, Elizabe'h M. Moore, Margaret S. Purce, William Saunderson, Robert L. Sinclair, Dennis K. Watterson, Donald R. Wheeler, Charles A. Whitfield, and Frederick H. Whyte.

Medical Jurisprudence and Hygiene.—William L. Agnew, George V. Allen, William Bryars, Alfred G. Campbell, George Chesney, Alfred C. Dickey, Samuel J. W. Donald, Grace M. English, Francis Ewart, Mary E. Henry, Louis Jefferson, *Mary M. Keirns*, Arabella C. Kirker, John M. M'Cormack, Nathaniel M'Cullough, Joseph P. M'Ginley, Bernard W. M'Kinney, Michael M'Menamin, James C. M'Millan, David Mitchell, Elizabeth M. Moore, William Napier, Margaret S. Purce, Robert J. Rea, John Scott, *Robert J. Sinclair*, *Thomas R. S. Thompson*, Donald R. Wheeler, Charles A. Whitfield, Frederick H. Whyte, John Wilson (Old Regulations), and James J. Thompson.

At the examination for M.B., B.Ch., and B.A.O. degrees, the following were successful:—

Robert M. Beath (First Class), Herbert T. Chatfield, William M'M' Chesney, John Duffin, Edward C. T. Emerson (Second Class), Archibald Fullerton (Second Class), David Gaston, Margaret Gorman, Thomas Grimson, William S. B. Hay (Second Class), Joseph F. D. Hunter, David Jamison, William J. Lascelles, Beattie Lyons, Campbell M'N. M'Cormack, Robert N. M'Kinstry, Edward U. MacWilliam, Edward A. Mallon, Edward B. C. Mayrs (Second Class), Sinclair Miller (Second Class), James J. Murray, Samuel E. Picken, George R. B. Purce (Second Class), George W. Rea, Elizabeth M. Robb, John S. Savage, Albert F. L. Shields, James Tate, John Warwick, *Owen Wilson*, William R. E. Wilson, and Peter P. Wright.

The following degrees and diplomas have been conferred:—

M.D.—By Thesis: David Finnegan, Philip Jacob Gafikin, David M'Cay (gold medal), Samuel M'Clure, William Samuel J. Shaw, and John M'Geagh Williams. By Examination: Bruce A. West (with commendation).

M.Ch.—By Examination: T. S. S. Holmes (gold medal). By Thesis: Frederick Crooks.

Diploma in Public Health.—Marion B. Andrews, Norman C. Graham, William S. Haydock, William J. F. Mayne, and Samuel P. Rea.

TRINITY COLLEGE, DUBLIN: SCHOOL OF PHYSIC.—At examinations held recently the following candidates were successful:—

Preliminary Scientific Medical Examination.

Chemistry and Physics.—A. G. Bewley, R. P. Hemphill, T. M. Bentley, F. Gill, R. M. D. Devereux, P. C. Parr, L. Albertyn, J. F. Stewart, E. E. Rollins, J. W. Scharff, J. Posner, E. B. Edge, W. F. McConnell, J. M. Semple, E. F. Wilson, T. H. R. McKiernan, J. M. Hill, J. H. B. Levis, J. A. Acheson, T. S. McDonald, D. McElwee, J. C. Fouche, J. N. H. Murphy, T. B. H. Tabuteau, J. C. Campbell-Henry, P. C. Cowan, N. Gray, and S. W. Russell.

Botany and Zoology.—R. P. Hemphill, L. Albertyn, J. A. Acheson, P. G. Lewis, E. F. Wilson, Gertrude Rice, W. B. Briggs, S. A. Clark, W. L. Lloyd, W. L. Young, G. H. Davis, J. W. Scharff, S. W. Russell, E. B. Edge, A. H. Thompson, C. W. Parr, H. A Lavelle, R. M. D. Devereux, W. F. McConnell, J. E. McCormick J. H. Coolican, T. Madill, J. F. Stewart, E. F. W. Smith, H. Birney, E. S. E. Mack, E. E. Rollins, I. W. Beatty, A. Blagoff, T. R Warren, R. N. Nunn, H. J. Wright, G. C Robb, W. Sweetnam, C. D. Shortt, P. Casey, F. W. Godbey, W. A. Shannon, S. J. Laverty, G R. G. Smyth, and J. D. Watson.

Botany.—J. M. Hill.

Intermediate Medical Examination.

Part I.—E. D. McCrea, W. R. Fearon, B. A. McSwiney, A. R. Barlas, A. L. Gregg, R. N. Murray, J R. Duggan, W. P. Elford, W. H. Flinn, S. C. Mitchell, J. J. Beasley, W. P. Lubbe, F. J. Smith, C. P. Chambers, G. W B. Shaw, P. S. Snell, W. J. McClintock, R. W. Nesbitt, C. L. McDonogh, A. H. Davidson, F. C. Tucker, M. C. Dippenaar, H. H. Molloy, F. G. Heuston, and J. McClelland.

Part II.—T. J. Lane, S. V. Furlong, S. R. Hill, J. P. Macnamara, E. Parker, F. J. Murphy, J. T. Westby, F. M. Ferguson, F. A. McHugh, B. A. Merrin, J. J. Keatley, R. Gordon, and G. L. Murphy.

Final Medical Examination.

Part I.—H. Daniel, E. D. T. Hayes, J. W. Bigger, R. W. Shegog, G. Joughin, Violet M. Deale, G. O. F. Alley, D. S. Martin, *H. Mitchell*, W. F. Wilson, A. F. Grimbly, T. Stanton, A. J. Horne, E J. Hamilton, R. W. Acheson, D. H. Hall, A. L. Wilson, and W. J. Dowling. *Materia Medica and Medical Jurisprudence.*—F. W. O'Connor and T. G. Roche. *Pathology.*—W. B. Walker

Part II.—*Medicine.*—J. N. Armstrong, P. W. McKeag, G. H. Wood, F. J. O. King, T. D. Power, H. C. D. Miller, J. C. A. *Dowse*, C. O. M. Buckley, W. A. Ryan, Dorothy E. Webb, F. A. Reddy, H. R. Ford, T. A. Lauder, W. H. Elliott, W. O. Tobias, Amy F. Nash, J. S. Dockrill and J. H. Fletcher. *Surgery.*—J. C. A Dowse, E. E. Lary, J. C. Ogilvie, J. P. Quinn, T. W. Allen, E. Evans, F. S Mitchell, C. D. M. Buckley, R. I. Sullivan, A. G. Varian, W. R. L. Waters, J. H. Fletcher, G. H. Wood, F. R. Dougan, N. H. H. Haskins, B. C. O. Sheridan, W. O. Tobias, F. J. O. King, J. N. Armstrong, H. B. Ford, R. A. Anderson, and W. M. Snodgrass.

Midwifery.—N. M. Boyce, W. E. Tyndall, R. R. G. Atkins, J. S. Robinson, E. Robinson, F. Harris, J. V. Cope, H. S. Collins, Clara B. M. Adderley, W. B. Cathcart, and W. M. Snodgrass.

Dental Examinations.

Preliminary Scientific.—*Chemistry and Physics.*—H. E. Flavelle and J. H. J. Stuart. *Chemistry.*—L. Wigoder. *Dental Anatomy.*—H. E. Flavelle.

Intermediate.—M. L. Counihan and C. H. Herbert.

Diploma in Public Health.

Part I.—J. R. D. Holtby, E. O'Connor, A. V. J. Richardson, H. T. S McClintock, and K. L. Kapur.

Part II.—A. V. J. Richardson, G. H. Culverwell, K. L. Kapur, R. H. C. Lyons, E. O'Connor, and H. T. S. McClintock.

CONVERSAZIONE AT THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.—In connexion with the final meeting of the organising committee of the Seventeenth International Congress of Medicine, held in London last year, a reception was given at the Royal College of Physicians of London on July 7th, when the guests were received by Sir Thomas and Lady Barlow. There was a large attendance. A fine display of books, including early editions, and manuscripts of Harvey and Sydenham, was arranged by Dr. Norman Moore, the Harveian librarian, an interesting collection of plate in the possession of the College was shown, and a loan collection of water-colours, etchings, and drawings was exhibited. In the evening Mr. Stephen Paget showed some kinematograph films illustrating the life of micro-organisms.

ROYAL DENTAL HOSPITAL OF LONDON: SCHOOL OF DENTAL SURGERY.—A series of post-graduate lectures will be given as follows during the months of October and November, 1914, on Tuesdays, at 6 P.M. Oct. 13th: Recent Researches in Dental Histology, by Mr. J. H. Mummery. Oct. 20th: Advantages and Disadvantages of Inserting Dentures immediately after the Multiple Extraction of Teeth, by Mr. H. Lloyd Williams. Oct. 27th: Ultimate Results of the Immediate Regulation of Misplaced Teeth, by Mr. W. H. Dolamore. Nov. 3rd: Gum Facings, by Mr. D. P. Gabell. Nov. 10th: Some Uses of Casting, by Mr. W. W. James. Nov. 17th: The Extraction of Teeth, by Mr. A. L. Whitehouse. The fee for the course is £2 2*s.*, but past and present students of the hospital and internal students of the University of *London* will be admitted free.

ROYAL MEDICAL BENEVOLENT FUND.—At the last meeting of the committee 24 cases were considered and grants amounting to £185 voted to 22 of the applicants. The following is a summary of the cases relieved:—

M.R.C.S., L.R.C.P., aged 47, who practised at Aysgarth, Yorks, and abroad. After residence abroad health broke down and had to return to England, thoroughly incapacitated and still unable to work. Voted £10 in two instalments.—Widow, aged 65, of L.S.A. Lond. who practised at Ipswich. Five children; three married but unable to help. Only income £8 per annum from life assurance and 1*s.* per week from lodgers. Health not good. Relieved 12 times, £130. Voted £10 in ten instalments.—Daughters, aged 48 and 56, of M.D. Aberd. who practised at Luddenden, Yorks. The eldest is suffering from incurable deafness and the younger one has very indifferent health. Only income £20 each per annum from investment. Relieved once, £10. Voted £10.—Widow, aged 58, of L.R.C.P. & S. Edin. who practised at Balham and died in 19 3. Invested small capital in furnishing house *to receive* paying guests, but has lost money. Voted £12 in 12 instalments.—Widow, aged 39, of L.R.C.P. & S. Irel. who practised in Monmouthshire and New South Wales. Engaged as housekeeper at £15 12*s.* per year, and one of two daughters, aged 10 years, is allowed to live with her. The other child adopted by husband's relatives. Asks for assistance towards the education of daughter. Voted £2 and referred to the Guild.—Widow, aged 64, of M.R.C.S. Eng. who practised in Birmingham, Brighton, and Australia. Lost all capital in consequence of husband's long illness 11 years ago. Only settled income £10 per annum, and too old to obtain work. Voted £12 in 12 instalments.—Widow, aged 53, of L.R.C.P. & S. Edin. who practised at Great Yarmouth. One daughter, who used to dispense for her father, but now helps her mother and does other work. Invested capital in boarding house which has not paid. Voted £12 in 12 instalments.—*Widow*, aged 46, of L.S.A. Lond. who practised at Leyton. Five daughters, eldest 16 years. No provision made for the widow, and her only income is a small allowance made by her brothers. Voted £2 and referred to the Guild.—M.B. of Aberdeen, aged 55, who practised at Bunbury and in Essex. Suffering from paralysis and quite unable to work. Wife and four daughters, two of whom are at school. Only income £76 per annum from investments and small pension. Voted £5 and referred to the Guild.—Widow, aged 32, of M.R.C.S. Eng. who practised at Keyingham, near Hull. Three children, the eldest 9 years. Only income £12 per annum. Voted £10 in two instalments.—Daughter, aged 43 of L.R C.P. & S. Edin. who practised at Easdon and Whitley Bay. Obtains a small income by nursing, but has been unable to work for 11 weeks owing to sciatica. Relieved nine times, £60. Voted £5.—Daughter, aged 62 of M R C.S. Eng who practised at Lydney. Means lost through a defaulting trustee, and too old to work. Only income an annuity of £21 from another charity Relieved seven times, £77 Voted £5—Widow, aged 56 of M R C S. Eng who practised at Enfield. Two daughters, one married and the other an invalid. Income only £60 per annum, and not well enough to work. Relieved three times, £15. Voted £5.—Widow, aged 49, of L.S.A. Lond. who practised at Leicester. Earns a little by needlework, but cannot obtain sufficient work. Two daughters, each only earning a little, and two boys, ages 12 and 10, at school. Relieved twice, £22. Voted £12 in 12 instalments.—Widow, aged 55, of L.R.C.P. & S. Glasg. who practised at Heaton-on-Tyne. Six children, two of whom are married and unable to assist, and the others only very little. Has two lodgers. Health very unsatisfactory. Relieved ten times, £106. Voted £12 in 12 instalments.—Daughter, aged 50, of M.R.C.S. Eng. who practised at Box. Lives with delicate sister, who also receives a grant from the Fund. Applicant's health very unsatisfactory. Relieved twice, £24. Voted £12 in 12 instalments.—Widow, aged 62, of M.D. Edin. and M.R.C.S. Eng. who practised at Cambridge. Income £25 per annum from friends and occasionally has a boarder. Relieved four times, £24. Voted £12 in 12 instalments.—Widow, aged 56, of M.R.C.S. Eng. who practised at Wellingborough. No income of own, but acted for a time as housekeeper for relative who gave home and board in return. The home has now been given up, so is stranded. Relieved three times, £32. Voted £12 in 12 instalments.—Widow, aged 34, of M.R.C.S. Eng. who practised at Bow, E. Endeavours to make a living by taking in boarders, but not very successfully, and is in arrears with rent. Has twin boys aged 7½ years. Relieved once, £10. Voted £10.—Special emergency grants of £5 each were also made to two cases, these to be given at the discretion of the honorary secretary for cases.

Contributions may be sent to the honorary treasurer, Dr. Samuel West, 11, Chandos-street, Cavendish-square, London, W.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Infant Mortality in Lancashire.

THERE has been presented to Parliament a report dealing with infant mortality in Lancashire. It has been prepared by the medical officer of the Local Government Board and by Dr. COPEMAN, Dr. MANBY, Dr. FARRAR, and Miss LANE-CLAYPON, M.D.

St. George's Hospital Act.

The Royal assent has been given to the St. George's Hospital Act, which has passed both Houses of Parliament during the present session.

The Midwives (Scotland) Bill.

The Midwives (Scotland) Bill has been read a second time in the House of Commons and sent to a Standing Committee.

Experiments on Living Animals.

On the motion of Mr. ELLIS GRIFFITH the House of Commons has ordered a return showing the number of experiments on living animals during the year 1913, under licences granted under the Act 39 and 40 Vict., c. 77, distinguishing the nature of the experiments.

The Milk and Dairies Bill.

The Standing Committee of the House of Commons which has been considering the Milk and Dairies Bill has concluded its examination of that measure and has ordered it to be reported with amendments to the House.

Forcible Feeding.

A deputation from the Forcible Feeding Protest Committee, consisting of Dr. J. MCINTOSH, Dr. HADEN GUEST, Sir VICTOR HORSLEY, Mr. C. MANSELL MOULLIN, Dr. FRANK MOXON, and Dr. H. SCHÜTZE, waited upon the Home Secretary on July 15th. Mr. MCKENNA intimated that on the ground of the undesirability of the publication of prisoners' names reporters would not be admitted. Neither would he permit the deputation's own shorthand writer to be present, but mentioned that he had an official reporter in attendance. The deputation replied that it could not accept this position, and remarked that the names of the prisoners had already been widely published. The position of the deputation was one of grave public responsibility, and they demanded to be heard in the presence of the press. The deputation then withdrew, and from the Westminster Palace Hotel issued a statement upon which the above relation of the facts is based.

HOUSE OF COMMONS.

THURSDAY, JULY 9TH.

Physical Instruction in Elementary Schools.

Mr. KING asked the President of the Board of Education whether physical exercises were a compulsory part of the curriculum in public elementary schools; and whether he would cease to recognise any school which failed to provide for physical instruction in accordance with the code.—Mr. J. A. PEASE answered: Physical training is one of the subjects mentioned in Article 2 of the Code. The article states, however, that it is not necessary for all the subjects mentioned to be taught in every school or class. The importance which the Board attach to instruction in this subject is shown in the introduction to the syllabus of Physical Exercises. In view of what is said there, I think it would be very difficult to satisfy the Board that at any particular school physical training is not required by the needs of the scholars. I am not aware of any school in which physical training is not now included in the curriculum, though its efficiency and adequacy vary considerably.

Sight Tests in the Mercantile Marine.

Mr. LYNCH asked the President of the Board of Trade how many of those rejected for colour blindness, as indicated in the last report, failed with the lantern but passed the wool test and vice versa, and whether he would consider the advisability of giving this information in the reports in future.—Mr. BURNS said in reply: I assume this question refers to the sight tests used in the mercantile marine. 138 candidates passed the wool test and failed in the lantern test. Of these 24 subsequently passed on appeal, and thus 114 finally failed. 101 candidates passed the wool test and in the lantern test were "referred" for further examination. At the latter examination 76 passed and 25 failed. No candidates failed in the wool test and passed in the lantern test. Three candidates were "referred" in the wool test and passed the lantern test, all three subsequently passing a special examination. The number of candidates who pass, fail, or are "referred" in the lantern or wool tests respectively will be given in the next return as suggested. I should add that "referred" means that the candidate was not definitely passed or rejected, but was referred to London for a special examination.

Mr. LYNCH: Will the right honourable gentleman bring a scientific spirit to bear on this question, so that the wool test may be altogether eliminated?—Mr. BURNS: The honourable gentleman is rather belated in his suggestion. The old form of wool test has been abandoned. I had the pleasure of taking the objectors to and the critics of the wool test down to Shoeburyness, and after a pleasant night on the marshes the objectors were silenced and the critics satisfied.

Housing Department at the Local Government Board.

Answering Mr. LANE-FOX, Mr. HERBERT SAMUEL (President of the Local Government Board) said: There is a special department of the Local Government Board which deals exclusively with housing and town planning questions. The department consists of 23 officials, in addition to a staff of eight inspectors whose time is wholly devoted to this work. The services of the Board's technical officers in the medical, engineering, and architectural staffs are also partly given to housing questions.

Sanitary Conditions in the Mercantile Marine.

Mr. BURNS (President of the Board of Trade), replying to various points that had been raised in Committee of Supply on the Board of Trade estimates, said that the department was justified in the present sight test and meant to adhere to it. Several honourable Members had referred to the sanitary condition of ship accommodation, hospitals on ships, crew space, and similar things. He found that whereas there had been a striking diminution in the death-rate in the Royal Navy and the army and also amongst the industrial population in the years from 1891 to 1911, there had been practically no diminution in the deaths from disease in the mercantile marine. He had appointed a small committee of specialists, with medical officers, statistical experts, and others, to examine the whole subject of the mortality in the mercantile marine, and he hoped soon to have from the committee a practical and suggestive report. He was glad to say that on the subject of hospital accommodation for crews much had been done. In January, 1912, the Board of Trade issued a notice to shipowners that in cargo vessels suitable accommodation should be provided for sick and disabled seamen. Of 150 large vessels built in 1902 there were only 10 with crew hospitals, or 7 per cent.; of 160 built in 1912, 28, or 17 per cent., had crew hospitals provided; of 213 built in 1913, 68, or 32 per cent., were provided with crew hospitals. The Board intended by every means in its power to accelerate the provision of hospitals not only on emigrant ships and large steamers but on a large number of tramp steamers, where the men perhaps required hospital accommodation more than on the great liners.

MONDAY, JULY 13TH.

The Drug Fund.

Mr. GODFREY LOCKER-LAMPSON asked the honourable Member for St. George's-in-the-East, as representing the Insurance Commissioners, whether the Government could now make any announcement in regard to the Insurance Committees which had deficiencies on the drug fund in respect of the year ending January, 1914; what the approximate amount of the deficiency was in each case; and whether the Government proposed to make a grant so that the panel chemists might get paid for the drugs they had supplied on the doctors' orders.—Mr. WEDGWOOD BENN replied: For the reasons already given in my previous replies I am unable to make any general announcement as to the position with regard to any deficiencies for the year 1913. The rest of the question does not accordingly arise.

Sickness Claims under the Insurance Act.

Mr. FRED HALL (Dulwich) asked the Prime Minister whether, in view of the consideration raised by the recently published annual report of the National Health Insurance Commissioners as regarded the financial position of the Approved Societies, the position of deposit contributors, the excessive claims of women, and the bearing of the question of unemployment upon the operation of health insurance generally, he would consider the appointment of a special committee to inquire into the working of the Act as a whole, with a view to formulating comprehensive proposals for its amendment in the light of the experience now available; and whether in the meantime he would postpone any proposal for amendment or limit such proposals to matters of detail which would not admit of delay.—Mr. ASQUITH answered: A special committee appointed last autumn has been examining the whole question of sickness claims under the Insurance Act, and will, I am informed, report shortly. The Chancellor of the Exchequer has already announced that the Government propose to deal with these questions by such means as experience has proved desirable.

TUESDAY, JULY 14TH.

Exemptions from Vaccination.

Mr. NORMAN CRAIG asked the President of the Local Government Board what were the percentages of exemption from vaccination for the years 1906 to 1913 inclusive.—Mr. HERBERT SAMUEL wrote in reply: The figures are as follows:—

Year.	Number of births registered during the year.	Number of exemptions received during the year.	Percentage of statutory exemptions.	Percentage of children ultimately unvaccinated.
1906	935,081	52,391	5·6	16·8
1907	918,042	57,675	6·3	20·4
1908	940,383	162,729	17·3	27·9
1909	914,472	190,689	20·9	32·3
1910	896,952	230,947	25·7	36·3
1911	881,133	248,483	28·2	38·9
1912	872,767	275,929	31·6	42·9
1913	881,490	308,235	35·0	Figures not available.

The Local Government Board receive, in February of each year, returns from all vaccination officers relating to the children born within the previous year but one. These returns show the numbers of such children who have been vaccinated, or found insusceptible of vaccination, or have had small-pox, or have died. The percentages in the last column are based on the numbers of children remaining after the deduction of these classes.

The Work of Sir Ronald Ross.

Mr. COWAN asked the Chancellor of the Exchequer whether he had received a petition to the House from Sir Ronald Ross, K.C.B., F.R.S., asking for compensation for loss in his profession incurred through his long-continued investigations on malaria; whether the petition was based upon the precedents of similar petitions successfully submitted to the House by Dr. Edward Jenner in 1802 and again in 1807, and by George William Manby in 1823; and whether he would recommend Sir Ronald Ross's petition, as required by Standing Order 66, in order to enable it to be laid before the House.—Mr. LLOYD GEORGE replied: I have received the petition referred to, but I have not felt justified in taking the course suggested, which is not in accordance with modern usage.

Notification of Births.

Mr. ALDEN asked the President of the Local Government Board whether, in order to assist the working of the Notification of Births Act, he had any objection to the superintendent registrars handing to the parents who attended to register a birth a notice containing a short reference to the provisions of the Act, and, if he had no such objection, whether he could see his way to issue a circular to the various superintendent registrars calling their attention to the matter.—Mr. HERBERT SAMUEL said in reply: In view of the fact that the notification under the Notification of Births Act has to be given within 36 hours of the birth of a child, while a period of six weeks is allowed for registration, I fear that the advantage of adopting my honourable friend's suggestion would not compensate for the additional trouble caused.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, London.

Sleeping Sickness in the Island of Principe. By Surgeon-Captain B. F. Bruto da Costa, Health Officer and Chief of the Sleeping Sickness Commission. Translated by Lieutenant-Colonel J. A. Wyllie, F.R.G.S., Indian Army (retired).

Aids to Forensic Medicine and Toxicology. By W. Murrell, M.D., F.R.C.P. Revised by W. G. Aitchison Robertson, M.D., D.Sc., F.R.C.P. Edin. Eighth edition. Price 2*s*. 6*d*. net.

Aids to Dental Anatomy and Physiology. By Arthur S. Underwood, M.R.C.S., L.D.S. Third edition. Price 2*s*. 6*d*. net.

Manual of Anatomy, Systematic and Practical, including Embryology. By A. M. Buchanan, M.A., M.D., C.M., F.R.F.P.S. Glasg., Professor of Anatomy in Anderson's College, Glasgow. Second impression in the old nomenclature. Price 21*s*. net.

Insanity in Everyday Practice. By E. G. Younger, M.D. Brux., M.R.C.P. Lond., D.P.H., &c., Senior Physician, Finsbury Dispensary. Third edition. Price 3*s*. 6*d*. net.

BALE (JOHN), SONS, AND DANIELSSON, London.

Handbook for Infant Health Workers: In connexion with Schools for Mothers. By R. Manwood H. Walford, M.R.C.S. Eng., L.R.C.P. Lond. Price 1*s*. 6*d*. net.

Historical Sketches of Old Charing: The Hospital and Chapel of St. Mary Roncevall: Eleanor of Castile, Queen of England, and the Monuments Erected in Her Memory. By James Galloway, A.M., M.D., Senior Physician and a Vice-President, Charing Cross Hospital. Price 10*s*. 6*d*. net. This volume is sold for the benefit of Charing Cross Hospital.

BARTH, JOHANN AMBROSIUS, Leipzig.

Handbuch der Tuberkulose in fünf Bänden. Herausgegeben von Professor Dr. L. Brauer, Hamburg-Eppendorf, Allg. Krankenhaus; Dr. G. Schröder, Dirigierender Arzt der neuen Heilanstalt für Lungenkranke zu Schömberg, O.-A. Neuenbürg; Dr. F. Blumenfeld, Arzt für Nasen-, Hals- und Lungenkrankheiten in Wiesbaden. Zweiter Band, mit 15 Abbildungen, 3 Kurven, und 6 schwarzen Tafeln. Preis M.20.

BELL, GEORGE, AND SONS, London.

Eve Repentant, and Other Poems. By Augustus H. Cook, M.B. Lond. Price 2*s*. 6*d*. net.

CHURCHILL, J. AND A., London.

St. Thomas's Hospital Reports. New Series. Edited by Dr. J. J. Perkins and Mr. C. A. Ballance. Vol. XLI. Price 8*s*. 6*d*.

FISCHER, GUSTAV, Jena.

Handbuch der gesamten Therapie. In sieben Bänden. Herausgegeben von Professor Dr. F. Penzoldt, Erlangen, und Dr. R. Stintzing, Jena. Fünfte, umgearbeitete Auflage. Lieferung 17 (Band II., Seite 689–763; Band III., Seite 641–704). Price M.3.50. Lieferung 18 and 19 (Band III., Seite 705–797; Band VI., Seite 161–384). Price M.3.50.

Handbuch der Vergleichenden Physiologie. Herausgegeben von Hans Winterstein (Rostock). 43 Lieferung. Band III., Physiologie des Energiewechsels, Physiologie des Formwechsels. Seite 1599–1760. Price M.5.

Die Erregungsleitung im Wirbeltierherzen. Ein Vortrag nach Vergleichend Physiologischen Untersuchungen. Von Dr. Med. et Phil. Ernst Mangold. Price M.1.20.

Das Herzflimmern, seine Entstehung und Beziehung zu den Herznerven, von Dr. Ludwig Haberlandt. Price M.50.

Handbuch der Immunitätsforschung und experimentellen Therapie. Mit besonderer Berücksichtigung der Technik und Methodik. Herausgegeben von Prof. Dr. R. Kraus und Dr. C. Levaditi. 1 Lieferung. Price M.5.

Die Uebertragungsweise der Rattentrypanosomen. Von Wilhelm Nöller, Tierarzt. Abdruck aus: "Archiv für Protistenkunde, Band XXV., u. 34. Price M.3.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BAINBRIDGE, WILLIAM, M.B., Ch.B. Edin., D.P.H. Bristol, has been appointed Honorary Assistant Ophthalmic Surgeon to the Hull Royal Infirmary.

BRIDE, T. MILNER, M.D. Vict. Manch., has been appointed Honorary Surgeon to the Manchester Royal Eye Hospital.

BRYAN, C. A. D., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the East Leicester District of the county of Leicester.

CLARKE, R., M.D. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Cambuslang District of the county of Lanark.

CRAIG, F., M.B., B.S. R.U.I., has been appointed Medical Officer of Health to the Londonderry Corporation.

GREEVES, F. J., L.R.C.P. & S. Irel., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the South Blackburn District of the county of Lancaster.

HARRIS, WILFRED, M.D., B.C. Cantab., F.R.C.P. Lond., has been appointed Physician to the Royal Westminster Ophthalmic Hospital.

HOWELL, JAMES B., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for Hammersmith.

MACGREGOR, ALASTAIR, M.D., C.M. Edin., has been appointed Chief Assistant in the Electrical Department at St. Bartholomew's Hospital.

MACKAY, D. MATHESON, M.D., C.M. Edin., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Ophthalmic Surgeon to the Hull Royal Infirmary.

MULLALLY, G. T., M.B., B.S. Lond., has been appointed Surgical Registrar and Demonstrator of Anatomy at Guy's Hospital Medical School.

OZANNE, R. C., M.B., B.Ch. Oxfd., has been appointed Surgical Registrar and Demonstrator of Anatomy at Guy's Hospital Medical School.

RYLE, J. A., M.B., B.S. Lond., has been appointed Medical Registrar to Guy's Hospital Medical School.

SCHLESINGER, E. G., M.B., B.S. Lond., has been appointed Surgical Registrar and Demonstrator of Anatomy at Guy's Hospital Medical School.

SPRIGGS, N. I., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the West Leicester District of the county of Leicester.

SPROTT, BARBARA, M.B., B.S. Lond., has been appointed Anæsthetist to the Chelsea Hospital for Women.

STANLEY, E. GERALD, M.S. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Dreadnought Hospital, Greenwich.

TODD, A. H., M.B., B.S. Lond., has been appointed Surgical Registrar and Demonstrator of Anatomy at Guy's Hospital Medical School.

WADE, NOEL, M.D. Edin., has been appointed Medical Officer of Health to the Risca Urban District Council.

WALKER, M. G. L., M.B., Ch.B. Leeds, has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Crosshills District of the county of York.

WILLIAMS, E. K., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Billesdon District of the county of Leicester.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL.—House Surgeon. Salary £150 per annum, with residence, board, and laundry.

BATH, WINSLEY SANATORIUM FOR CONSUMPTION.—Assistant Resident Medical Officer, unmarried. Salary £150 per annum, with board, residence, and laundry.

BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

BETHNAL GREEN INFIRMARY, Cambridge Heath, E.—Assistant Medical Officer. Salary at rate of £160 per annum, with apartments, board, and washing.

BIRKENHEAD BOROUGH HOSPITAL.—Senior House Surgeon. Salary £120 per annum, with board and laundry.

BIRMINGHAM, CITY FEVER HOSPITAL, Little Bromwich.—Assistant Medical Officer. Salary £200 per annum, with board, residence, and laundry.

BIRMINGHAM AND MIDLAND EYE HOSPITAL, Church-street.—Junior House Surgeon. Salary £100 per annum, with residence, board, &c.

BIRMINGHAM, QUEEN'S HOSPITAL.—House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

BIRMINGHAM UNION.—Fourth Assistant Medical Officer at Dudley-road Infirmary. Salary £140 per annum. Also Assistant Medical Officer at Selly Oak Infirmary and House. Salary £160 per annum. Each with apartments, rations, laundry, and attendance.

BLACKBURN AND EAST LANCASHIRE ROYAL INFIRMARY.—Junior House Surgeon. Salary £100 per annum, with board, residence, &c.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—House Surgeon for six months. Salary £75 per annum, with board, residence, and laundry.

BOLTON INFIRMARY AND DISPENSARY.—Two Honorary Aural Surgeons.

BOOTLE BOROUGH HOSPITAL.—Senior and Junior House Surgeons. Salaries £120 and £100 respectively, with residence, board, and laundry.

BRADFORD CITY HOSPITAL FOR CONSUMPTIVES.—Resident Medical Officer. Salary £200 per annum, with board and residence.

BRADFORD ROYAL INFIRMARY.—House Surgeons, unmarried. Salary £100 per annum, with board, residence, and washing.

BRIGHTON THROAT AND EAR HOSPITAL, Church-street, Queen's-road.—Non-Resident House Surgeon for six months. Salary at rate of £150 per annum.

BRISTOL CITY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, washing, and attendance.

BURY ST. EDMUNDS, WEST SUFFOLK GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £120 per annum, with board, lodging, and laundry.

CANNING TOWN WOMEN'S SETTLEMENT HOSPITAL, Balaam-street, Plaistow, E.—Female Senior Resident Medical Officer. Salary £120 per annum, with board, and laundry.

CARDIFF, KING EDWARD VII.'S HOSPITAL.—Two House Surgeons for six months. Salary at rate of £100 per annum, with board, residence, and laundry.

CARDIFF AND COUNTY PUBLIC HEALTH LABORATORY.—Bacteriologist. Salary £300 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £75 per annum, with board, residence, and washing.

CITY OF WESTMINSTER UNION INFIRMARY, Fulham-road, S.W.—Third Assistant Medical Officer. Salary £140 per annum, with board, residence, and washing.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Surgeon and House Physician. Salary £100 per annum, with board, residence, and washing in each case.

DERBY, DERBYSHIRE ROYAL INFIRMARY.—Honorary Assistant Physician.

DEVONPORT, ROYAL ALBERT HOSPITAL.—House Surgeon, unmarried. Salary £150 per annum, with board and laundry. Also Locum Tenens as House Surgeon. Salary £5 5s. per week, with board and residence.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—House Physician. Salary at rate of £75 per annum, with board, residence, and washing.

FALKLAND ISLANDS.—Assistant Colonial Surgeon, unmarried. Salary £400 per annum.

FAREHAM, HANTS COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £250 per annum, with apartments, board, washing, and attendance.

GLASGOW UNIVERSITY.—Lecturer in Pharmacology. Salary £300 to £400 per annum. Also Assistant in Department of Physiology. Salary £150 per annum.

GREENWICH UNION INFIRMARY AND WORKHOUSE.—First Assistant Medical Officer, unmarried. Salary £175 per annum, with apartments, rations, and washing.

GRIMSBY AND DISTRICT HOSPITAL.—Senior House Surgeon. Also Junior House Surgeon. Salaries £100 and £80 per annum respectively, with board, lodging, attendance, and washing.

HALIFAX ROYAL INFIRMARY.—Third House Surgeon, unmarried. Salary £100 per annum, with residence, board, and washing.

HEREFORDSHIRE COUNTY COUNCIL.—Assistant to Medical Officer of Health. Salary £300 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—House Physician for six months. Salary 30 guineas.

HUDDERSFIELD, COUNTY BOROUGH EDUCATION AUTHORITY.—Assistant School Medical Officer. Salary £300 per annum.

HULL ROYAL INFIRMARY.—Senior House Surgeon, unmarried. Salary £150 per annum, with board and apartments. Also Assistant House Surgeon. Salary at rate of £100 per annum, with board and lodging.

HULL, VICTORIA CHILDREN'S HOSPITAL, Park-street.—Female Assistant House Surgeon. Salary £45 per annum, with board and laundry.

INFECTIOUS HOSPITALS SERVICE OF METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officers, unmarried. Salary £250 per annum, with board, lodging, and washing.

KING'S COLLEGE HOSPITAL, Denmark-hill, S.E.—Assistant Obstetric Physician.

KIRKMABRECK PARISH, Creetown, Kirkcudbrightshire.—Medical Officer. Salary £40 per annum.

LEAMINGTON SPA, WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—House Surgeon and House Physician. Salary £100 and £85 respectively, with board, residence, and laundry.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £130 per annum, with board, residence, and laundry.

LEICESTER, NORTH EVINGTON POOR-LAW INFIRMARY.—Senior Assistant Medical Officer and Junior Assistant Medical Officer. Salaries £200 and £150 per annum respectively, with apartments, rations, laundry, and attendance.

LIVERPOOL DISPENSARIES.—Assistant Surgeon, unmarried. Salary £110 per annum, with board and apartments.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.—Research Assistant at Runcorn Research Laboratory. Salary £150 per annum.

LIVERPOOL STANLEY HOSPITAL.—Two House Physicians and Two House Surgeons. Salary £80 per annum each, with board, residence, and laundry.

LIVERPOOL UNIVERSITY, FACULTY OF MEDICINE.—Johnston Chair of Bio-Chemistry. Salary £500 per annum.

LOWESTOFT AND NORTH SUFFOLK HOSPITAL.—House Surgeon, unmarried. Salary at rate of £150 per annum, with board, residence, and laundry.

MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £250 per annum, with quarters, board, attendance, washing, &c.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Assistant House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer and Pathologist. Salary £60 per annum.

MANCHESTER, HULME DISPENSARY, Dale-street, Stretford-road.—House Surgeon. Salary £180 per annum, with apartments, attendance, coal, and gas.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Park-place, Cheetham Hill-road.—House Surgeon. Salary £120 per annum, with apartments and board.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with residence, board, and washing.

MANCHESTER ROYAL INFIRMARY.—Medical Officer for Out-Patients and Accidents for six months. Salary at rate of £100 per annum, with board and residence.

NATAL, PROVINCE OF.—Medical Officer for Medical Inspection of Schools. Salary £700 per annum.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland-street, W.—Resident Medical Officer for three or nine months. Salary at rate of £80 per annum, with board, residence, and washing.

NEWARK-UPON-TRENT HOSPITAL.—Female Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and laundry.

NEW HOSPITAL FOR WOMEN, Euston-road.—Female Obstetric Assistant. Board, lodging, and laundry.

NORTHAMPTON GENERAL HOSPITAL.—House Surgeon. Salary £120 per annum, with apartments, board, washing, attendance, &c.

NOTTINGHAM, BAGTHORPE INSTITUTION AND INFIRMARY.—Resident Assistant Medical Officer, unmarried, for six months. Salary at rate of £165 per annum, with apartments, &c.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £150 per annum, with apartments and board, attendance, light, and fuel.

PARK HOSPITAL FOR CHILDREN, Hither Green, Lewisham, S.E.—Temporary Assistant Medical Officer.

PETERBOROUGH INFIRMARY AND DISPENSARY.—House Surgeon, unmarried. Salary at rate of £120 per annum, with residence, board, and laundry.

PRESTON, COUNTY ASYLUM, Whittingham, Lancs.—Assistant Medical Officer, unmarried. Salary commencing £200, rising to £250 per annum, with board, apartments, &c.

PUTNEY HOSPITAL, Putney Common, S.W.—Resident Medical Officer. Salary £150 per annum, with rooms, board, and laundry.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—House Surgeon for six months. Salary £80 per annum, with board, residence, and washing.

ROCHDALE INFIRMARY AND DISPENSARY.—Senior House Surgeon, unmarried. Salary £120 per annum, with board, residence, and laundry.

ROYAL EAR HOSPITAL, Soho.—House Surgeon. Salary £40 per annum.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Resident Medical Officer. Also House Physician. Both for six months. Salaries at rate of £120 and £60 per annum respectively, with board, lodging, and washing.

ROYAL NAVAL MEDICAL SERVICE.—Twenty-five Appointments.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Junior Resident Medical Officer for six months. Salary at rate of £70 per annum, with board and washing.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Assistant Resident Medical Officer. Salary at rate of £100 per annum, with board, residence, and laundry.

ST. PAUL'S HOSPITAL FOR SKIN AND GENITO-URINARY DISEASES, Red Lion-square, Holborn, W.C.—Assistant Surgeon.

SALFORD ROYAL HOSPITAL.—House Surgeon, Junior House Surgeon, and Casualty House Surgeon. Salary at rate of £100 per annum each, with board and residence.

SALFORD UNION INFIRMARY.—Resident Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, attendance, and rations.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior and Junior House Surgeons. Salaries £100 and £80 per annum respectively, with board, residence, &c.

SHEFFIELD, EAST END BRANCH OF THE CHILDREN'S HOSPITAL (OUT-PATIENT DEPARTMENT).—House Surgeon. Salary £120 per annum, with board and residence.

SHREWSBURY, SALOP INFIRMARY.—House Physician. Salary at rate of £110 per annum, with board and apartments.

SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £115 per annum, with residence, board, and washing.

SUNDERLAND ROYAL INFIRMARY.—House Physician. Salary £120 per annum, with board, residence, and laundry.

SWANSEA GENERAL AND EYE HOSPITAL.—Two House Surgeons. Salary £125 per annum, with board, washing, and attendance.

THROAT HOSPITAL, Golden-square, W.—Two Resident House Surgeons. Salary £75 per annum, with board, residence, &c.

TRURO, ROYAL CORNWALL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with rooms, board, and washing.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Physician for six months. Salary £40, with board and lodging.

WALSALL AND DISTRICT HOSPITAL.—Assistant House Surgeon. Salary £110 per annum, with board, residence, and laundry.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House Surgeon and Anæsthetist, unmarried. Salary £100 per annum, with board, residence, and washing.

WEST HAM, COUNTY BOROUGH OF.—Assistant School Medical Officer. Salary £250 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford.—Senior House Physician and Senior House Surgeon. Salary at rate of £100 per annum, with board, residence, and washing. Also Junior House Physician and Junior House Surgeon. Salary at rate of £75 per annum, with board, residence, and washing.

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL.—House Physician. Salary £80 per annum.

WREXHAM INFIRMARY.—Resident House Surgeon. Salary £120 per annum, with board, lodging, and washing.

YORK COUNTY HOSPITAL.—House Physician for six months. Salary at rate of £100 per annum, with board, residence, &c.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at East Newcastle, in the county of Northumberland; at Maiden Newton, in the county of Dorset; and at West Newcastle, in the county of Northumberland.

Births, Marriages, and Deaths.

BIRTHS.

PAGE.—On July 10th, at Old Market-street, Bristol, the wife of Lionel Page, M.R.C.S. Eng., L.R.C.P. Eng., of a son.

WILLIAMS.—On July 7th, at Lansdowne-road, Clapham, the wife of Cyril Williams, M.R.C.S., L.R.C.P., of a daughter.

MARRIAGES.

COLE—BRIDGMAN.—On July 4th, at St. Olave's, Finsbury Park, N., John William Edward Cole, M.B., to Caroline Fanny Bridgman, widow of the late Herbert Bridgman, Esq., L.S.A.

DE BRENT—DAWS.—On July 7th, at St. George's Church, Catford, Harold John de Brent., M.R.C.S., L.R.C.P., to Elsie, third daughter of J. E. Daws, Esq., of Bournemouth.

HICKS—JAMES.—On July 8th, at Holy Trinity, South Hampstead, by Rev. Arthur Griffiths, John Athelstan Braxton Hicks, M.D., M.R.C.P., only son of the late A. Braxton Hicks, H.M. Coroner, and Mrs. A. Braxton Hicks, 5A, Perham-road, W., to Adeline Stephanie, daughter of the late Wm. Lamprey James, Esq., of Exeter, and Mrs. Hall, of Westcliff-on-Sea.

DEATHS.

ASHWORTH.—On July 12th, at Vigne House, Cliftonville, Margate, Kate, wife of J. Henry Ashworth, M.D. St. And., M.R.C.P. Edin.

PITT.—On July 10th, at Great Somerford, Chippenham, Charles Wightwick Pitt, M.R.C.S., L.S.A., aged 71.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

HEALTH OF BARBADOS.

A REPORT on the Barbados Blue-book for the year 1912–13, prepared by the Acting Colonial Secretary, Mr. W. L. C. Phillips, has just been issued. It gives the estimated population of the colony as 172,203—71,641 males and 100,562 females. The birth-rate was 35·8 per 1000 as compared with 35·2 the previous year, and the death-rate 41 per 1000 as against 26·3. There was an increase of 2505 in the number of burials, and as there was no outbreak of quarantinable disease, that increase is attributed to the privation consequent on the drought experienced throughout 1912. Illegitimate births numbered 3799, or 59·6 per cent., of the total births. The number of burials of children under one year of age was 2642, a rate of 416 per 1000, as against 263 in 1911 and 268 in 1910. The average maximum temperature for the year 1912 was 84·3° F. and the average minimum 75·7°. The average rainfall for the island for the year from 145 stations was 41·49 inches, as compared with 59·28 inches from 154 stations for the previous year, and with 61·51 inches from an average of 120 stations for the 65 years ended 1912. The rainfall in Barbados is extremely localised as regards distribution over the island. In England it is possible to describe several counties in the daily returns of rainfall. In Barbados, however, there would be notable inaccuracy even if the description was limited to parishes, because the clouds are so capricious that while one planter is looking at a rapidly filling rain gauge with chuckling contentment, a neighbour may be alluding—with a planter's emphasis—to the rainless sunshine which threatens to make his pocket absolutely empty. This characteristic applies as well to those parishes which are flat and without hills as to those which are of an entirely hilly character and to those which contain both flat lands and hills. Cases frequently occur where, in adjoining plantations of a few hundred acres each in the same parish and with the same natural features, one will be abundantly watered and the other remain dry. A recent case may be cited where in three adjoining plantations in St. Peter's parish the precipitation of rain on one was four inches, while in each of the adjoining properties the precipitation was only four-hundredths of one inch. There are no woods or forests in the island which in other places may account for differences occurring in the rainfall, and no explanation of the peculiarity can be found in natural causes. Mention has been made of the drought of 1912. It caused a decrease in the revenue and a decrease in the trade of the colony, as well as a practical failure of the provision crops, with resulting high prices for imported foodstuffs, increasing the cost of living for all classes. It diminished the wage-earnings of the people and swelled the ranks of the recipients of poor relief; it increased the number of criminals, brought many to the verge of starvation, and, most serious of all, it was the undoubted cause of the very high increase in the death-rate. The subject cannot be discussed without referring to the admirable spirit of fortitude and patience displayed by the people in their sufferings.

"ADVT."

To the Editor of THE LANCET

SIR,—A few weeks ago I drew your attention to a medical man's announcement in the Court Circular of a daily newspaper. Here is another example from to-day's paper:—

> *Dr. H——*, on his return to practice, desires to thank his many friends who kindly inquired after him during his recent illness.

I suggest that the letters "Advt." ought to be added in such cases.

I am, Sir, yours faithfully,

July 13th, 1914.

P. R. N.

FAITH-HEALING COMBINED WITH DRUGS.

AN inquest recently held by Mr. R. Kemp at Hounslow on the body of Miss Kate Addison Scott showed, as the coroner observed at its conclusion, the extraordinarily easy way in which members of the public are "taken in by quasi-religious faith-healers." The deceased, who had long suffered from a nervous complaint and was paralysed, had entered the house kept by a man named Orlando Edgar Miller, a person without medical qualifications, who described himself at the inquest as a "teacher, lecturer, and healer." There she paid 5 guineas a week, and received treatment which combined "the laying on of hands and giving the right heart," injections, cascara, and scopolamine.

Dr. H. L. Wilson, who had before attended the deceased, was eventually called in and found her moribund. His evidence was supplemented by that of Dr. L. B. Christian and Dr. W. H. Willcox, but neither of these gentlemen was able to say that death was due to, or had been accelerated by the use of, scopolamine. A verdict was returned ascribing it to natural causes, with a request from the jury to the coroner that he should severely censure Miller for administering a dangerous drug which might have accelerated death.

HEALTH AND SANITATION IN SOUTHERN NIGERIA.

A REPORT on the Blue-book for the Colony and Protectorate of Southern Nigeria (which is now in course of amalgamation with Northern Nigeria under the governorship of Sir F. Lugard) has been received at the Colonial Office and ordered by His Majesty to be presented to both Houses of Parliament. It states, *inter alia*, that the native population is estimated at approximately 7,856,000, divided in the three provinces as follows: Western Province, 2,151,000; Central Province, 2,403,000; Eastern Province, 3,297,000. The European population consists of 760 Government officials and 1030 non-officials. During the year 1912 there were 26 deaths and 32 cases of invaliding among European non-officials, and 9 deaths and 57 invalidings among Government officials. At Lagos Hospital (Western Province) the out-patient department was attended by 5236 persons, (Europeans and natives), whilst the in-patient department treated 2218. Minor and major operations were performed to the number of 353. In the Yaba leper asylum 23 cases were treated and there was one death. In the Central Province the out-patients at Onitsha Hospital numbered 5291 and at Warri Hospital 5489; the in-patients at the former totalled 1090 and at the latter 72. 372 in-patients (of whom 24 died) were treated in the native hospital. In the Eastern Province 2 cases received treatment at the Opobo European Hospital, whilst at the Calabar Hospital 8056 out-patients sought treatment, and there were 132 in-patients (with 5 deaths) treated in the European wards and 1194 (with 70 deaths) in the native wards. An outbreak of dysentery and an epidemic of chicken-pox occurred in Calabar Prison. During the year 1912, owing to the increased interest in the work by all concerned, and more especially to the frequent and thorough visits to most of the European stations and large native towns by sanitary officers, the sanitation of the Colony and Protectorate showed a decided change for the better. The matters of water-supply, disposal of refuse and night-soil, prison ventilation and accommodation, the housing of Europeans, and the mosquito-proofing of houses received special attention. The progress of sanitation has been greatly facilitated by (*a*) the employment of European sanitary inspectors, who have been posted in the more important centres, and an increase in the number of native inspectors; (*b*) the framing or alteration of Ordinances and Orders in Council with regard to public health matters; (*c*) the prosecution of an active anti-mosquito campaign; (*d*) the adoption of sanitary schemes suited to various large centres; (*e*) the erection of new infectious diseases hospitals; (*f*) better provision for fumigation and disinfection of buildings, &c.; (*g*) a more thorough and systematic inspection of the railway; and (*h*) the reclamation of swamps.

URINE-COLLECTING BOTTLES.

U.C.B. writes: I think I remember seeing some description in one of the medical journals of urine-collecting bottles a little time ago. I think a part of the surface of the bottle was ground rough for writing on with pencil. I should be much obliged if any of your readers could give me a reference.

DRAWINGS OF ST. BARTHOLOMEW'S HOSPITAL.

OLD St. Bartholomew's men in all parts of the world will be pleased to learn that Mr. Hanslip Fletcher, whose sketches of Guy's and King's College Hospitals have been widely appreciated, has now published through Messrs. W. H. Beynon and Co., St. Alban's Lodge, Cheltenham, a series of plates illustrating their hospital. This consists of eight replicas of wash drawings made recently at St. Bartholomew's Hospital, and the subjects are as follows: King Henry VIII. gateway; bird's-eye view of the Smithfield entrance; the square; the fountain; the medical school buildings; the staircase to the great hall; the Church of St. Bartholomew the Less; and the Church of St. Bartholomew the Great. The last-named, which is an interior view, showing the tomb of Rahere, is charmingly reproduced in colour; the remainder are in monochrome. The size of the plates, including margin, is 17 inches by 13 inches, and the subscription price for artist's signed proofs on Japanese paper is 2 guineas the set. Those specimens which we have seen are very well designed and reproduced, and give a good idea of scenes which are familiar to all who have worked in the hospital. Mr. Hanslip Fletcher is particularly happy in his treatment of such architectural subjects.

THE PORT OF LONDON.

THE Port of London Authority, 109, Leadenhall-street, London, E.C., has issued an interesting volume dealing with the past and present history of the Thames and its docks. The letterpress is by Douglas Owen and the illustrations are by Charles J. De Lacy. The book briefly traces the rise of the Port of London from its earliest days, and relates the circumstances which eventually led up to the creation of the Port of London Authority, while it deals fully with the great scheme of improvements now in course of execution.

RARE MEDICAL BOOKS.

WE have received from Messrs. Funk and Wagnalls Company, of Salisbury-square, London, E.C., an illustrated catalogue containing many interesting medical items. This firm offers to send a copy gratis to any of our readers who make application for it.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. H. C. Semon: Clinique (Skin). 5.15 P.M., Lecture:—Dr. W. C. Topley: Laboratory Aids to Diagnosis in Obscure Febrile Cases.

TUESDAY.—4 P.M., Dr. E. B. Smith: Clinique (Medical). 5.15 P.M., Lecture:—Mr. A. Edmunds: Abdominal Pain.

WEDNESDAY.—4 P.M., Mr. E. C. Hughes: Clinique (Surgical). 5.15 P.M., Lecture:—Sir W. Arbuthnot Lane, Bart.: Fractures.

THURSDAY.—4 P.M., Dr. C. O. Hawthorne: Clinique (Medical). 5.15 P.M., Lecture:—Dr. E. Wynter: Herpes.

FRIDAY.—4 P.M., Mr. E. D. Davis: Clinique (Ear, Nose, and Throat). 5.15 P.M., Lecture:—Dr. W. Wingrave: The Pathology of Warts.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. Mr. B. Harman and Mr. Gibb: Diseases of the Eye. 5 P.M., Lecture:—Dr. Owen: Glycosuria.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. Dr. Owen: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Owen: Glycosuria.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Dr. Simson: Diseases of Women. Mr. Gibb: Diseases of the Eye. 5 P.M., Lecture:—Dr. Owen: Addison's Disease.

THURSDAY.—9 A.M., Dr. Bernstein: Bacterial Therapy Department. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Mr. B. Harman: Diseases of the Eye.

FRIDAY.—10 A.M., Dr. Simson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Eye Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. Y. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Gynæcological (Dr. Banister). 3 P.M., Medical In-patients (Dr. R. M. Leslie).

TUESDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Nose, Throat and Ear (Mr. H. D. Gillies). X Ray and Electrical Methods (Dr. Metcalfe). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting).

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Sk[illegible] (Dr. G. N. Meachen); Eye (Mr. D[illegible]elli).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson); X Rays and Electrical Methods (Dr. Metcalfe).

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. R. Gillespie); Eye (Dr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. G. P. Chappell).

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, Na[illegible] School, City-road, E.C.

MONDAY.—1.30 P.M., Department for the Prevention of Consumption. [illegible] Out-patient [illegible] tion. 2 P.M., Cardiac Department, Dr. [illegible] 3 P.M., Wards, [illegible] Department, Dr. Phear, Dr. S. Thompson. [illegible] Phear.

TUESDAY.—9 A.M., Laryngological Department, Mr. Mark [illegible] P.M., [illegible] Department for the Prevention of Consumption [illegible] 2 P.M., Out-patient Department, Dr. M. Leslie, Dr. B. [illegible] Operations, Mr. A. Evans. 3 P.M., Wards, Dr. White. 4 P.M., Wards, Dr. M. Leslie.

WEDNESDAY.—2 P.M., Wards, Dr. A. Davies; Out-patient Department, Dr. Drysdale, Dr. Kellie. 4 P.M., Wards, Dr. Drysdale. 4.30 P.M., Roentgen Ray Department, Dr. Jordan.

THURSDAY.—9.30 A.M., Dental Department, Mr. G. Thomson. 10 A.M., Cardiac Department, Dr. Stott. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department, Dr. Phear, Dr. S. Thompson. 4.30 P.M. Laryngological Department, Mr. Mant.

FRIDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Wards, Dr. Calvert; Out-patient Department, Dr. M. Leslie, Dr. B. King.

SATURDAY.—10 A.M., Out-patient Department, Dr. Drysdale, Dr. Kellie. 11.30 A.M., Roentgen Ray Department, Dr. Jordan.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.

Course of Demonstrations for Post-Graduates:—

THURSDAY.—4 P.M., Dr. D. Firth: Fibroid Lung.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.

THURSDAY.—5.15 P.M., Clinical Lecture.

For further particulars of the above Lectures, &c., see Advertisement Pages.

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced. In 1914:—

May 1st–Nov. 1st (Lyons).—International Town Hygiene Exhibition.

,, 15th–Oct. 15th (Berne).—Swiss National Exhibition.

May–October (London, Shepherd's Bush).—Anglo-American Exposition.

June–July (Groningen).—University of Groningen 300th Anniversary Celebration.

July 15th–20th (Edinburgh).—Congress of the Royal Institute of Public Health.

,, 21st–23rd (Chester).—British Pharmaceutical Conference.

,, 27th–31st (London).—Fifth Annual Session of the Clinical Congress of Surgeons of North America.

,, 28th–31st (Aberdeen).—Eighty-second Annual Meeting of the British Medical Association.

July–September (Australia).—Eighty-fourth Annual Meeting of the British Association for the Advancement of Science. (July 28th to August 3rd at Perth, August 8th to 12th at Adelaide, August 13th to 19th at Melbourne, August 20th to 25th at Sydney, August 27th to Sept. 1st at Brisbane).

Aug. 2nd–10th (Paris).—Tenth Congress of Esperantists.

,, 3rd–8th (London).—Sixth International Dental Congress.

,, 10th–15th (St. Petersburg).—Twelfth International Congress of Ophthalmology.

,, 29th–Sept. 14th (Toronto).—Canadian National Exhibition.

Sept. 7th–12th (Berne).—International Congress for Neurology, Psychiatry, and Psychology.

,, 10th–12th (Fort William and Port Arthur, Ontario).—Fourth Annual Congress of the Canadian Public Health Association.

,, 21st–28th (Victoria, B.C.).—Dominion Exhibition.

,, 21st–28th (Vienna).—Third International Congress on Diseases of Occupation.

,, 30th–Oct. 4th (Brussels). Fourteenth French (de langue française) Congress of Medicine.

Oct. 31st–Nov. 2nd (Berlin).—First Congress of the International Society for Sexual Research.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. I. of 1914, which was completed with the issue of June 27th, were given in THE LANCET of July 4th.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1914 are now ready. Bound in cloth, gilt lettered, price 16*s.* carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

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WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

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SOLE AGENTS FOR AMERICA—MESSRS. WILLIAM WOOD AND CO., 51, Fifth Avenue, New York, U.S.A.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 15th, 1914.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
July 9	30·17	S.W.	...	121	75	60	57	62	Cloudy
,, 10	30·20	S.E.	...	123	79	61	62	67	Fine
,, 11	30·03	E.	...	126	83	61	63	62	Overcast
,, 12	30·01	S.W.	0·19	103	75	63	64	65	Cloudy
,, 13	30·10	W.	...	127	79	62	63	64	Overcast
,, 14	30·02	S.W.	...	131	81	64	64	71	Fine
,, 15	29·90	W.	...	113	69	61	59	62	Cloudy

The following magazines, journals, &c., have been received:— Journal of Anatomy and Physiology, Clinical Medicine, Philippine Journal of Science, Child, l'Hygiène de la Viande et du Lait, Quarterly Journal of Experimental Physiology, Archives of Pediatrics, Bristol Medico-Chirurgical Journal, Bulletin of the Johns Hopkins Hospital, American Journal of Medical Sciences, Man, Surgery, Gynecology and Obstetrics, Bio-Chemical Journal, South African Medical Review, St. Paul Medical Journal, Revue de Chirurgie, Revue de Médecine, Journal of Surgery, Indian Medical Record, British Journal of Surgery, Illuminating Engineer, Journal of Obstetrics and Gynæcology of the British Empire.

Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; A, Lea Bridge-road; Messrs. Armour and Co., Lond.; Dr. J. H. Ashworth, Cliftonville; Dr. F. S. Arnold, Bovingdon; Dr. E. Ash, Lond.; Mr. R. Andrews, Sidmouth; Mr. P. H. Adams, Oxford.

B.—Mr. W. Butterly, Liverpool; Messrs. W. H. Bailey and Son, Lond.; Dr. F. E. Batten, Lond.; Bradford Corporation, Clerk to the; Boy Scouts Association, Lond., Secretary of; Messrs. J. Beal and Son, Brighton; *Birmingham Daily Post*, Manager of; Bristol City Asylum, Clerk to the; Mrs. Burgess, Governor's Camp, Bengal; Messrs. Butterworth and Co., Lond.; Colonel C. J. Bamber, I.M.S., Lahore; Miss V. E. Bates, New York; Mr. H. Butterfield, Northampton; Messrs. A. Burbridge and Co., Lond.; Blackburn and East Lancashire Royal Infirmary, Secretary of; Messrs. Boswell and Tomlins, Wolverhampton; Mr. W. T. Beswick, Buxton; Birmingham University, Secretary of; Mr. George Brown, Callington; Dr. Henry Blake, Great Yarmouth; Mr. H. J. Bendahan, Lond.; Mr. Geoffrey Besant, Lond.

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I.—I. T.; Lieutenant-Colonel T. W. Irvine, I.M.S., Peshawar; *Illuminating Engineer*, Editor of.

J.—Mr. W. Johnson, Lond.; Mr. Ellis O. Jones, Penygroes; Mr. F. S. C. James, Rochester, U.S.A.; Dr. O. Jennings, Peebles; Mr. Thomas Johnston, Hove.

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A Lecture

ON

LOCALISATION OF MOTOR AND SPEECH CENTRES IN DEFINITE AREAS OF THE CORTEX OF THE BRAIN.

Delivered in the Physiological Laboratory of the University of London on June 8th, 1914,

By EUGENE DUPUY, M.D. Paris, &c.

Gentlemen,—The oldest localisation established is Flourens's "nœud vital," the seat of the principle of life in his language. He showed that a mere prick, and much more the removal of the nib of the calamus scriptorius, induces immediate death by sudden arrest of both respiration and circulation. But many years after Brown-Séquard showed by experiment that the nib of the calamus could be destroyed without inducing cessation of life, and I have collected a number of pathological observations, amongst others one published by Thiroloix and another by Professor Marinesco, which are most interesting, showing also that destruction of the "nœud vital" does not destroy life in man.

Later, in 1861, another localisation established was that of the faculty of articulate speech by Broca in the foot of the left third frontal convolution; he had had precursors, amongst others Bouillaud and Dax, father and son. This localisation was founded on pathological observations, and the three brains which Broca showed are at present —where they have been preserved from the beginning—in the Museum of Pathological Anatomy in Paris; they are to be seen every day. They show that they never have been *opened*—i.e., cut into sections—so that it is impossible to say what other lesions exist, if any, beside those seen on the surface of those brains.

It was in the early "seventies" that Fritszch and Hitzig showed by experiment that there exist in the convolutions of the brains of dogs certain spots which when irritated by means of galvanic currents give rise to definite movements of the limbs in a cross *manner—that* is, irritation on the right hemisphere provoked movements in the left limbs and *vice versâ*. Hitzig later brought forward some observations of lesions of those parts in man corroborating these experimental results; but it does not appear that much interest was raised on those facts until three years later, when came the first researches of my eminent colleague, Sir David Ferrier, who soon after, in his epoch-making work on the "Functions of the Brain," established both from experimental and pathological data the "doctrine"—for such it has been christened by Charcot—of the localisation of the functions of the brain. Hughlings Jackson, as is well known, had already shown in his studies—which must be recalled as models of clinical observations—the sequence of events from lesions of certain areas of the brain in the hemiplegia and epilepsy following.

Criticism of the Doctrine of Localisation.

Ever since one may say that the universal teaching has been that every convolution of the brain, and even every definite area of them, contain motor or *sensory* centres from which start the influence which animates, not only whole limbs on the opposite side of the body, but their different segments, and even the smaller organs, the thumb, for instance. The doctrine comprises the pyramidal tracts with their decussation, through which is effected the crossed action of the hemispheres on the spinal cord; since Mistichelli's time it has been universally adopted by all physicians and physiologists. With regard to loss of articulate speech, the doctrine is that destruction of Broca's convolution alone—it being the seat of the faculty of articulate speech in the left hemisphere for right-handed persons and in the right for left-handed—is the cause of aphasia; and later on Wernicke established that other form or so-called sensory aphasia, having its seat in the left temporal-parietal lobe of the brain also like Broca's aphasia.

I was struck at the very beginning of my medical studies and experimental work with certain facts which did not allow acceptance of the teaching prevalent. I had seen when attending in the post-mortem room—on some rare occasions it is true—Broca's convolution destroyed, and yet the patient had shown no signs of aphasia. I had seen rarely also hemiplegia happening on the same side as the lesion in the brain. Brown-Séquard, with whom I became acquainted at that time, had already been, much to my surprise and gratification, busy for some 15 years before collecting such cases and trying to explain their non-conformity with the accepted teaching by denying the theory of continuous conduction from certain areas of the hemispheres down through the crossed pathways of the pyramids to the spinal cord. He was teaching at that time that lesions of the brain, besides the one we saw, exerted an influence in distant parts which caused the paralysis observed—if I am not mistaken, the same theory which is now introduced by von Monakow under the name of diachisis.

I hold, however, that a doctrine is only true if it comprises in its scope all the facts, and that if one only well-observed fact is found to be contrary then the truth of the doctrine is reversed, to say the least. There are such facts which I believe absolutely vouched for; and, as I will show, the explanations given to make them enter into the classical "frame" are not by any means acceptable. Let me, for instance, state the case of hemiplegia on the same side as the lesion in the brain. There are many on record; one of the earliest, of which the publication seems to have been prompted by Brown-Séquard's teaching, is recorded by Dickinson, of Liverpool.

Hemiplegia with Brain Lesion on Same Side.

It is the case of a woman who was found on admission into the hospital to be in a state of coma; as there was a smell of alcohol in the expired air the stomach was pumped out. At the first return of consciousness there were vigorous efforts to put aside the instrument, and it was then noticed that in such efforts the *right hand*[1] only was used; on further pinching or pricking the surface of the body the whole of the *right side* responded pretty freely, but the *left* little if at all, only the slightest motion of the finger ends being perceptible. On the following morning, when the doctor saw the patient, she could move the *left arm* and *leg* slightly, though there seemed great reluctance and tardiness in doing so. There was evidently considerable loss of power, with somewhat diminished sensibility and reflex action on that side of the body. The functions of the *right side* seemed apparently perfect. There was complete ptosis of the *left eyelid* with external strabismus, distinctly marked paralysis of the *left* third nerve; the tongue was protruded straight. The patient was rational and able to articulate freely, and could even give some little account of herself when roused and pressed for a reply to questions. Later on the patient was able to walk across the ward, though she dragged the *left leg* a little and the *left arm* hung at her side. She made some more progress towards recovery to the point of being able to change her linen by herself and insisted upon going home. Then she suddenly became stupid and had to be lifted in bed, and soon became comatose. There still remained some slight reflex action and muscular response to pricking or pinching on the surface of the body except on the *left side*, the sensibility of which limbs seemed incomplete, or at any rate there was total loss of motor power in the limbs.

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[1] No italics in Dr. Dickinson's text.

At the necropsy no fracture, contusion, or other evidence of external injury was found. On removal of the calvarium and opening the dura mater, which was healthy and entire, a considerable quantity of extravasated blood, amounting perhaps altogether to about three ounces, was found spread out in a layer on part of the lateral surface of the *left* hemisphere and lying in the cavity of the arachnoid. The excavation was entirely *confined to the left side*, and extended downwards along the Sylvian fissure to the base of the brain, where a small clot the size of an ordinary horse bean was seen pressing upon the trunk of the left third nerve. The blood effused was for the most part dark, clotted, and firm, and presented a somewhat shrunken and honey-combed appearance as if it had existed for a good many days. About the centre, however, of the *left* parietal lobe there was quite a fresh-looking and semi-fluid clot of about an ounce in bulk, but lying more superficially upon what appeared to be the older extravasation and gradually tailing off in quantity down the fissure of Sylvius. No rupture of the arachnoid could at first sight be discovered, nor any special focus from which the hæmorrhage might have sprung. Prolonged search showed that the origin of the hæmorrhage was evidently from the rupture of a small branch of the middle cerebral artery, situated in the *left parietal* fissure. The lateral parietal convolutions of the *left hemisphere* were slightly flattened and their surface deeply stained with blood, where the clot had pressed upon them. Nowhere, however, was there any irruption into the substance nor disturbance of the pia mater and arachnoid except at the bleeding point above indicated. The ventricles opened showed in the right one only a little fluid amounting to about 1½ drachms of clear serum. The whole of the *right hemisphere*, both in its superficial and internal structure, was most minutely and accurately examined and portions of it microscopically, but with the exception of the small quantity of serum in the ventricle no lesion or abnormality whatever was discernible, nor had the effused blood come in contact at the base, or at any point, with the surface of this side of the brain. The crura cerebri, pons Varolii, cerebellum, medulla oblongata, and upper portion of the spinal cord were also very carefully examined, but without revealing anything of an unusual character. It is to be specially noticed that the decussation of the anterior pyramids of the medulla was very well marked in the fresh state, and the parts having been hardened and afterwards examined microscopically exhibited no appreciable deviation in the crossing and arrangements of the fibres from the appearances universally recognised as normal.

CONCLUSIONS FROM ABOVE AND OTHER CASES.

I have given this case in such length with details because of its importance. It does not seem necessary to enlarge on the fact that we have here a case of which the features are absolutely contrary to the teaching universally adopted; and I have chosen that one case out of many others published since on account of the extreme care with which it has been studied by the author, it being the first in which microscopic examination was ever done. Similar observations regarding the importance of the pyramid decussation only have been made by Vulpian, who showed that the destruction of these strands of fibres *does not* prevent the conduction of motor impulses from the brain to the spinal cord.

Other cases have been observed in great number in which it has been often found that the tumour or hæmorrhage had caused œdema in the opposite hemisphere, much stress has therefore been laid on this fact to prove that motor symptoms observed were to be attributed to that œdematous hemisphere only. Not only does this œdematous condition not exist in all the cases observed, but if such were the rational interpretation it would follow that the hemisphere on the same side as the motor symptoms had no function at all, since it is found destroyed without motor symptoms occurring on the opposite side. In the case of Dr. Dickinson, however, it is specially noticed that no such œdematous condition existed, nor can the little serum found in the ventricle be considered sufficient to account for the motor phenomena; there are so many cases on record to the contrary. Therefore the elements of the localisation doctrine as regards the effects of motor impulses from the centres in the hemispheres along continuous strands of fibres crossing in the medulla pyramids are not in accordance with well-ascertained facts, and must be accordingly rejected.

RESULTS OF EXPERIMENTS AND PATHOLOGICAL OBSERVATIONS.

Let me now come to the convolutions of the cortex and report some results of experiments and observations of pathological facts.

First, it is not irrelevant to state that lesions of both hemispheres in almost the same ratio cause paralysis in the opposite side of the body. In the first 600 cases of hemiplegia which I have collected 260 show lesions in the right hemisphere, from which fact we may conclude that there is no difference in the functions of the two halves of the brain. Now it occurs, as is universally known, that in the Rolandic areas centres exist the irritation of which causes definite movements in the limbs on the opposite side, while destruction of that particular area brings about a paresis, or at all events awkwardness in that limb; but after some time this paresis or awkwardness disappears. It is said then that the corresponding or homologous area in the other hemisphere has taken up the lost function because it had been ascertained that such "suppléance" could not be found to exist in the surrounding parts of the destroyed "centre," a fact which went a long way to show the well-defined localisation in a given centre. But other experiments have been done which do not allow such a theory, for Carville and Duret, as I had also shown, found that, say, the right foreleg of the dog had recovered from the paresis or awkwardness following the destruction of its so-called centre, then if the corresponding or homologous centre in the right hemisphere is destroyed no paresis or awkwardness returns in the right foreleg, but in the left foreleg only. Therefore the explanation is not acceptable.

It is not possible to perform such experiments in man, but there are at present a great number of pathological cases which point the same way; for instance, the numerous operations performed by surgeons to remove the cause of convulsions or contractures—cases which show that the so-called motor centres for the arm, for instance, or the hand having been removed, not only the convulsion or contracture disappeared but no paralysis ensued. I have collected 47 well-studied cases of this sort, and the one which is recorded in Sir Victor Horsley's Linacre lecture is certainly most interesting. As the mind is so fashioned that it does not seem ever willing readily to abandon adopted theories, it is supposed only automatic movements are retained after those operations, since those movements are said to have their seat in other or lower centres than the cortex, but that willed or newly acquired movements would always be lost. This instance shows once more how dangerous it is to predict, because I have shown as far back as 1873 that in dogs when the "centres" for the movements of the foreleg and paw have been removed, not only do the leg and paw recover, but tricks can be performed, either tricks learnt before or after the operation. I am happy to find that my distinguished colleague Professor C. S. Sherrington has very lately been able to show that in the chimpanzee the same results are obtained.

It is but reasonable, therefore, to admit that the so-called motor centres are not necessary for the normal functional activity of the parts which they are said to govern, and yet it is not possible to deny that irritation, produced by experimental methods in animals and by disease in man, is followed by movements or paresis in the limbs. It is to an explanation of the mode of production of those that I shall devote the time you are patiently according me. I have collected several more or less well-studied cases in which a very large portion of one hemisphere had been destroyed by disease without paralysis having been noticed in the patient.

LOCALISATION IN REGARD TO LOSS OF SPEECH.

Allow me now to speak of localisation in regard to loss of speech. Up to six years ago I may say that all were in agreement that speech depends upon Broca's convolution in the left hemisphere only for right-handed persons, and in the right hemisphere for left-handed persons. The other form of aphasia, so-called sensory or Wernicke's (Bastian had before called attention to that species), also conforms to this rule, and its seat is placed in the temporo-parietal cortex. It is true that some writers have not altogether from the beginning taken for proved this theory of aphasia, and that even so early as two or three years after Broca's publications Bateman and Charcot, among others, published observations contrary to absolute acceptance of the rule; and let those who wish to learn more on the matter or refresh their learning read Trousseau's immortal lectures not only for a knowledge of the whole subject at the time, but also because Trousseau is the first who clearly saw and taught that aphasia is a disorder of the motor as well as of the intellectual activity of the brain. I have, as I said before, even during my student days found cases that did not confirm Broca's so-called law. In the course of succeeding years I found other cases also contrary, to which I called attention in the lectures that I delivered in different American colleges and societies. In 1891 I read a paper before the Neurological Society in London in which I particularly laid stress on the fact that pathological observations conclusively proved that Broca's convolution had nothing to do with aphasia.

It was only seven years ago, when Professor Pierre Marie, covering the same ground, wrote his paper that created such a sensation among neurologists, that the subject attracted universal attention, presumably because the hour had come. He did not only confine himself to denying or disproving Broca's localisation in the foot of the third left frontal convolution, but he also tried to show that what we call aphasia is composed of different conditions—one the loss of power of pronouncing words, and the other the loss of comprehension and understanding, or sensory aphasia so-called. He endeavoured to establish the seat of the real lesion of aphasia in that part of the temporo-parietal lobe which he defined in a quadrilateral space including Wernicke's convolution and deeper parts. I go with him in denying the function, so-called, of Broca's convolution, since, as I have already said, a great number of cases in which this had been destroyed with no aphasia had been recorded, but I also must disbelieve that the quadrilateral space he mapped out contains the centre of the speech faculty for the same reason: that this has been found destroyed when no aphasia existed. I have collected several such cases. And there are other arguments.

Karl Mendel has lately recorded the case of a woman aged 42 who was certainly right-handed and of whose relatives none were ever left-handed. She became paralysed on the whole of the left side as the result of an embolus from cardiac disease and had complete motor so-called aphasia. The lesion was found at the necropsy to be embolic softening of the right inferior frontal convolution, the right island of Reil, and the right superior temporal convolution. A microscopical examination was made of both hemispheres, and the lesions above described were the only ones found: the left hemisphere was intact, and the pyramidal tracts were normally crossed in the lower part of the medulla. The author concludes that this is a case in which the motor (Broca's) speech centre is placed in the right hemisphere in a right-handed person; but as there had been neither sensory (Wernicke) aphasia nor non-agraphia, the sensory speech centre must be localised in the left hemisphere, seeing that the right superior temporal gyrus was destroyed. If ever there was an example of begging the question I believe this is one. Since the superior temporal convolution in the right side was destroyed and no symptom observed, then that portion of the brain had no function, and why should one be asked to accept this saying after it has been so well recorded that motor aphasia, Broca's, was produced *by destruction of the third frontal in this same hemisphere?*

I have seen with Luys, who *published* the record of the case, a very remarkable instance of the immense difficulty, not to say impossibility, of establishing the fact that loss of speech is due to destruction of those so-called centres. In this case there was softening destroying the posterior portion of the third frontal convolution, all the insula convolutions had disappeared, the ascending frontal and parietal at their junction were destroyed; the first temporal was broken down, all the cortex of the insula group and marginal convolutions around were destroyed; the grey substance of the corpus striatum extraventricular nucleus was destroyed, and only vestiges of the intraventricular nucleus probably existed. There was complete motor aphasia, and please mark, 18 months after the stroke the patient all at once, without preparation, began suddenly to speak.

MECHANISM OF SYMPTOMS IN BRAIN LESIONS.

I have made this observation in this place as its lesson will lead me naturally to offer the explanation which I believe is the rational one of the mechanism of symptoms in brain lesions. I do not wish to be understood to say that the cortex has no function, but I wish to state clearly that the area of the seat of definite function, as the doctrine universally adopted will have it, is erroneous. In the light of the examples which I have reported it appears that there are no supplemental centres, but that all the cortex is endowed with the faculty of acting in specific and differentiated manner, and that at most disease or destruction of a given area brings on, say, motor paralysis or aphasia by an inhibitory influence, acting both on other parts of the cortex as well as on the ultimate processes, to the nucleus of the nerves which through the muscles manifest the functions externally. This inhibition would naturally imply alterations of the muscular sense. Brown-Séquard for the last 20 years of his life endeavoured to introduce that theory in science, and I do not know that many followed him. I cannot see any other hypothesis that will account more satisfactorily for all the different manifestations of lesions of the brain; and now let me give a last instance.

A man was found to have in a very short time become amaurotic in one eye. This condition lasted 13 months, and no morbid symptom existed anywhere except a discharging abscess from one tooth in the upper jaw, which, having become a real infirmity, was drawn out. It was found that in its root canal lay a sharp thin spindle of wood from a toothpick which the patient had used in order to cure the tooth which was decayed and which was evidently the cause of the recurrent abscesses. But in a very short time, three days in all after the withdrawal of the tooth, sight had returned completely in the amaurotic eye. Here it is no exaggeration to state that the lesion of the nerve of the tooth induced by inhibition the amaurosis.

Inhibition is not a process of a mysterious nature. It does not consist either, as Claude Bernard taught, in a phenomenon of interference familiar to physicists, nor do I believe it to consist in the action of a synapse, for that implies an organ with a special function, whereas inhibition is a property of the whole nervous system, and one cannot imagine an organ generated by an irritation. But it is most presumably, as Brown-Séquard taught, "une transformation de forces." As I have never seen a lesion made in the brain cortex in any special area not followed by distant and appreciable alteration of tissue elsewhere, it appears to me that by such a process the activity of parts may be altered or inhibited, and one proof thereof consists in the fact that there always elapses a certain length of time before the manifestation of inhibition after irritation and before the restoration of the activity in the part inhibited after the removal of irritation. I do assure you that I have no pretention to have settled for ever the question of the functions of the cortex, but I beg you who have so patiently listened to me to consider, if even with the critical eye, the facts and arguments I have laid before you.

A REDUCTION IN THE VIRULENCE OF TUBERCLE BACILLI STORED IN NORMAL SALINE.

BY LEONARD S. DUDGEON, F.R.C.P. LOND.

(From the Department of Pathology, St. Thomas's Hospital.)

IN this preliminary communication certain experiments will be cited which show the effect of storage on the pathogenicity of the tubercle bacillus. It is important at the outset to emphasise that the different results produced refer to the effect of the inoculation of definitely known quantities of the tubercle bacillus. Four strains were employed of the untreated bacillus, while the organism which was used in the experiments included in Group 4 had been previously treated with immune tuberculous serum in the manner about to be indicated. In each instance the cultures of the tubercle bacillus isolated from a human source were obtained from the sputum of cases at the Brompton Hospital Sanatorium at Frimley, for which I am indebted to the kindness of Dr. W. O. Meek, the superintendent. Further observations on this subject will be published at a later date in conjunction with Dr. Meek.

The sputa were passed through guinea-pigs, and the viscera of the infected animals were sown on Dorset's egg medium. When an abundant growth was obtained, which was usually in about three to four weeks, it was carefully scraped off the surface of the medium, partially dried to remove surplus water which had condensed on the bacilli from the medium, and carefully weighed on sterile platinum foil. The masses of bacilli were then shaken with a definite quantity of sterile saline[1] and some glass beads until a uniform emulsion was obtained, which was finally stored in dark brown bottles and kept in a dark cupboard at room temperature so that each sample was kept under identical conditions. Definite quantities were removed at various times, inoculated into animals and the results carefully noted.

The method employed in the preparation of the treated tubercle bacilli has been referred to elsewhere,[2] but it may be mentioned here for convenience that after the bacilli had been scraped off the surface of Dorset's egg medium they were partially dried, weighed, and then shaken in sterile saline to break up the clumps. The saline was pipetted off, and the solid residue was thoroughly mixed in 2 c.c. of sterile saline so that a very turbid suspension of bacilli was obtained to which 2 c.c. of immune rabbit serum were added and the total mixture was incubated at 37° C. for 20 hours and kept at room temperature for 4 hours. The bacilli were then thoroughly washed in sterile saline and finally suspended in that medium and stored in brown bottles as already indicated.

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[1] 0·9 per cent. [illegible]

[2] [illegible] by L. S. [illegible] vol. xix., No. 1, [illegible]

SERIES I.

Culture of the human bacillus obtained from the tissues of a guinea-pig which developed generalised disease within a period of three weeks from the inoculation of human sputum. When this bacillus was injected intravenously into two rabbits in doses of 3 mgm. and 1·5 mgm. respectively, it was found to have the usual pathogenic properties common to the human bacillus for the rabbit. At the same period two guinea-pigs were infected with similar quantities of the bacillus and developed generalised tuberculosis of an advanced type within a period of four weeks.

Effect of 3½ months' storage.—Two guinea-pigs were inoculated subcutaneously as follows: one animal received 3 mgm. and the other 1·5 mgm. The guinea-pig which received the smaller dose was killed three weeks later, but no lesion of any kind was found at the post-mortem examination, and no tubercle bacilli could be demonstrated in film preparations of the spleen. The second animal, which had received 3 mgm., was killed at the end of five weeks and was found to have developed a local fibro-caseous lesion, caseous inguinal and lumbar glands, and very few tubercles in the spleen, but no tuberculosis elsewhere. Beaded tubercle bacilli were present in every lesion.

Effect of 5 months' storage.—One guinea-pig was injected subcutaneously with 3 mgm. and the other with 1·5 mgm. of the same emulsion of tubercle bacilli. Three weeks later the animal which had received the smaller dose was killed, but there was no lesion of any kind at the post-mortem examination. The spleen of this guinea-pig was emulsified in saline and injected into two others, but without result. The second guinea-pig, which had received 3 mgm., was killed at the end of six weeks, but no lesion of any kind was found. The spleen of this animal was also emulsified in saline and injected into two guinea-pigs, but without result.

Summary.—In the preceding experiments we have investigated the effect of storage on a bacillus isolated from the sputum of a patient who was suffering from pulmonary tuberculosis. It reacted like the human bacillus as regards its pathogenicity for the rabbit, while at the same time it was highly pathogenic for the guinea-pig, but after 3½ months' storage the virulence of this organism for the guinea-pig was considerably reduced, while in 5 months it failed to produce any effect when inoculated *in the doses cited* into such a highly susceptible animal as the guinea-pig. Still further, the spleen of these inoculated animals was proved to be sterile. This point is of importance, as it has already been shown[3] in the case of birds which had been fed daily for periods varying from 6 to 36 weeks with human sputum that, although they did not develop any positive evidence of tuberculosis, yet, in 1 instance out of 8, the spleen of a pigeon which had been fed with sputum for 19 weeks and showed no macroscopical evidence of disease when emulsified in sterile saline and inoculated into a guinea-pig produced typical tuberculosis.

SERIES II.

In this case the tubercle bacillus was obtained from a patient suffering from pulmonary tuberculosis. The only special feature of the organism was its beaded appearance in film preparations. This bacillus was cultivated from the spleen of an infected guinea-pig on Dorset's egg medium, and when 2 mgm. were inoculated intravenously into two rabbits it set up an extreme degree of generalised tuberculosis which terminated fatally within a period of five weeks. At the same period two guinea-pigs were inoculated subcutaneously with 6 mgm. of this bacillus. One animal was killed three weeks later. There was a local abscess, large caseating inguinal and abdominal glands, and tubercles were present in the spleen and liver. The other animal, which was much wasted, was killed six weeks later and showed advanced general tuberculosis. Two guinea-pigs were injected also with 3 mgm. of the bacillus. One animal was killed three weeks later. There was a local abscess and a large caseating inguinal gland. The other animal which was killed within six weeks showed advanced general tuberculosis, with an extreme degree of infection of the liver.

Effect of 1 month's storage.—Two guinea-pigs were inoculated subcutaneously with 6 mgm. of this bacillus. One animal which was killed at the end of three weeks had developed a local fibro-caseous lesion and caseous inguinal glands, but no other lesion was discovered. The second guinea-pig was killed at the end of six weeks. This animal had a local abscess, and the inguinal and iliac glands were found to be caseous, but no tubercles were present in the spleen and liver and the animal was not much wasted.

Effect of 10 weeks' storage.—Two guinea-pigs were inoculated subcutaneously with this bacillus. One animal received 6 mgm. and the other 3 mgm. The animal which received the larger dose was killed at the end of three weeks, but there was no abscess—only a hard mass in the muscles at the seat of inoculation—no glandular enlargement, and no infection of spleen or liver. Tubercle bacilli were present in the local lesion, but *none* were found in the *spleen*. The spleen of this guinea-pig was used for inoculation purposes, as will be mentioned later. The second animal, which was killed at the end of six weeks, had developed a local abscess and tuberculosis of a limited type in the spleen and glands, and a few tubercles were present in the liver. Two guinea-pigs were inoculated with the entire splenic extract of the first animal of the preceding experiment. One pig was killed 17 days later and was found to be normal. The second animal, which was killed in 5½ weeks, showed a local abscess, caseous lumbar and iliac glands, and tubercles in the spleen, but no tubercles in the liver. Films were made from the ground-up liver tissue, but no tubercle bacilli were seen.

Effect of 3 months' and 3 weeks' storage.—One guinea-pig was inoculated subcutaneously with 3 mgm. of the bacillary emulsion and was killed at the end of five weeks. There was no local lesion, but the deep inguinal glands were enlarged and slightly caseous, and tubercle bacilli were demonstrated in the caseous tissue. The iliac glands were enlarged, but not caseous. The spleen was normal, and no other changes of any kind were detected.

Summary.—In these experiments we have been studying a bacillus isolated from human sputum which was highly pathogenic for rabbits in doses of 2 mgm. and was also equally virulent for guinea-pigs. The effect of storage was studied up to a period of 15 weeks, by which time the material was exhausted. If we compare two of the experiments which were made at the beginning of the series and at the end respectively in which guinea-pigs were inoculated with a similar dose of 3 mgm. we find advanced tuberculosis on the one hand as compared with a very limited lesion confined to tuberculosis of the inguinal and iliac glands. Such results compare favourably with the loss of pathogenicity at the end of five months' storage, which has been referred to in detail in the first series of experiments. Another point which may be discussed is the altered type of local change which is produced by the "stored" bacilli. If guinea-pigs are inoculated with bacilli which have been stored for a certain period and are examined within the first three weeks they may show only an inflammatory nodule[4] without caseation, or even no lesion whatever at the site of injection, while the animals killed in the fifth or sixth week after inoculation with the stored bacilli may show a local abscess. It would appear that the local resistance is such that for a certain time a more or less conservative process is established against the bacilli of reduced virulence, but later this is insufficient to withstand the action of the bacillus, and caseation results.

SERIES III.

In this series the culture of the tubercle bacillus was obtained from a case of pulmonary tuberculosis, and the characteristic feature of this organism was its beaded appearance. It set up rapid tuberculosis in guinea-pigs, and was recovered in pure culture on Dorset's egg medium from the spleen of the infected animals. When 2 mgm. were inoculated intravenously into two rabbits it gave rise to generalised tuberculosis and death of the animals within one month from the time of inoculation. At the same period 6 mgm. of this bacillus were injected into two guinea-pigs. One animal was killed two weeks later; it showed a local abscess, caseating inguinal and iliac glands, and tubercles in the spleen, but none elsewhere. The second animal, which was killed six weeks later, had developed advanced general tuberculosis. Two guinea-pigs were inoculated, also subcutaneously, with 3 mgm. of the same bacillus. One animal, which was killed in three weeks, showed a local abscess, caseous inguinal and abdominal glands, and tubercles in the spleen and liver. The second animal, killed in six weeks, had developed general tuberculosis.

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[3] A Contribution to the Study of the Relationship between Avian and Human Tuberculosis, by S. G. Shattock, C. G. Seligmann, L. S. Dudgeon, and P. N. Panton, Proceedings of the Royal Society of Medicine, December, 1907.

[4] In such areas a very high degree of phagocytosis occurs, similar to the lesions found in avian tuberculosis.

Effect of 4 weeks' storage.—Two guinea-pigs were inoculated subcutaneously with the stored bacillus. One animal received 6 mgm. and the other 3 mgm. The pig which had received the larger dose was killed at the end of three weeks; a local abscess, caseous iliac glands, and small tubercles in the spleen had developed. The second animal, which had received 3 mgm., was killed in 5½ weeks, and showed genera tuberculosis of a moderate type.

Effect of 2½ months' storage.—Two guinea-pigs were inoculated subcutaneously with this bacillus. The animal which received 6 mgm. was killed at the end of three weeks and showed a local area of necrosis and a local caseating gland, but the spleen was normal and there were no lesions elsewhere. The apparently normal spleen from this pig was used for inoculation into other guinea-pigs (see below). The other animal, which had received 3 mgm., was killed at the end of six weeks; a local abscess, caseous inguinal glands, tuberculosis of the spleen of a limited type, and a few small tubercles in the liver were found to be present. Two guinea-pigs were inoculated with the emulsified spleen of the first animal of this experiment. One guinea-pig, which was killed in 17 days, had developed a large local abscess showing abundant tubercle bacilli, and also caseous inguinal and lumbar glands. The spleen was normal and no tubercle bacilli were seen in film preparations of the splenic tissue. The second animal, which was killed at the end of five weeks, showed a local abscess, caseous inguinal and lumbar glands, and the spleen was enlarged and caseous.

Effect of 3½ months' storage.—Two guinea-pigs were inoculated subcutaneously with 6 mgm. of the stored bacillus. One animal was killed in 19 days. There was no local lesion, the inguinal and iliac glands showed some slight enlargement, but no caseation was detected. Film preparations made from these glands revealed the presence of tubercle bacilli. The second guinea-pig, which was killed at the end of five weeks, had developed a local abscess showing numerous tubercle bacilli, caseous inguinal and iliac glands, tuberculosis of the spleen, but no tuberculosis elsewhere.

Summary.—In these experiments bacilli stored for 3½ months were still found to be actively pathogenic, although a very distinct reduction in the extent of the lesions incited in the infected guinea-pigs was observed. This fact can be appreciated by referring to the details of the experiments as shown by the inoculation of 6 mgm. of the fresh bacillus and the bacillus which had been stored for 3½ months, when the effect of the altered virulence is at once obvious, more especially in the case of the guinea-pigs which were killed within a period of 14 to 19 days.

SERIES IV.

Treated Bacilli.

Two guinea-pigs were injected subcutaneously with the treated bacilli. One guinea-pig, which received 9 mgm., was killed two weeks later. There was a large local caseous abscess showing abundance of tubercle bacilli, caseous inguinal and iliac glands,. and a very large caseous spleen. The other animal, which received 1·85 mgm., was killed at the end of one month. There was a large local abscess containing numerous tubercle bacilli and advanced general tuberculosis.

Effect of 3 months' storage.—Two guinea-pigs were inoculated with 9 mgm. of the same treated bacillus. The first animal, which had been injected intraperitoneally, was killed two weeks later, but no macroscopic changes were detected. The omentum appeared to be quite normal, but when examined microscopically patches of fibrous tissue, including numerous endothelial cells and small giant cells, were found. There was no caseation, but tubercle bacilli were present in large numbers and almost entirely intracellular. The other guinea-pig died at the end of one month. There were a local lesion with numerous tubercle bacilli, early tuberculosis of the spleen, and caseous inguinal glands. Two guinea-pigs were inoculated with 3·7 mgm. of the same treated bacillus.. The first animal, which had been injected intraperitoneally, was killed two weeks later, but no change was detected. The omentum taken for microscopy, however, showed fibrosed cellular patches containing both small and large giant cells, but no caseation. Bacilli were numerous, but almost entirely within the giant cells. The second guinea-pig, which had been inoculated subcutaneously, was killed at the end of one month. There were a local abscess showing tubercle bacilli, caseous inguinal and lumbar glands, and limited tuberculosis of the spleen. One guinea-pig was inoculated with 9 mgm. of the same treated bacillus subcutaneously, and was killed two weeks later. The post-mortem examination revealed encapsulated nodules in the muscles of the leg, but no glandular enlargement, and no other lesion was detected. A film of the muscle lesion showed massesof tubercle bacilli inside giant cells and endothelial cells.

Effect of 4½ months' storage.—One guinea-pig received 1·5 mgm. subcutaneously, but no lesion of any kind was detected 14 days later, while another pig, which had been injected subcutaneously with 3 mgm., when killed at the end of one month was found to have a local abscess, caseous inguinal and lumbar glands, and some small tubercles in the spleen, but none elsewhere.

Effect of 5½ months' storage.—One guinea-pig was inoculated with 1·5 mgm. of the stored bacillus, and was killed seven weeks later. It was not wasted. There were a local fibro-caseous abscess, caseous inguinal and lumbar glands, and some large tubercles in the spleen and a few small tubercles in the liver. The spleen and local lesions obtained from this guinea-pig were inoculated separately into four guinea-pigs; in each case rapid and generalised tuberculosis was produced.

Summary.—It may be stated at the outset that treating the bacillus with immune tuberculous serum had no effect on its pathogenicity, while storage cannot be said to have reduced the virulence to the same extent as occurred with the other cultures of the tubercle bacillus employed. The difference, however, between general tuberculosis such as occurs with recently cultivated bacilli and that which is induced by means of stored bacilli has only to be seen to be appreciated. Further, it has been shown that bacilli present in a local lesion and in the spleen of a guinea-pig which had been inoculated with bacilli stored for five and a half months were capable of inducing fully active tuberculosis if planted in fresh animal soil.

Attention also must be drawn to the limited tuberculosis of the peritoneum in guinea-pigs inoculated with such samples of stored bacilli. In fact, the contents of the peritoneal cavity appeared to be normal, but microscopical examination of the omentum revealed a condition almost akin to leprosy. These observations agree with those of Stanley Griffith[1] recently published on the strains of tubercle bacilli isolated from cases of human lupus. In this valuable contribution to the study of tuberculosis the author's own words may be quoted: "Cultures were obtained from no fewer than ten guinea-pigs without macroscopic lesions of tuberculosis. ...... The absence of macroscopic tuberculosis in a guinea-pig inoculated with lupus material and examined within five weeks does not therefore necessarily signify that there were no tubercle bacilli in the material inoculated." The observations made by Griffith on the effect of inoculating guinea-pigs with certain samples of lupus material agree with the experiments recorded here on the effect of intraperitoneal inoculation of guinea-pigs with a certain strain of stored tubercle bacilli.

SERIES V.

Bovine Tubercle Bacillus.

This bacillus, which was supplied to me through the kindness of Professor S. Delépine, was cultivated for three weeks on egg medium, and when inoculated into rabbits and guinea-pigs gave rise to rapidly fatal tuberculosis in doses of 1 mgm. and 0·5 mgm.

Effect of 7 months' storage.—Two guinea-pigs were inoculated with 1 mgm. and 0·5 mgm. respectively of the bacillus which had been stored in saline. Neither showed any evidence of tuberculosis at the end of six weeks, and no tubercle bacilli were detected in antiformanised residues of the respective spleens.

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[1] Further Investigations on the Strains of Tubercle Bacilli Isolated from Cases of Lupus, by A. Stanley Griffith, Journal of Pathology and Bacteriology, vol. xviii., No. 4, April, 1914.

Effect of 8 months' storage.—Two guinea-pigs received subcutaneously 57 mgm. of the stored bovine bacillus, but without result at the end of six weeks, and the spleens of these guinea-pigs when inoculated into further guinea-pigs failed to excite tuberculosis.

Summary.—In this experiment we have the full effect of storage on the bovine tubercle bacillus. An actively virulent bovine bacillus was rendered non-virulent as far as the guinea-pig tests serve to show by this means, and further, such an enormous dose as 57 mgm. failed to incite any macroscopical lesion, and, moreover, the spleens of these animals were shown to be sterile.

Film preparations of the various samples of the tubercle bacillus were made before inoculation of the animals, so that any question as to whether the inoculated material contained bacilli need not be considered.

These results are of sufficient interest to record even at this stage of the investigations, but a large amount of work will have to be done to show the periods at which such alterations of pathogenicity occur. It is well known that when bacteria are kept in an unsuitable medium they may lose their virulence, but the interest in these experiments rests in the gradual reduction of the pathogenicity of the bacillus stored in normal saline and also because these observations are based on the effect of the inoculation of known quantities of the bacillus at various intervals.

It must be mentioned, however, that all my experiments refer entirely to the alteration of the pathogenicity of the tubercle bacillus for such a susceptible animal as the guinea-pig, and no attempt has been made to study the rate of growth of the stored bacillus on artificial media, but cultivations were made from the infected tissues of the guinea-pigs on numerous occasions and compared with the originals. No attempts were made, however, to subcultivate the stored bacillus direct from the saline-bacillary mixture, as such observations are associated with certain fallacies which do not exist in experiments on pathogenicity, and after all this is the most important characteristic of a microorganism.

OBSERVATIONS ON 120 CASES OF LEAD ABSORPTION FROM DRINKING-WATER.

BY W. W. STAINTHORPE, M.D., B.S. DURH.

THE occurrence of plumbism, due to a contaminated water-supply affecting a considerable number of the consumers, is so rare in the present day that I feel that a detailed report of some of those cases that came under my observation during a recent epidemic at Guisborough will be of interest to the medical profession.

The outbreak was the subject of a Local Government Board inquiry last autumn and was clearly traceable to the water-supply, which at intervals had been found to contain lead in solution, due to the fact that the water supplied to the houses in the town passed through lead service pipes, and that the water itself had at times a distinctly plumbo-solvent action, especially after heavy rains. Plumbism from this cause differs largely from that arising in lead factories because of the small amount of the poison taken into the system in a given time, and as the poison is a cumulative one some time may elapse before the onset of any symptoms, however slight, which may afford assistance towards the elucidation of the actual causation; also severe intoxication may have taken place prior to any symptoms pointing to plumbism having made themselves manifest, by which time grave structural changes may have occurred in the kidney, liver, or nervous tissues, leading to premature old age or to a fatal termination from Bright's disease, cirrhosis, paralysis, &c. I attended a large number of patients suffering from the intoxication and I had the misfortune to contract the disease myself. The following observations are, however, confined to 120 serious and typical cases, about each of which I made careful notes. The age and sex of these patients and the number affected at the different age-periods are set forth in the following table, together with the number of fatal cases:—

Ages.	Male.	Female.	Total.	Died.
Birth—6 weeks	1	2	3	0
1 year—20 years...	3	4	7	1
20 years—30 "	8	15	23	0
30 " —40 "	19	26	45	1
40 " —50 "	10	10	20	1
50 " —60 "	6	8	14	0
60 " —70 "	3	5	8	1
Totals	50	70	120	4

In this series of cases all stages of the intoxication were seen, from the commencing general languor and debility, attended by anæmia, to the paralytic stage, ending in convulsions and death. Amongst the number are three infants under the age of six weeks who from birth had been nourished solely upon the breast. Lead was found in the mother's milk in each instance, and in the urine in two instances. Children are supposed to be ready victims to the disease, and I am at a loss, therefore, to account for the small number affected. That some persons are more susceptible to the poison than others is clearly shown in the case of two individuals who developed symptoms after only six weeks' residence in the locality.

As will be seen by the above table, 4 deaths occurred directly traceable to lead intoxication, 1 from convulsions and 3 from chronic Bright's disease accompanied by cirrhosis of the liver. A chemical examination of the liver, kidneys, and spleen from one of these cases showed the presence of lead, the largest amount being found in the spleen. The signs and symptoms of the disease were very varied, and may best be described separately under the following headings. The figures show the number affected by particular symptoms:—

Premonitory symptoms	120	Menstrual disorders ...	55
Abdominal	102	Abortions	5
Headache	91	Blue line on gums ...	15
Anæmia	95	Constipation	40
Nervous and muscular disorders		Convulsions	2
	89	Albuminuria	20

Premonitory Symptoms.

Careful inquiry into the previous history of these cases of plumbism revealed that they had all passed through a period of ill-defined indisposition, in some cases of a few weeks' duration, in others for a longer time, during which their subjective feelings were so indefinite and irregular as hardly to merit much notice being taken of them by the patients themselves. The following symptoms were usually observed: General lassitude; weariness; languor; tiredness, at first after slight exertion, afterwards even after sleep; restlessness of mind and body; incapacity for work; occasional fits of mental depression; irritability of temper; alteration of disposition; desire to sleep at any moment, sleep being heavy, fitful, and unrefreshing; and sudden craving for food, especially soon after meals (in a few cases), although usually loss of appetite, nausea, and anorexia, accompanied by a peculiar, sour, rancid, clammy taste in the mouth in the early morning, prevailed.

Abdominal Symptoms.

These symptoms were grouped under the following five varieties: (1) Abdominal distension; (2) abdominal heaviness; (3) burning sensation in the epigastrium; (4) gnawing sensation; and (5) colic. Each variety was distinct and independent of the other; they were rarely associated together, and eventually, after becoming more constant and severe in intensity, culminated in definite attacks of colic.

1. *Abdominal distension.*—During meals the patient suddenly experienced a sensation of fulness and distension all over the abdomen, together with nausea and desire to eructate, lasting from a few minutes to several hours, and passing off quickly with possibly no recurrence for several days.

2. *Abdominal heaviness.*—In this variety a cold, weighty feeling was experienced in the lower abdomen, setting in soon after meals, causing a "bearing down" sensation and a desire to pass urine and flatus, both of which gave temporary relief.

3. *Burning sensation in the epigastrium.*—This symptom commenced as a raw burning sensation at the back of the throat, particularly in the early morning after drinking fluids, passing down behind the sternum, where it was frequently very acute, to the epigastrium, and through to the back between the shoulder blades; at times the diaphragm felt raw and tender, so that deep inspiration and coughing became painful. Loss of appetite, nausea, anorexia, with a sour clammy taste in the mouth, were usually present, as well as a desire to vomit and retch, which frequently resulted in the vomiting of glairy mucus having a very bitter, sour taste; rarely did the vomit contain food previously taken.

4. *Gnawing sensation.*—This commenced as a vague uncomfortable feeling all over the abdomen, occurring at irregular intervals, and frequently associated with general weariness and languor, seldom of sufficient severity for the patient to seek medical advice until the symptom became merged into a dragging, gnawing sensation, which usually became localised to the epigastrium or hypogastrium as the severity increased; it was usually likened to a tearing sensation, as if the bowels were being torn out or grasped by an unseen hand. This symptom was always worst from two to three hours after meals, and was accompanied by an intense craving for food or drink, which usually afforded instant relief for the time being. Exercise and exertion considerably aggravated the condition. A constant desire to pass flatus, to eructate, and to micturate attended this symptom, the least effort to do so being usually strained and very painful.

5. *Colic.*—The preceding symptom was the most frequent forerunner to definite attacks of acute colicky pain in the abdomen, which varied in character from a sharp stabbing, cutting pain to one of an acute twisting variety, as if the bowels were being nipped. The attacks usually came on quite suddenly and with such severity that the patient would roll about in considerable agony; the duration varied from a few minutes to several hours. The point of maximum intensity usually altered at each attack, the most frequent localities being around the umbilicus, the left iliac region, immediately above the pubes, and to the right of the epigastrium. During the attack the patient would break out into a cold, clammy perspiration, and present an anxious appearance, the temperature being usually subnormal and the pulse-rate slightly increased; a few cases only were observed in which the pulse-rate was under normal. When the pain was distinctly unilateral the pupil of the eye of the affected side was frequently noted to be contracted when compared with its fellow, and marked vagal tenderness upon the same side of the body was usually observed. The colic was often accompanied by vomiting, the vomit being bilious and containing a quantity of mucus. A constant desire to micturate, resulting in the voiding of a small quantity of urine, attended by considerable pain, was always present during an attack of colic. After the passing of the spasm the patient would fall into a sound sleep, and upon awaking the abdomen would be very tender to the touch, the pulse-rate usually above 100 per minute, and the temperature averaging 99° to 100° F.

Headache.

This was a frequent and troublesome symptom and in many instances the first and only subjective one for a considerable time. It was always attended by a sensation of lassitude, languor, and fatigue in the early stage; later general restlessness, irritability of temper, partial temporary loss of memory, attacks of dizziness occurring quite suddenly, slight dimness of vision, periods of insomnia, and hallucinations of sight and hearing were noticed. The pain usually remained localised to one of the following regions—viz., occipital, frontal, temporal, or vertex, and frequently depended in character upon its situation. The occipital variety was most intense over the occipital protuberance, radiating down into the muscles of the neck, and was of a dull aching character, often so intense as completely to invalid the sufferer. The frontal variety commenced as a slight feeling of heaviness behind the eyes, followed later by a sensation of constriction over the forehead. The temporal variety was more throbbing in character, usually accompanied by sharp, shooting, darting paroxysms, as if some instrument were being forced through the head from one side to the other. The vertex variety commenced with a feeling of heaviness, as if some heavy weight were resting upon the head, followed later by a "bursting open" sensation. The headache was usually very severe in the mornings, improving as the day went on, only to recur with a maximum intensity during the evening, vomiting frequently being present at the same time.

Anæmia.

This condition varied from a slight pallor of the conjunctiva and mucous membrane of the mouth—usually attended by a yellowish appearance of the conjunctiva and of the skin of the face—to an intense anæmia suggestive of malignancy. In the early stage microscopic examination of the blood did not show any marked change; in the later stages the erythrocytes were considerably diminished in number, and there was a corresponding diminution in the amount of hæmoglobin. Poikilocytosis was rarely seen, and in some instances there was a diminution in the polymorphonuclears and an increase in the lymphocytes. Thirty cases were carefully examined for the presence of basophile-staining granules in the red cells, with negative result. Sir Thomas Oliver was unable to find these cells in blood films taken from 10 of the cases presenting symptoms of all stages of lead intoxication. Dr. Kenneth W. Goadby, who also very kindly examined films from four of the patients, wrote me saying that he was unable to detect their presence. These observations tend to prove that basophilia as a sign of plumbism cannot be relied upon.

Nervous and Muscular Disorders.

While symptoms indicative of irritation of the nerve and muscle tissue were present in many of the cases only a few showed symptoms indicative of destruction of these tissues. The disorders of tactile sensibility were usually described by the patient as numbness and tingling, or "pins and needles" in the fingers and toes. The vaso-motor disorders consisted of cold hands and feet, and sometimes of hot, burning sensations in the extremities, especially after getting up in the early morning. At times the skin of the fingers and toes became quite white, or warm, livid, and moist. Profuse perspiration upon slight exertion was often noticed by the patient.

Muscular spasms.—These were often noticed, either in the form of tremors and twitchings of the extremities, or active cramps, most severe and persistent in the calves of the legs. These cramps were usually worst at night, preventing sleep, or in the early morning.

Sensory disorders.—These consisted of aching, burning, twisting or shooting pains in the limbs, with occasional paroxysms of excruciating lancinating pains, principally in the legs and feet. At one time the darting pains would be in the fingers, at another in the arms, at another in the legs; in other cases, again, the sensory branches of the intercostal nerves were implicated. In some cases the superficially situated nerve trunks, such as the ulnar, the musculo-spiral, or the popliteal nerves were unduly sensitive. A few cases showed slight cutaneous anæsthesia. In one patient who had complete ankle-drop and partial wrist-drop of both hands the anæsthesia was complete in the lower limbs as high as the knees, and in the upper limbs as high as the elbows. Muscular hyperæsthesia was frequently localised to the muscles of the legs.

Motor disorders.—Impairment of the muscular power of the muscles of the upper limbs was frequently noticed, the finer movements of the fingers and thumb being feebly performed, followed later by distinct weakness of the extensors of the wrist, patients often complaining that the grasping power had considerably diminished, and that they were afraid to carry any breakable object in case it suddenly fell from their hands. Two cases presented complete paralysis of the extensor muscles of the wrist and fingers of the right hand; in each case the paralysis became complete within three weeks of the patient first complaining of any symptom of plumbism. Although many suffered from weakness of the muscles of the legs, associated with exaggeration of the knee-jerk and of the plantar reflex, only one case of ankle-drop came under observation. Impairment of the muscles of the face was frequently noticed, as shown (1) by tremor of the lips, or on protrusion of the tongue; (2) by loss of expression, the lines which give character to the face being less marked or even obliterated. Two patients suffered from ptosis, one from nystagmus, and two from partial incontinence of urine and fæces.

Menstrual Disorders.

Dysmenorrhœa was very pronounced in many cases, frequently lasting a week, accompanied by a scanty flow. Other patients had intervals of amenorrhœa for several months, then one or two normal periods. The majority of the female patients suffered from profuse menorrhagia lasting in some instances for a period of three weeks.

Abortions.

Careful investigation failed to reveal an excessive number. In this series there were only five patients in whose urine lead had been found to be present who had suffered from abortions, one of whom had previously aborted three times in five years, another twice in three years.

Blue Line on Gums.

This sign depends largely upon the care devoted to the toilet of the mouth. Only two out of the 15 patients seen presenting a blue line were in the habit of brushing their teeth daily. The intensity of the sign bears no relationship to the severity of the symptoms. I have seen it very pronounced in persons suffering from quite trivial symptoms of plumbism, and I have even known of its existence previous to symptoms appearing. As only 15 patients in this series of 120 showed a blue line upon the gums, the absence of such sign is of little diagnostic value.

Constipation.

Although not a constant feature, many complained that their usual evacuation of the bowels was attended by more than the usual effort, and that they frequently had recourse to aperients. Those who suffered from costiveness in a marked degree frequently had attacks of spasmodic diarrhœa followed by obstinate constipation. Many cases were observed in which acute attacks of colic occurred after the exhibition of aperients amongst patients who had not previously suffered from abdominal trouble.

Convulsions.

Two cases of convulsions came under my notice, the patients being 65 and 18 years of age respectively. The former had 20 convulsive seizures extending over a period of 18 months; the latter six attacks in four months. They occurred quite suddenly without any previous warning, usually whilst the patient was walking about. Complete loss of consciousness was quickly followed by spasmodic twitching of the muscles of the face and limbs, usually unilateral. Respiration was at first quiet and sighing, later loud and stertorous, and at times intermittent; as the convulsive spasm passed off the breathing resumed the slow, shallow, sighing type. The pulse, which at the onset was fast and bounding, quickly became slow, intermittent, and at times hardly perceptible. The pupils of the eyes were usually dilated, fixed, and frequently unequal. Incontinence of the bladder and rectum usually took place during the attack. After the convulsion the patient would fall into a heavy sleep lasting several hours.

Albuminuria.

This sign was present in 20 cases, varying in amount from a mean trace up to 4 grammes per litre, estimated by Esbach's method.

The recognition of plumbism resulting from the absorption of lead gaining access into the system from the drinking of water which at times possesses plumbo-active properties may be one of considerable difficulty for the following reasons. 1. The amount of lead present in the water drawn from the household tap is usually small. 2. The poison being a cumulative one will necessarily cause the onset of symptoms to be slow and insidious. 3. Many of the symptoms of plumbism, especially in the early stages, are prone to simulate other diseases. 4. The absence of any conclusive sign or symptom, whereby incipient cases can be correctly diagnosed, excepting by the more or less costly clinical analysis of the urine or fæces. 5. Individuals suffering from plumbism do not necessarily excrete lead in the urine or fæces regularly. 6. The symptoms may continue for a long time after any lead can be detected in the excreta.

In each instance in the above series of 120 cases I based my diagnosis upon the presence of lead in the urine after submitting the urine to the following clinical examination.

100 c.c. urine and 10 c.c. pure redistilled nitric acid are evaporated in a porcelain basin to dryness; then ignited over a Bunsen burner until all organic matter is completely destroyed. The residue is dissolved in distilled water 3 c.c. + 2 c.c. HCl dil. pure, filtered into a test-tube, and an equal bulk of sulphuretted hydrogen is added. If no lead is present no change in colour will occur, and in its presence a brown colouration will be seen, varying in depth according to its amount.

Control examinations of 30 of the above cases were made for me by Messrs. Brady and Martin, of Newcastle-on-Tyne, confirming my results. The following two tests are worthy of note.

1. Paint the palm of the hand with a fresh solution of ammonium sulphide; in many cases the skin becomes black from the conversion of the lead excreted by the skin into lead sulphide, best seen upon the thenar eminence.

2. The saliva of a patient suffering from acute lead colic rarely contains any potassium sulphocyanate. On the addition of a few drops of liquor ferri perchloridi to the saliva of a healthy person a brownish-red ring appears where the two fluids meet. This is absent in the saliva in lead colic, but the sulphocyanate returns on the subsidence of the abdominal pain.

Guisborough.

LONDON HOSPITAL.—At an informal gathering of students in the college library on July 13th the prizes and certificates gained during the past session were distributed by Mr. E. Hurry Fenwick, consulting surgeon to the hospital. Price entrance scholarship in science, £100, C. S. Cloake. Price entrance scholarship in anatomy and physiology, £52 10*s.*, L. G. Jacob. Entrance scholarship in science, £50, G. Adler. Anatomy and physiology prize, £25, G. P. B. Huddy and A. G. Harsant (equal, prize divided). Letheby prizes: Organic chemistry, £10, G. Adler; honorary certificates, R. Theron and C. S. Cloake; inorganic chemistry, £15, M. Aronsohn; honorary certificates, — Seniyzky, I. H. Zortman, K. C. Beatty, and A. Eidinow. Prize in clinical medicine, £20, A. C. Perry; honorary certificates, F. H. Bray and C. P. Allingham. Prize in clinical surgery, £20, S. Batchelor. Prize in clinical obstetrics, £20, L. M. Ingle; honorary certificates, F. H. Bray and A. C. Perry. Hutchinson prize, £40, W. S. Perrin. Sutton prize in pathology, £20, F. H. Bray; honorary certificate, E. E. Herga. Andrew Clark prize, £26, A. C. Perry; honorary certificates, R. J. M. Love and E. E. Herga. Anderson prizes (three at £3), £9, E. Forrester Paton, G. P. B. Huddy, and D. C. Norris; honorary certificates, R. K. Ford and K. M. Ross. Dressers' prizes, £40: in-patients (four at £5), R. G. Sterling, H. W. Taylor, A. H. Morley, and H. W. L. Molesworth; out-patients (four at £5), E. B. Woolf, S. H. de G. Pritchard, H. P. Warren, and S. C. Woodhouse; honorary certificates, H. H. Bailey and D. F. Wilson. Practical anatomy prizes, £10, J. J. Murphy (£4), G. Adler (£2), G. Gluckman (£2), and H. B. Troup (£2). Douro Hoare prize, £5, H. H. Bailey; honorary certificates, F. G. L. Dawson and A. R. Crane. Wynne Baxter prize, £5 5*s.*, E. E. Herga, J. Fanstone.

FURTHER NOTE ON THE USE OF

CELLULOID SPLINTS IN THE TREATMENT OF ACUTE CASES OF POLIOMYELITIS.[1]

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SOME three years have passed since I first made use of celluloid splints (which had been introduced into this country by Mr. H. J. Gauvain in the treatment of tuberculous disease of bones and joints) for the treatment of acute cases of poliomyelitis. Two years have elapsed since the publication of a note on this subject in THE LANCET, and it seems well to review the work of these two years. During this period ample opportunity has been afforded for testing the use and watching the effect of this mode of treatment.

From January, 1912, to December, 1913—i.e., two years—58 cases of poliomyelitis were admitted to the wards under my care. Of these, 32 were admitted within three months of the onset, and it is with these 32 cases that I wish to deal, for it is the early application of celluloid splints I consider important. Of these 32 cases 24 were splinted; the remaining 8 were either too extensively affected (both legs, arms, and trunk), or were cases of arm paralysis only, or had a distribution of paralysis which needed no splint or recovered so quickly that no splint was needed. Of the 24 splinted cases, in 3 recovery is now so far complete that no splint is needed. In the remainder splints are still required, but all are able to get about, either alone or with the aid of a push-cart. In several cases in which splints were at first required on both legs they now only require a single one below the knee to prevent foot-drop. In not one of all the cases recently seen or heard from has deformity arisen, but 3 have not been seen recently.

The more I see of this method the more convinced I am that it is a good one. I am perfectly aware that there is nothing new in splinting acute cases of poliomyelitis; it has been done in a variety of methods by various medical men for years. Some have advocated immobilisation in plaster-of-Paris, others have insisted on the immobilisation of the limb with complete relaxation of the paralysed muscles. All such immobilisation of the limb immobilises the patient, which in many cases is not only unnecessary, but gives no chance for physiological exercise of the muscles which are not paralysed. It is in the really acute cases—i.e., those seen within three months of the onset of the disease—that these splints have been of the greatest service, for they have kept the muscles at rest in a position of relaxation; they have prevented deformity and have enabled the patient to walk at an earlier period than would otherwise have been possible. The advantages of this form of splint are: (1) it fits the limb perfectly; (2) it is easily applied and removed; (3) it is light; (4) it is rigid; (5) it will not break easily; (6) any form of slipper, shoe, boot, or clog can be worn over it; (7) it is cheap; and (8) its manufacture is so simple that any one gifted with a little manual dexterity can make it. Many of the splints have been made by the sister in my ward and by my former house physicians, Dr. Cairns Terry and Dr. John Inkster, to all of whom I would tender my thanks not only for their work, but also for many improvements suggested by them. The splints are now made in separate departments of the hospitals. The process involved in making them is as follows: (1) the taking of the "negative" cast of the limb; (2) the making of the "positive"; and (3) the moulding of the splint on to the positive. It is the first of these points of procedure which it is essential for the medical man to perform, for unless the limb is in the right position the splint will be useless.

1. Certain articles are necessary for taking the cast of the limb—a strip of lead, 2–3 ft. long and 1 in. wide, some oil, some beeswax, a strong knife with a sharp point, and some plaster-of-Paris bandages. It is essential that the bandages should be properly made of book muslin, 4½ in. wide, 6 ft. long, loosely wound, and not too heavily loaded with plaster. The limb of which the cast is required is oiled, and if it be the leg a thin layer of beeswax is placed over the malleoli. The strip of lead is adjusted to the front of the leg. The leg is now held in position; *this is the most important detail in the whole process.* There should always be slight flexion at the knee-joint, and the foot should be carefully held at right angles to the tibia. It is most important that there should be no hyperextension of the knee or any dorsiflexion of the foot. Unless these two points are carefully attended to the patient will not only be uncomfortable, but will be unable to walk. The plaster-of-Paris bandages are now placed in warm water and after being squeezed out are wound round the limb, starting from the foot and working up the leg and thigh. It is best to take each bandage continuously up from the foot to the thigh, a few extra turns being needed over the knee and ankle. When the plaster has sufficiently set, which usually takes about 3–5 minutes after the last bandage has been applied, a cut is made down the anterior surface on to the lead. The incision must be complete and all fine threads divided, as otherwise the cast is liable to be spoilt by portions of the bandage being dragged out of place. The cut edges of the plaster are now separated and the lead and leg removed through the incision. The cut edges of the plaster are now brought together and a single layer of plaster-of-Paris bandage wound round the cast.

2. The "positive" cast is easily made from the "negative" in the ordinary manner by pouring in plaster-of-Paris, a stick being placed down the centre in order to make it easy to manipulate. After the plaster has firmly set, an incision is made down the anterior surface, the negative peeled off, and the positive removed.

3. *The moulding of the splint on the "positive."*—For making the splint the following articles are required: stockinette (made in the form of a tube, two or more inches wide), book muslin, solution of celluloid in acetone (Gauvain's[2] solution is as follows—11 oz. of celluloid, 160 oz. of acetone, to which is added while still hot 3 oz. of calcium chloride dissolved in 2 oz. of boiling water), celluloid varnish (cellulose triacetate 1 part, acetone 5 parts)—some braid for binding the splints, and some boot-hooks. The "positive" is well dusted with French chalk.

Method.—Three layers of stockinette are pulled on over the cast and on the third layer is painted a coat of the solution of celluloid; this is allowed to dry and then another layer of stockinette is pulled on; this in turn is painted with the solution of celluloid. In order, however, not to get the splint too thick on its anterior surface where it has to open to allow the leg being placed inside, and in order to make the splint sufficiently rigid to stand the weight of the body, layers of book muslin are placed down the back of the splint and painted on. It must be so arranged that in the anterior part of the splint there are some 5–6 layers, whilst at the back and sides there are 12–14 or more, depending on the size of the limb and the required strength of the splint. After the final layer of stockinette and celluloid solution has been applied a layer of celluloid varnish is painted on and the splint allowed to dry. Two incisions of about a quarter to half an inch apart are now made down the front of the splint and a strip about half an inch in breadth is removed. This allows the "positive" on which the splint has been made to be taken out and the inner layer of stockinette, which has not become impregnated with solution, is removed. The inner surface of the splint is now painted with the celluloid solution. The splint is now ready for fitting on to the patient. If the cast has been well made it usually fits perfectly, and only some small amount may need to be cut away about the knee and ankle so as to allow easy application and removal. The splint is now bound round with leather or braid, the latter being painted over with celluloid varnish and some boot hooks inserted.

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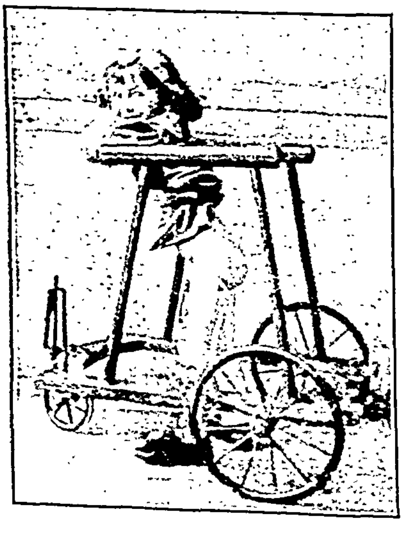
[1] The previous article on this subject was published in THE LANCET of July 13th, 1912, p. [illegible]

[2] Brit. Med. Jour., [illegible]

Method of application and use.—It is necessary to say a few words about the application, for unless this splint is rightly applied it will be uncomfortable, will cause pressure sores, and will therefore be said to be useless. The skin of the limb is dusted with powder and a thin stocking or stockinette put on. The splint is now opened in front and the limb dropped into place. It is essential to see that the heel is down and the malleoli are in their right situation. In early and acute cases—i.e., in cases within the first four weeks of onset—the splint should be worn day and night and only removed for washing and for such methods of treatment as may be considered desirable. After the end of the first month it is usually possible for the patient gradually to get into the erect position and make the early attempts to walk. (This is greatly assisted by a walking apparatus (Fig. 1). For this purpose a stocking is drawn over the splint and an ordinary shoe, rubber sand shoe, or boot worn. In the country children can wear clogs, and these serve the purpose of protecting the splint and keeping the feet dry. If clogs are used a fairly thick stocking should be worn between the clog and the splint.

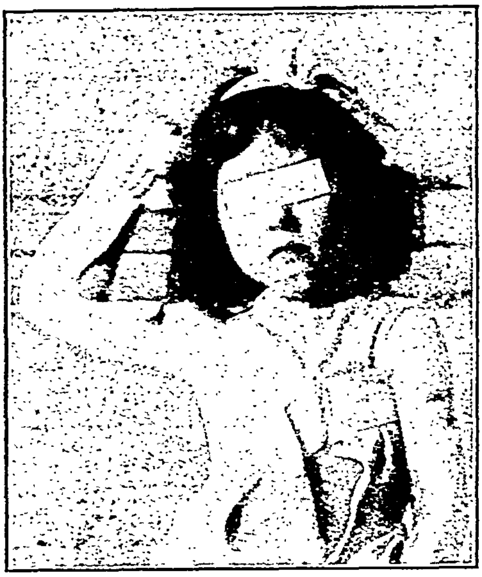
FIG. 1.



Child with flaccid paralysis of both legs and weakness of the muscles of the back in celluloid splints in walking apparatus.

Cases suitable for splinting.—Almost any case of paralysis of the lower limbs is suitable for this form of splinting, but those with weakness of the lower dorsal, lumbar, and pelvic muscles are difficult to deal with. In cases of paralysis of the shoulder muscles the arm can be placed in the position shown in Fig. 2, which serves to keep the deltoid and biceps relaxed. Thoracic and abdominal cases can be splinted in this manner, but it has little advantage over other methods of giving support to the back and trunk muscles.

FIG. 2.



Child with flaccid paralysis of deltoid, biceps, and muscles of the right arm. The arm is placed in a celluloid splint, which keeps it in an abducted and flexed position.

Conclusions.—The object of this note is to show that early splinting of cases of acute poliomyelitis with celluloid splints is attended with good results, in that it has aided the recovery of the paralysed muscles by keeping them at rest, that it has prevented deformity, and has enabled the patient to walk.

Of the 24 cases of acute poliomyelitis seen and treated within three months of the onset, in 21 it is known that no malposition has arisen; three cases have not been seen recently, so no positive statement can be made in regard to them. In one severe case, after wearing splints for a year, recovery was so far complete that splints were no longer required, and a year later it was difficult to say that there was any residual paralysis. It is fully recognised that this is fortuitous, and under other forms of treatment the boy might have made an equally good recovery, but it seems certain that his recovery was greatly assisted by the prevention of deformity in the early stage of the disease. Of the remaining cases, all have still varying degrees of weakness, but are all able to get about and have no malposition of the limb.

EPIDEMIC CATARRHAL JAUNDICE.

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IN September, 1913, after seeing no cases of catarrhal jaundice since the early spring, I began to meet with them amongst my out-patients, and they were fairly numerous until the middle of March, 1914, but for the last three months I have seen none. By making inquiries about the possibility of contact with other cases I found that in two instances they had occurred in connexion with definite epidemics.

In 1912 I published a paper on this subject in the *Quarterly Journal of Medicine* in which I tried to prove that catarrhal jaundice should be classed with measles and mumps as one of the specific infectious diseases due to an unknown organism, and that it should be regarded as an infective hepatitis. I am convinced more than ever that this is a correct view, and have been supported by Dr. Leonard Guthrie in a paper read before the Section for the Study of Disease in Children of the Royal Society of Medicine. I will not repeat all the arguments there brought forward, but will content myself by giving a few of the most striking.

The disease has an almost worldwide distribution, a definite seasonal and age incidence, and is commoner in some seasons than others. The fact that one attack confers immunity for life also points to its specific nature. Fewer than 40 epidemics have been described in this country, but when the view that the disease is not an incident in a non-specific gastro-enteritis is less widely held, small epidemics will probably be found to be fairly common, and small groups of two or three cases will be noticed still more frequently. I pointed out that though the clinical features of sporadic cases vary to some extent, none are met with which are not also seen in the epidemics and *vice versa;* the ages and seasonal incidence show a very close parallel, and the geographical distribution of epidemics closely follows that of sporadic catarrhal jaundice, though it is not quite so extensive. No doubt the gaps will soon be filled when greater interest is aroused; for instance, though the sporadic form is met with, no epidemics have been recorded from Canada, but Dr. C. H. Reason told me a few months ago that he met with one affecting about 20 children near Toronto.

It is still an open question whether the disease is a local one of the bile-ducts and liver or a general blood infection. With growing knowledge many diseases formerly regarded amongst the former class are now placed in the latter, and several considerations suggest that this should be one of them. Such are the prodromal period of malaise with pains in the head and limbs, the enlargement of the spleen, and the albuminuria, which are frequent in some epidemics, and also occur in isolated cases. The rare fatal cases met with in epidemics are inseparable on clinical and pathological grounds from acute yellow atrophy of the liver, and the seasonal incidence of this disease appears to be the same. It is noteworthy that three cases have occurred in London at the end of 1913 and the beginning of 1914, during the time catarrhal jaundice has been unusually common, one in a child recorded by Dr. J. Porter Parkinson, and two in adults by Dr. W. Brander and Mr. G. L. Keynes.

Recently collected evidence seems to prove that the disease is contracted by breathing in air containing the organism, and close contact is necessary. In a few cases I have noticed a definite pharyngitis, and I published some instances in 1912. In 1913 I met with another example in a girl aged 5½ years. She had pharyngitis and slight malaise on Nov. 4th, and on the 15th urticaria began, such that the mother said "she could not bear herself." On the 18th she vomited twice, and jaundice appeared on the 19th and lasted until the 26th. Sore-throat with marked redness of the pharynx was noticed in one of the epidemic cases (Table II., Case 4). Ralph Poignard noticed slight pharyngitis in every case in a small epidemic in children between the ages of 6 and 12 years. Dr. Cameron Gibson, who has recently published a paper, noticed sore-throat with symptoms of a "cold" in one case, and says that there were an unusual number of cases of pharyngitis in children during epidemics of jaundice at Lymm and Bickerton. This suggests that the tonsils and pharynx are the portals of entry of the infecting organisms, as in so many specific fevers, though they do not necessarily cause a recognisable inflammation of the tissues during their passage.

Several interesting points are brought out in the two epidemics which I have just seen. The first occurred at the Algernon-road School, Hendon. In this 10 children were attacked, 4 boys and 6 girls. The first case occurred in one of the older children; all the rest in the children attending the infants' department. Boys and girls are taught together, but the buildings for the older children and infants are in separate blocks at opposite ends of the playground.

The district is a somewhat isolated one and the children attending the school have clean and comfortable homes. West Hendon is supplied by two water companies, the Colne Valley and the West Middlesex, and about half the children affected come from houses supplied by the one and about half from those supplied by the other. Nor did the children have milk from a common source. Water is supplied at the school, but while the epidemic was in progress the weather was cold and most of the children live very near the school, so that little water was being drunk. Inquiry also showed that some of the affected children had not been using it at all. This disposes of the possibility that water or milk could have conveyed the infection. Many of the children attacked were members of the same class and, after the first case, all were infants.

TABLE I.—*Giving Particulars of 10 Cases of Catarrhal Jaundice occurring in the Algernon-road School, Hendon.*

No.	Sex and age.	Date of absence from school.	No.	Sex and age.	Date of absence from school.
1	F., 9	Dec. 1 to Dec. 25.	6	M., 5	Jan. 7 to Jan. 19.
2	F., 6	,, 11 ,, Jan. 7.	7	F., 6	,, 9 ,, ,, 19.
3	M., 5	,, 17 ,, ,, 7.	8	M., 5	,, 16
4	F., 6	,, 31 ,, ,, 19.	9	M., 6	Feb. 11 ,, Feb. 27.
5	F., 6	Jan. 7 ,, ,, 19.	10	F., 7	Mar. 2 ,, Mar. 31.

There is little doubt that the disease was conveyed from child to child by the air, while they were in school, or in the room in which hats and coats were hung. There was no influenza, typhoid, or other kind of illness affecting the school or neighbourhood at the time, and there were no cases of catarrhal jaundice in the other schools of the district or amongst the general population round about.

Dr. M. I. Baker, who attended all the cases except two, which I saw myself, says they were mild with one exception. In this case there was severe initial vomiting, and pyrexia, 101° F. for four days. The urine contained a trace of albumin, which disappeared after a fortnight. There was a good deal of pain in the hepatic region and the liver was enlarged. In the two cases which I treated the temperatures were 98·4° and 98·8° F., and the pulse-rates 102 and 104 *respectively*, though bile salts as well as bile pigment were present in the urine. I have several times found a quickened pulse during the time bile salts were present in the urine, and in common with all other observers have failed to find slowing of the pulse in catarrhal jaundice in children. The liver was enlarged in both cases, but the spleen was not palpable. As the jaundice was disappearing the girl patient complained of itching when warm in bed, an unusual symptom in a child in the absence of urticaria.

There were no prodromal symptoms in any of the cases; there were nausea, vomiting, and anorexia about two days before the jaundice was evident, but at this stage the liver is presumably already inflamed.

One child complained spontaneously of xanthopsia, an interesting symptom and one whose occurrence has been denied by some authors.

The second epidemic, which differed considerably from the first, was at the Bridge School, Wealdstone, about five miles away from the Hendon school. Twelve school children were affected, and three mothers and four younger children caught the infection from children attending the school. There were no cases in other schools of the district, nor any isolated cases, so far as could be discovered, nor could any connexion between the two outbreaks be established.

Table II. gives the age, sex, and class of each child and the clinical details which were procurable. Great interest attaches to the rapidity with which the epidemic spread. All the 12 children were attacked within a period of 12 days, and the incubation period must have been very short (1, 2, and 3 days); whereas in the Hendon epidemic between the first and second cases there was an interval of 10 days, and between the cases of the brother and sister attacked (the latter probably infected by the former) 14 days; between the eighth and ninth and ninth and tenth cases, 26 and 19 days respectively elapsed. The longer incubation period may have been correlated with the lesser virulence. When I had the disease myself the incubation period cannot have been longer than three or four days. Cameron Gibson gives 3–14 days, but noticed intervals of 27 and 47 days in two instances. The very long intervals sometimes noticed may be explained by abortive cases being overlooked, or by the virus remaining active in a room and infecting a child indirectly.

In the Wealdstone school the girls have the upper floor, a central hall with class-rooms round it, and the boys the lower, to which a separate staircase gives access. There are no mixed classes. The first four cases occurred in one class-room, and affected children sitting at desks placed next to one another. Fringuet noticed a parallel phenomenon in a school epidemic, in which three boys and two girls, who sat at neighbouring desks, were attacked in turn.

Here again the general water-supply cannot be incriminated, and at the school little water was being drunk, and in any case the boys seldom use the cup provided, usually drinking it from their hands. With one exception the homes of the children attacked were good ones.

In this epidemic the first, sixth, eighth, and tenth, and possibly the twelfth, cases must have been abortive ones—namely, cases in which no jaundice developed. In one of these it was proved that the child had the disease, for he gave it to his mother and brother at home, and they developed the typical jaundice. On the analogy of other epidemic diseases such cases would be expected to occur, but they are either unusual or more probably overlooked.

TABLE II.—*Giving Particulars of 12 Cases of Catarrhal Jaundice occurring in Bridge School, Wealdstone.*

Case.	Sex and age.	No. of form.	Date of onset.	Other cases in same house.	Character of illness.
1	F., 8	2A	Feb. 25	—	Vomited for several hours, bringing up green mucus. Headache an dizziness; no jaundice.
2	F., 8	2A	Feb. 26	Mother and 3 younger children.	Sudden onset with severe vomiting of yellow mucus, rigors and pyrexia Pain in hepatic region. Furred tongue and sordes *on* lips; deep jaundice. Loss of weight, prolonged convalescence. Mother also had severe attack.
3	F., 7	2A	„ 27	—	Feb. 27: Malaise. Feb. 28: Jaundice of conjunctivæ. March 1: Deep jaundice for 3 weeks. March 4: Much bile *pigment*; *trace* of bile salts in urine; albuminuria. Liver two fingers' breadth below costal margin. *Spleen not felt.* *Hereditary* ichthyosis of skin; on appearance of jaundice some itching. Six weeks after onset still easily tired.
4	F., 8	2A	Mar. 2	—	Nausea, no vomiting; sore-throat; furred tongue. Jaundice lasted about a fortnight.
5	M., 11	2	„ 2	Mother.	Vomiting, dizziness, and headache. Sordes on lips. Slight jaundice of conjunctivæ. Mother had slight attack some days later.
6	M., 9		„ 2	—	Headache; some pain in hepatic region; no jaundice.
7	M., 8	5	„ 3	—	Vomiting of green mucus; headache; slight jaundice of conjunctivæ.
8	M., 9	4	„ 4	—	Vomiting of green mucus; headache; no jaundice.
9	M., 10	4	„ 4	Mother and brother.	Giddiness; headache; no vomiting; no jaundice. Mother and brother developed slight jaundice.
10	F., 7	2A	„ 4	—	Headache; dizziness; vomited yellow mucus; slight pyrexia; no jaundice.
11	F., 9	3A	„ 6	—	Vomited mucus and bile; slight pyrexia; slight jaundice of conjunctivæ and skin.
12	M., 9	4	„ 9	—	Nausea; no headache; no vomiting; jaundice doubtful.

The rather numerous cases of gastro-enteritis noticed during the Bloemfontein epidemic were probably abortive cases; the cases of pharyngitis noticed by Cameron Gibson may have been, though this is less probable. One case was noted by Falkner at Toowomba. Apart from these I can find no record of any in the various epidemics at home or abroad. The Wealdstone epidemic establishes their occurrence on a firmer basis than before.

The disease appears to be most infectious in the prodromal period and in the early stages, but the virus may remain active and be transported to a distance. Instances of spread by this means have occurred several times, and a good example was published recently by Prosper Merklen under the title of "emotional jaundice." A girl was run into by a bicycle on Dec. 3rd, 1910. On the 5th she had headache, nausea, and a temperature of 38·4° C., and on the 6th jaundice. The jaundice only lasted seven or eight days, and on the 27th she went to stay with an uncle in the country in a household where there were four children. Two of these contracted the disease in a more severe form, one becoming ill on Jan. 8th and one on Jan. 17th, 1911. Another example of the virus remaining active was one I met with in 1912. In a family of 18 members the youngest child, aged 3 years, had catarrhal jaundice on March 6th, and six weeks later, on April 17th, the next youngest, a girl, aged 5½ years, was attacked. Schneekloth records that in a family two girls fell ill at eight days' interval, and an infant three months later. Krasnobaeff states that three brothers were attacked at intervals of three or four weeks, and then it was discovered that a child with jaundice had lived for a few days in the room at which they stayed. This proves conclusively that the virus can persist outside the body, though it is not improbable that carriers may play an important part in its dissemination.

Dr. Gibson thinks that there are two specific diseases described under the name "epidemic catarrhal jaundice," one attacking children and rarely affecting adults, the other affecting adults. It seems much more probable that the disease is usually confined almost entirely to people of one age owing to its slight infectivity. It attacks one form in a day school or one house in a boarding school. For instance, several boys in the sixth form of a public school were attacked two years ago, and none in any other form. In another, adults of similar age alone may be attacked as in the French barrack epidemics, in which young recruits usually suffer and in which a few of the dormitories alone are affected, but in one of which at least only old soldiers were attacked and the outbreak was confined to their special quarters. It is only in extensive epidemics that people of all ages are attacked.

The one possible mode of spread, except by the air, which would explain these epidemics, is by means of some biting insect. Mosquitoes, flies, and midges are excluded by the fact that it is not a summer disease; bedbugs and pediculi by the fact that it is as common amongst the better classes as amongst the poor. Fleas are unlikely to be the cause for the same reason, and in some instances I have been able to exclude them so far as they can be excluded. It is also unlikely because fleas are most common in July, August, September, and October, and least common in January, February, and March, the months in which catarrhal jaundice is most prevalent.

No other infectious disease was prevalent during either of these two epidemics, and they add to the evidence, which is steadily accumulating, that the disease is quite distinct and not merely a peculiar form of influenza, paratyphoid, or typhoid fever. I have advanced reasons elsewhere for attributing its occasional association with these diseases to coincidence. In one of my cases I had Widal's reaction done a fortnight after the jaundice had disappeared and it was negative. The positive agglutination tests with the bacillus typhosus and paratyphosus are probably due to the presence of bile in the blood, and no weight should be attached to a positive result until this is no longer present.

During the discussion on Dr. Guthrie's paper, already mentioned, Dr. R. C. Jewesbury mentioned the occurrence of epidemic jaundice in dogs. This was formerly held to be a severe form of distemper comparable to the jaundice which appears in the bad cases of yellow fever and relapsing fever, but it is more probably a distinct disease. Mr. Henry Gray gives an account of it in Hoare's "Text-book of Veterinary Medicine." He tells me that it is rarely seen in London, but that it occurs rather commonly in sporting dogs, especially after they have been in damp thickets, and causes a very heavy mortality. He is inclined to think that it is allied to or identical with the malignant jaundice investigated by Nuttall and proved to be due to a protozoon, piroplasma canis, conveyed by the bite of a tick. There seems to be no likelihood that it is the same disease which attacks man, and I can find no evidence that epidemics in man and in dog have occurred together.

In conclusion, I should like to thank Dr. C. W. F. Young and his assistant, Dr. R. A. Askins, Dr. Scanlan, and Dr. Baker, and also the head masters and mistresses of the schools, for the great trouble they took in supplying me with information.

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Harley-street, W.

SOME PROBLEMS IN CARDIAC PHYSIOLOGY:

CONTRIBUTIONS TO A STUDY OF THE RELATIONS WHICH EXIST BETWEEN THE VARIOUS CHAMBERS OF THE MAMMALIAN HEART.[1]

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PROBABLY all here are familiar with the history of the subject of this lecture, and are aware that before 1892 it was impossible to explain the action of the mammalian heart on the comparatively simple lines found adequate in the case of the heart of the frog, owing to the fact that any muscular connexion between auricle and ventricle in the mammal was absolutely denied. In 1892 it was shown that this idea was erroneous and that muscular connexion between auricle and ventricle did as a fact exist. In the following years the details of the connexion were worked out by various observers, and the band of tissue is now familiar to everyone as the auriculo-ventricular bundle. As is often the case with new knowledge, it was some time before the existence of the auriculo-ventricular bundle was used in explaining symptoms presented by clinical cases. Within the last few years, however, its importance has been fully recognised, and its presence has generally been referred to in explaining certain forms of cardiac irregularity. Certain difficulties have arisen in connexion with these explanations from time to time, and some have doubted whether the case really is as simple as it appears. Clinical experience and experimental results have sometimes thrown doubt on the explanation put forward. The difficulties are of the following kind. Cases have occurred in which—if the published records are to be trusted—an interruption of the normal rhythm of the heart has been observed, although the auriculo-ventricular bundle has proved to be intact; and cases of normal rhythm have occurred in which the bundle was subsequently found to be destroyed. Many of these difficulties may be capable of solution. Some of them, however, appear to be insoluble.

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[1] A lecture delivered before the University of London at South Kensington on June [illegible], 1914.

So long ago as 1892 I described the existence of additional muscular connexion between the auricle and ventricle in the right lateral wall of the heart, and although this observation excited little attention at the time, it lived in the memory of some workers in cardiac physiology, and was sometimes glanced at as likely to afford a possible explanation of puzzling experimental results. My own work on the heart was unavoidably interrupted for some time, and it is only within the last three or four years that I have been able to return to it. The position was found to be as described. The presence of the auriculo-ventricular bundle was acknowledged, and it was regarded as the one and only path of muscular conduction between auricle and ventricle. And yet it was not adequate to explain the facts found clinically and experimentally.

The problems which presented themselves for solution, therefore, were the following:—

1. Do there exist anatomical paths of muscular connexion between auricle and ventricle other than the auriculo-ventricular bundle?

2. If such additional paths exist, what are their number, situation, structure, and connexions?

3. Are such paths—provided they exist—capable of forming a physiological connexion between the auricle and ventricle?

It appeared best to carry out the histological part of an investigation of this kind upon human material, as the labour involved would in any case be very great, and the whole of the work would have required to be repeated had other material been used. Such a selection made the work more difficult, as it is always troublesome to obtain human material sufficiently fresh to make good preparations. This and other difficulties were ultimately surmounted, however, and a minute examination of the whole of the auriculo-ventricular connexion was commenced. The method adopted was as follows. The whole of the auriculo-ventricular ring of the heart was divided up into blocks, and each block in turn was cut into sections. The sections were floated on to glass, stained, mounted, and examined. The stains found most generally useful were the connective tissue stain of Mallory, Heidenhain's iron hæmatoxylin, hæmatoxylin and safranin, and various modifications of the silver impregnation method. Stress should be laid on the fact that in the systematic examination of the ring every section in the series was stained and examined. In some researches it has appeared that not every section, but every alternate section, or even every third or fourth, has been examined. If it is desired to exclude once for all the possibility of the existence of any extra connexion it is obviously necessary that every section shall be examined. Many of the original series of sections have been repeated, sometimes again and again, for the purpose of confirming or of correcting the earlier results. Some of the more important conclusions are the following:—

1. *Neuro-muscular structures.*—There exist in the heart in the neighbourhood of the auriculo-ventricular groove on the left side of the organ neuro-muscular structures whose constituents are partly nervous and partly muscular, and which have connexions with the nervous structures of the groove and with the muscular tissue of auricle and of ventricle.

2. *Nodal tissue.*—There exists in the right lateral wall of the heart a mass of hitherto undescribed nodal tissue.

3. *Muscular connexions.*—In association with the second conclusion there exists at least one muscular path between auricle and ventricle along which impulses can pass, and which is able to keep the chambers in physiological association, even when the auriculo-ventricular bundle has been cut.

4. *Paths of physiological conduction.*—Experimental results have been obtained which completely bear out the anatomical fact of the existence of an additional muscular path between auricle and ventricle.

1. *Neuro-muscular Structures.*

The neuro-muscular structures can be described best by referring to the appearances which are found successively when a series of sections is examined. The structures lie in the connective tissue at the base of the auricle or ventricle. The first indication of their presence is the appearance of a few nerve fibres of small size amongst the connective tissue bundles. A few sections further on it is seen that the number of fibres has increased, and soon connective tissue is seen to be arranged round the group and to be forming a sheath for it. As the series of sections is followed the group of fibres becomes larger, and may attain a diameter of 170 mu. It now appears as a well-developed bundle of fibres surrounded by a well-formed capsule of connective tissue, inside which a definite and large lymph space can often be distinguished. If the bundle be followed further it will be seen that its constituents are changing. Instead of the nervous fibres forming the only kind of tissue present there are now more darkly staining fibres which can be recognised as muscle, very similar to the fibres of the neighbouring auricle or ventricle. Some, however, have different characters, appear at first sight to be tubular, and prove on closer examination to be composed of more or less structureless protoplasm in the centre, with striation and indication of sarcostyles at the periphery. These fibres bear some resemblance to the fibres of Purkinje found elsewhere in the heart.

The amount of muscle in the bundle gradually increases and may become large, whilst at some part of its course muscle fibres are given off from the bundle and become connected with the neighbouring auricular tissue. In other situations some of the nerve fibres may be seen to leave the bundle, and apparently to become connected with nervous structures lying in the connective tissue of the groove. Throughout their course these bundles are provided with a rich supply of blood-vessels. The complete organ then presents itself as a spindle-shaped mass commencing with a few nerve fibres of small size, increasing to a bundle of perhaps 170 mu. in diameter and somewhat resembling a nerve trunk, and richly supplied with blood. Soon muscle appears amongst the nerve fibres, assumes considerable proportions, and ultimately becomes connected with neighbouring muscular masses. The nerve fibres also appear to become connected with neighbouring nervous masses. The bundle is contained in a connective sheath in which lymph spaces may be seen.

2. *Nodal Tissue.*

This—the second structure to be described—is found in a different part of the heart wall. It is found in the auricular wall at a point almost on the extreme right lateral aspect of the heart, slightly towards the posterior surface. Amongst the bundles of auricular muscle in this situation will be observed a more circumscribed mass, partly surrounded by fibrous connective tissue, and in free communication with the rest of the auricular muscle. The mass may be nearly circular in outline, or it may be distinctly olive-shaped. In either case it is seen to consist of an outer part which is similar to normal muscle, and a central portion which shows modifications of the kind usually associated with nodal tissue. The tissue stains differently, its fibres are often exceedingly fine and show rich branching, and the cross striation is not very easily seen. The blood-supply is rich.

3. *Muscular Connexion.*

Associated with the presence of this nodal tissue is the existence of a muscular path leading from the auricle to the ventricle and forming a channel along which impulses are able to travel. This path is found at the lower part of the mass of nodal tissue, and is formed by the passage of strands of ventricular fibres derived from two or three different layers of the ventricular wall upwards and outwards until they come into association with the tissue of the node. Thus the node is, as it were, interposed in the course of the muscular path between auricle and ventricle, and any impulse passing from auricle to ventricle would necessarily pass through the tissue of the node. The need for such an arrangement is apparent when the physiological conditions are considered. For, as suggested in 1892, the interposition of the fine fibres of the node with their altered character results in a slowing of the rate at which the impulse travels, and thus the pause between the auricular and the ventricular contraction is brought about.

4. *Experimental Results.*

That the existence of such a channel of communication between the auricle and the ventricle will render necessary important alterations in our ideas of the mechanism of the coördination of the action of these chambers is obvious. For if, contrary to preconceived ideas, the auriculo-ventricular bundle is not as a matter of fact the sole muscular path along which impulses may pass from auricle to ventricle, its destruction does not necessarily involve the interruption of such passage, and clinical cases and experimental results—hitherto difficult of interpretation—become intelligible. Direct experimental results are, therefore, of especial interest.

The following experiments, amongst others, have been carried out. In the exposed heart of the mammal the bundle has been cut and electrocardiograms have been taken subsequently. These showed that the rhythm between auricle and ventricle persisted.

The experiments performed by Flack and Leonard Hill showed that there existed at the right lateral region of the heart a mechanism which under certain circumstances was capable of affecting the auriculo-ventricular rhythm.

More recently I have carried out the following experiments directed especially to the clearing up of the question. The method adopted was simple. In the beating heart of the mammal a thin knife was passed through the right ventricle near the groove, and brought out in such a way as to sever completely the auricles from the ventricles with the exception of a strip of tissue at the right side of the heart. Under these conditions it is found that beats arising spontaneously in the right auricle pass through to the ventricle and evoke ventricular beats, and, after the heart has ceased to beat spontaneously, beats excited artificially in the auricle still pass through to the ventricle and give rise to ventricular beats.

Since under these conditions the only tissue connecting the auricle to the ventricle is the strip at the right side of the heart, and the histological part of the inquiry has already shown that an anatomical connexion exists in this situation, it is impossible to avoid the conclusion that in this right lateral auriculo-ventricular junction there exists a muscular path capable of transmitting impulses and of coördinating the action of the chambers of the heart.

Further, since, as has been shown, the muscular path is completed by the interposition of a mass of nodal tissue through which the impulses must pass, it is clear that the conditions here are similar to those found in the case of the auriculo-ventricular bundle, and that the auriculo-ventricular pause may be explained on similar lines—i.e., as being due to the passage of the impulse over tissue modified histologically and physiologically with a resulting delay in conduction.

It is clear that the above considerations must exercise a considerable influence upon the nature of our explanation of cardiac action.

[The lecture was illustrated by numerous lantern slides, drawings, photographs, and preparations.]

Bristol.

A CASE OF

TUBERCULOUS DISEASE OF VERTEBRÆ

COMPLICATED BY AN EXTENSIVE ACUTE SUPPURATIVE MENINGITIS.

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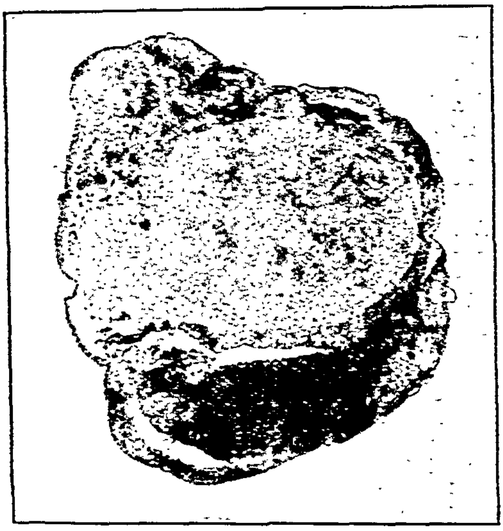
THE following case, which we are enabled to report through the kindness of Dr. Harry Rainy and Dr. Theodore Shennan, shows certain features of clinical and pathological interest.

Clinical history.—The patient, 22 years of age, was seen by one of us after he had developed symptoms of acute meningitis. We were able to elicit the following history from his relatives. In June, 1912, the patient had complained of vague pains in his back, and in consequence had consulted his private medical attendant, who examined him most carefully. Nothing definite could be made out, and he was advised to return if any further symptoms developed. This he did not do. At the end of September, 1912, he is reported to have strained his back, and at the same time an abscess burst posteriorly and developed into a running sore. He was living in the country at the time and was sent to the Edinburgh Royal Infirmary, where he was seen by one of the charge surgeons who diagnosed the condition to be a typical case of Pott's disease accompanied by a ruptured cold abscess. He was treated along the usual lines and he improved vastly, the ulcer almost completely healing up. After this he tried unsuccessfully to find work. On Dec. 2nd, 1912, he retired to bed complaining of feeling giddy and sick, with some headache. He made no complaint of pain in his back. About 3 o'clock next morning he vomited and became very restless. He appeared to be insensible to what was said to him. Three hours later he vomited several times and complained in a vague way about pain in his forehead. General irritability was very pronounced. He was sent to the Edinburgh Royal Infirmary forthwith.

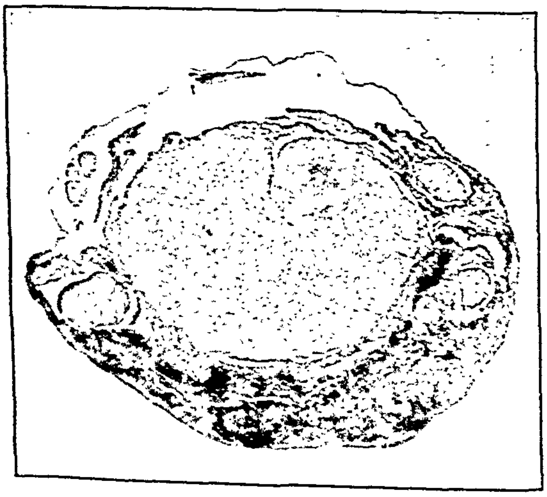
FIG. 1.



Section of spinal cord and meninges in cervical region.

Physical examination on admission.—The patient showed signs of cerebral irritation. At times he lay on his side, and then would roll from side to side. The lower limbs were drawn up. The arms were at times folded across the chest, and then he made purposeless movements in the air. His eyes were half closed and he mumbled inarticulate words. The abdomen showed no retraction and tache cérébrale was absent. Temperature, 100·5° F.; pulse, 96.

FIG. 2.

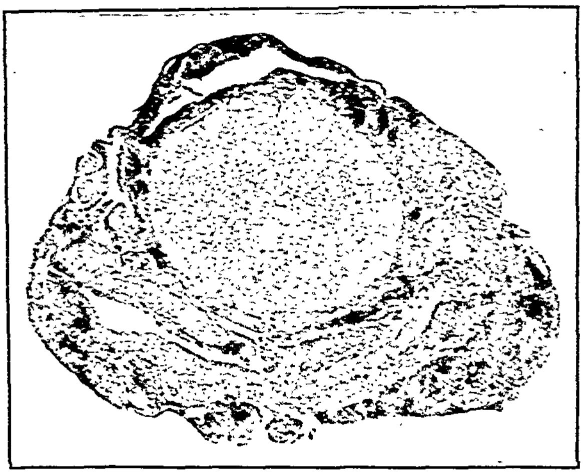


Section in lumbar region.

He was in a semi-conscious state, but was able to swallow milk and other fluids. As far as one could test the function of the cranial nerves, there seemed to be no definite impairment of function. Motor power was impaired all over. He was extremely sensitive to stimuli of all kinds. Considerable photophobia was present. Reflexes: abdominal and epigastric absent on both sides; plantar, flexion on both sides. Achilles and knee-jerks were slightly increased. The latter were difficult to elicit because of the tightening of the hamstrings. Kernig's sign was markedly positive. No rash on the skin was visible. The heart was slightly dilated; the sounds were closed but soft. He flushed frequently, and his vasomotor control was much impaired. Lungs: some apical impairment on both sides with harsh breath sounds. The rest of the lungs appeared normal. The tongue was dirty. Anterior abdominal muscles were rather tense, but no definite boarding could be made out. The bowels were constipated. The stomach, the liver, and the spleen were not enlarged. The urine was high coloured with urates. There was no albumin or sugar. A discharging wound was situated on the back, just below the level of the crest of the ilium, about one and a half inches from the middle line on the left side. The sinus ran in an upward and inward direction.

Treatment and progress.—The patient was placed on a water bed and given milk every four hours. Lumbar puncture was performed and thinly purulent cerebro-spinal fluid came out under tension. This was found to contain capsulated streptococci in short chains. They retained Gram stain. The patient was given urotropine gr. xv. every four hours and an analgesic powder. Dec. 5th: The patient was very restless all night and did not react to large doses of bromide and chloral. The bowels were freely moved which gave some relief.

FIG. 3.



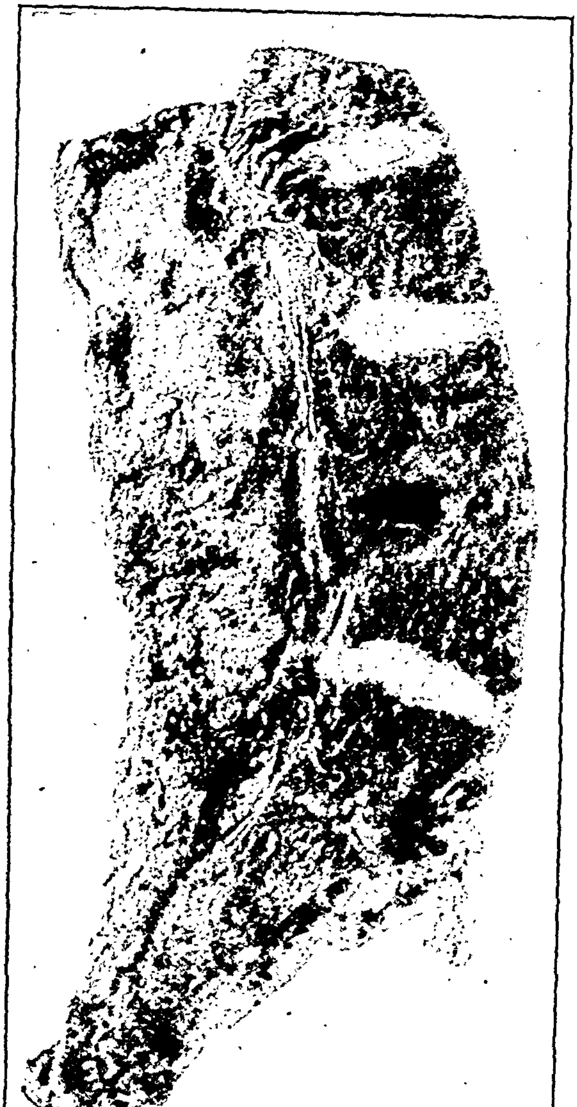
Section in dorsal region. Note the acute inflammation and very extensive exudation all around the cord in Figs. 1, 2, and 3.

6th: Much more pus came from the wound in the back, and along with it a good deal of clearer fluid like cerebrospinal fluid. 7th: The patient was distinctly weaker. The pulse and temperature rose as the evening advanced. Lumbar puncture was again performed, but no fluid came away. 8th: He was much worse. There was some retraction of the abdomen Paralysis of the seventh and third nerves on the left side was noticed, and pus appeared in the conjunctival sac. The optic discs were examined frequently, and with the fleeting glance one got of them no optic neuritis could be made out.

Abstract from the Post-mortem Report.

The body was that of a young man poorly nourished. An ulcer measuring 3 in. by 4 in. was present over the upper part of the sacrum on the left side. Extensive adhesions were present in the abdominal cavity. Adhesions were present at both apices and at the base of the right lung. Brain: The vessels were uniformly congested and the convolutions were flattened. At the base of the brain, in the interpeduncular space and in patches over the inferior surface of the cerebellum and the temporo-sphenoidal lobes there was a thick creamy exudate. This thick yellow exudate also covered the pons, medulla, and the whole of the spinal cord. The exudate was of extraordinary thickness in the lumbar region. (See Figs. 1, 2, and 3.) In the sacral region, on either side of the spinous processes, the muscles were infiltrated with purulent material. The lower portion of the spinal column was removed and an antero-posterior section was made through the bodies of the vertebræ. A small cavity containing purulent material was found in the disc between the fourth and fifth lumbar vertebræ. This cavity communicated with the spinal canal. The bodies of the vertebræ above and below were infiltrated with yellow purulent material. Films made from the exudate in the cerebral and spinal meninges, also from the pus in the cavity in the spine, showed long chains of a capsulated diplococcus. Cultures were made from the exudate and the following organisms were isolated: (1) a Gram-positive streptococcus in comparatively long chains and showing a well-marked capsule; (2) a Gram-positive bacillus; and (3) a yeast.

FIG. 4.



Section through lower lumbar vertebræ and sacrum. Note abscess cavity and sequestrum above it in the body of the vertebræ.

Microscopic section of the brain and spinal cord showed an extensive fibrinous exudate on the surface of the pia arachnoid, in the meshes of which numerous polymorphonuclear leucocytes could be seen. Here and there masses of cocci were visible in suitably stained preparations. Sections of the affected vertebræ showed marked infiltration of the spaces between the bony trabeculæ, with fibrin and polymorphonuclear leucocytes. These showed in places a tendency to degenerate and undergo necrosis. Masses of cocci could be seen. After examining a number of preparations a small focus of undoubted tuberculous nature was found.

The pathological findings indicate that the case was originally one of tuberculosis of the vertebræ, although the disease had not advanced far. A terminal infection with streptococcus mucosus occurred. The appearances indicate that this originated in one of the affected vertebræ or in the intervertebral disc, the source of infection being probably the ulcer on the back. The organism isolated corresponded to that described by Schottmüller, Neumann, and Lingelsheim, and called "streptococcus mucosus." The exudate in the meninges was unusual from its extraordinary thickness.

THE SURGICAL TREATMENT OF STREPTOCOCCIC ARTHRITIS.

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SOME seventeen years ago I first invited attention to the utility of surgical intervention in many cases which present all the characteristic clinical symptoms of "rheumatic fever," but which do not respond to treatment by salicylic acid or its derivatives.[1] Five years later I amplified my views on the subject and published a series of cases showing the value of incision with irrigation and drainage of infected joints.[2]

During the past ten years I have performed 214 *arthrotomies*, the *majority being for* recalcitrant cases of acute "rheumatic" arthritis. As it would be superfluous to occupy space with notes of scores of individual cases, I will merely state that the mortality has been *nil*, that there has not been a case of septic infection, that in *not a single instance* has a valvular lesion developed after operation, and that the treatment has afforded uniformly good results. It may be of some interest if I restate the creed on which I based my treatment.

Acute rheumatism is primarily a joint affection, due to some pathogenic germ (streptococcus) conveyed by the blood from an infected tonsil, decayed teeth, or some lesion in the intestinal mucous membrane. The joint invasion is promptly followed by a form of acute arthritis with general toxæmia, and the infected joints serve as incubators, where the poison is elaborated and poured into the circulation and thus conveyed to other articulations and to the cardiac valves. In some cases the joints retain the virus in a latent condition until some chill or other cause rouses it into activity. Holding such views as to causation, it naturally followed that I should suggest that the term acute infective arthritis be substituted for rheumatic fever, &c., and that the names gonorrhœal,[3] pyæmic, tuberculous, syphilitic, &c., be retained in order to differentiate the infection peculiar to each.

I wish once more to draw attention to a *form of infective cellulitis* which not infrequently appears to be the dominant manifestation of the disease about ankle-joints and wrist-joints, sometimes associated with apparent arthritis of these joints and sometimes not. Owing to the almost constant existence of this condition in cases of severe multiple infection, I considered it necessary to employ the comprehensive pathological title[4] "acute infective arthritis and cellulitis." I now think it opportune to conform with recent bacteriological teaching and adopt the simple and definite term streptococcic arthritis.

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[1] Acute Rheumatic Arthritis, Glasgow Medical Journal, [illegible]
[2] 150 Arthrotomies, THE LANCET, April [illegible]
[3] Surgical Treatment of Gonorrhœal Arthritis, THE LANCET, Dec. [illegible], [illegible], p. [illegible]

As to treatment,[5] I make it a rule to operate on cases which do not promptly yield to medical treatment (sod. salicyl. ʒss., sod. bicarb. ʒi., three hourly; salines, milk diet, woollen clothing, &c.). All infected joints are opened, flaky turbid lymph is evacuated, free irrigation with warm oxygen water, drainage-tubes inserted and retained *in situ* for three days. Multiple incisions are made into areas of periarticular cellulitis and hot mercurial fomentations applied. Splints are employed for immobilisation purposes for from seven to ten days, at the end of which the patient is requested to commence graduated active moment. When wounds are healed gentle massage is prescribed.

Buenos Aires.

THE TECHNIQUE OF ABDERHALDEN'S SERUM REACTION.

BY W. E. BULLOCK, M.D. EDIN., B.SC. LOND.,
ASSISTANT, IMPERIAL CANCER RESEARCH FUND.

IN November of last year a series of experiments were commenced with the object of determining the value of Abderhalden's serum reaction—dialysis method—in the diagnosis of cancer. The results obtained by following exactly Abderhalden's technique were inconclusive, as the examples given later show. The principles of the reaction have been stated and the chief details of the dialysis method described so often that it is unnecessary here to do more than emphasise certain points in so far as they bear upon the modifications in the method to be suggested in this paper.

Ninhydrin, the reagent used to test for the decomposition products of proteins, reacts with numerous other substances, as was shown by Neuberg.[1] Dextrose is the most important of these substances owing to its presence in blood serum. When 0·2 c.c. of a 1 per cent. solution of ninhydrin is boiled for a minute with a dilute solution of glucose in distilled water a transitory red colour is obtained. If normal saline be substituted for the distilled water the colour obtained is more or less permanent. The same reaction takes place with other sugars—e.g., galactose, maltose, &c. This formation of colour with sugars probably explains the various reddish shades of purple often obtained in testing dialysates in experiments with blood serum. Abderhalden's explanation[2] of these colours is that either the experiment has been carelessly carried out or the blood contained acids or alkalies.

In carrying out a test 0·2 c.c. of ninhydrin solution is added to 10 c.c. of a solution of albumin, peptone, or amino-acids, and the mixture boiled for one minute. In order to secure regular boiling and to prevent "bumping" Abderhalden recommends "boiling sticks" made of wood and specially prepared; the small pieces of unglazed porcelain or broken glass ordinarily used by chemists are equally efficient. An extraordinary stress has been laid on "boiling for exactly one minute." Whilst it is obviously necessary to boil the tubes an equal length of time—and experience has shown that one minute's boiling is sufficient—the importance attached to this rule naturally suggests that a method by which the tubes are heated together would be preferable to that of boiling each tube separately in the Bunsen flame. Such a method has been adopted in the apparatus devised for the purpose by Abderhalden,[3] who nevertheless uses it only for testing tubes in preliminary experiments with dialysing sacs and not for actual serum experiments. A simple and satisfactory method for solutions of leucin is to place the test-tubes containing the dialysates to be tested in boiling water and to remove them again in nine minutes. In order to reduce the amount of evaporation the tubes may be lightly corked after they have been two minutes in the bath.

In comparing the results of the ninhydrin tests it is sometimes difficult to judge small differences of tint when the colours are compared in ordinary test-tubes. This difficulty has been overcome by the use of tubes 23 cm. long by 9 mm. bore, made of colourless glass. The boiling with ninhydrin is carried out in a test-tube, and the liquid is then poured through a small funnel into one of the long narrow tubes. A comparison of colour is made by holding the tubes on a sheet of white paper in a good light and looking directly on the column of liquid. Small differences are easily detected in this way. These tubes are also well adapted for a comparatively rough but very useful method of obtaining an idea of the quantitative differences in colour. 1 c.c. of the liquid with the weakest reaction to ninhydrin is placed in one of the long tubes and distilled water added until only the faintest violet colour is visible when the column of fluid is looked at through the open end of the tube. As a rule—at least when 0·5 c.c. of blood serum is used as the minimum dose in an experiment—it is not necessary to add any water at all. This tube is now the standard colour and volume. A cubic centimetre of liquid is taken from each of the ninhydrin tests and diluted until a standard volume is of a standard colour. The amount of water added is a measure of the depth of colour.

Examples of Results obtained by using Abderhalden's Technique.

1. Sera from rats bearing a tumour (rat tumour 9) and from normal rats were obtained after starving the animals for 18 hours. The sera were clear and free of hæmoglobin and were used immediately.

Serum.	Substrate.	Ninhydrin test.	Biuret test.
1·5 c.c. normal.	1 g. (approximately) rat tumour 9.	+	–
1·5 c.c. tumour.	" "	+	–

2. The experiment was repeated.

Serum.	Substrate.	Ninhydrin test.	Biuret test.
1·5 c.c. tumour.	Rat tumour 9.	++	–
1·5 c.c. "	"	+++	–
1·5 c.c. normal.	"	++	–
1·5 c.c. tumour.	Nil.	–	–
1·5 c.c. normal.	"	±	–

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[4] Annals of Surgery, April, 1909.

[5] Surgical Treatment of Rheumatic Fever, THE LANCET, Jan. 2[illegible]th, [illegible]

[1] Biochemische Zeitschrift, 52, 530, 1913.

[2] Abwehrfermente, fourth edition, p. 2[illegible].

[3] Münchener Medizinische Wochenschrift, No. 5, p. 233, 1914; and Abwehrfermente, fourth edition, p. 232.

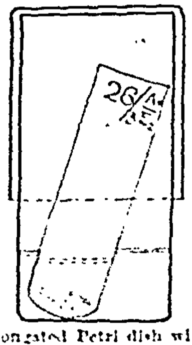
3. Rabbit placenta was prepared as substrate; a pregnant rabbit and a buck were starved for 18 hours and then bled from the ear vein. The sera obtained were clear and free of hæmoglobin.

Serum.	Substrate.	Ninhydrin test.	Sulpho-salicylic acid test.
0·5 c.c from doe.	Rabbit placenta.	–	–
1·0 c.c. ,,	,,	–	–
1·5 c.c. ,,	,,	++	–
2·0 c.c. ,,	,,	(+)	–
0·5 c.c. ,,	Nil.	–	–
1·0 c.c. ,,	,,	(+)	–
1·5 c.c. ,,	,,	+	–
2·0 c.c. ,,	,,	+	–
0·5 c.c. from buck.	Rabbit placenta.	–	–
1·0 c.c. ,,	,,	–	–
1·5 c.c. ,,	,,	++	–
2·0 c.c. ,,	,,	+++	–

There was not sufficient serum from the buck to set up the control of serum alone.

It is obviously impossible to draw any conclusion from such results. The most striking point is the irregularity of the depth of the ninhydrin test of the dialysates. In the last experiment quoted, for example, the dialysate from the test, 2 c.c. of serum from pregnant rabbit plus rabbit placenta, contains less ninhydrin-reacting substances than the dialysate of the preceding test with 1·5 c.c. of serum. Abderhalden's explanation of such results[4] is that the digestion of the substrate has proceeded further (more amino-acids produced) in the test in which 1·5 c.c. of serum was employed than in the other case. The explanation is not satisfactory, however, since the conditions under which the tests were made were similar. The following experiment shows that the dialysing tubes were the source of error. Forty of Schleicher and Schüll's dialysis tubes, No. 579 A, 16 mm. by 50 mm., were well soaked in water and then tested with 2·5 c.c. of a 5 per cent. solution of egg-white. The tubes which permitted egg-white to pass were discarded; the remaining impermeable tubes were well washed with water, sterilised in the autoclave, and then tested with 2·5 c.c. of a 5 per cent. solution of Witte's peptone. The sacs were separated into groups according to the depth of the ninhydrin reaction. In my experience with about 100 of these sacs the largest group of equal permeability out of 40 consists of 5 or 6. The largest group of sacs thus obtained were well washed and sterilised in the autoclave and again tested with peptone; the ninhydrin reactions were strikingly unequal.

This alteration in the permeability with sterilisation renders the sacs practically useless, and it was therefore decided to attempt to prepare dialysing tubes of collodion. At the same time the Erlenmeyer flasks recommended by Abderhalden were replaced by elongated Petri dishes of suitable size. (See Figure.) For the dialysing sacs described below the inner cylinder measures 4 cm. by 8 cm., the outer 4·5 cm. by 5 cm. These cylinders are washed separately, put together, and wrapped in paper, and then sterilised in hot air.



Elongated Petri dish with dialysing sac *in situ*.

Preparation of dialysing sacs.—By numerous experiments with solutions of varying concentrations of pyroxylinum in alcohol and ether of varying proportions it was found that sacs of almost any degree of permeability could be prepared. For the purposes of the Abderhalden reaction the following concentration of collodion is required: gun cotton, 2·6; absolute alcohol, 33 c.c.: and ether, 67 c.c. The gun cotton is dried to constant weight by exposure to air; the alcohol is poured over it, contained in a stoppered bottle. After 24 hours the ether is added, and the clear solution obtained is ready for use.

Schleicher and Schüll's extraction thimbles, No. 603, 22 mm. by 80 mm., are taken and shortened by a centimetre. A number and the number of times the thimble is to be immersed in collodion and the relative proportions of ether and alcohol are written with India ink on each tube, thus, for sac No. 26:— $26/_{3}\frac{A_{1}}{E_{2}}$. By this means a record of the behaviour of each sac is easily kept.

The sacs are now boiled in a mixture of equal parts of alcohol and ether in order to displace and disperse the air from the interstices of the paper. They are then filled and covered with collodion of the composition given above. After the lapse of an hour the tubes are taken out of the collodion, allowed to become almost dry, and then replaced for ten minutes. This is repeated, and the tubes when almost dry are placed in distilled water. By these processes the paper of each thimble becomes impregnated with collodion, and six layers (three inside and three outside) of the same material are formed.

It is important to remember that the concentration of the collodion is rapidly altered by evaporation of ether, and to a less extent of alcohol. The collodion should therefore be freshly prepared and a fair number of sacs (say 16) made at one and the same time. This is easily done if sufficient collodion is prepared to make 25. The thimbles are boiled in the alcohol-ether mixture contained in a saucepan; the fluid is poured off, and the thimbles are then covered with the collodion. The lid of the saucepan is fixed tightly to reduce evaporation.

The freshly made sacs are quite impermeable to solutions of egg-white, and are easily permeable to a 2 per cent. solution of Witte's peptone or to silk-peptone of a much lower concentration. After being used several times—and consequently sterilised several times—the collodion tubes *become more permeable. It is now possible to distinguish between minute amounts of Witte's peptone*, as the following experiment illustrates, and at the same time the sacs are impermeable to albumin.

The delicacy of ninhydrin as a reagent for Witte's peptone is rather better than 1 in 1000—i.e., 0·01 grm. in 10 c.c. To 20 c.c. of water 0·22 grm. of Witte's peptone was added and 2 c.c. of the solution placed in each of half a dozen collodion sacs and the sacs dialysed for 18 hours against 20 c.c. of distilled water; the dialysates give a faint and equal reaction with ninhydrin. 0·26 grm. of Witte's peptone was dissolved in 20 c.c. of water, and in each of six collodion sacs 2 c.c. of the solution was placed and dialysed for 18 hours against 20 c.c. of water. The dialysates were tested with ninhydrin and gave an equal result of a distinctly deeper tint than the dialysates from the first set of tubes. It is thus possible to distinguish between 0·2 grm. and 0·24 grm.

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[4] Abwehrfermente, English translation, pp. 220-221.

(approximately) each contained in 2 c.c. of water. In other words, the degree of permeability of the collodion sacs to peptone corresponds at least to the delicacy of the ninhydrin reaction with the same substance. And since the substances to be detected in an actual experiment with blood serum are in my experience invariably amino-acids, the delicacy of these sacs is even greater than the experiments above indicate.

When the sacs have been in use for some time (six to eight weeks) and have been sterilised in the autoclave about 20 times they become permeable to albumin, and are then useless for the purposes of serum tests. There is thus a gradual increase in permeability, and it is only during the middle part of the "life" of a sac that the requirements of the Abderhalden reaction are complied with ideally—viz., (*a*) impermeability to serum albumin and globulin; (*b*) easy permeability to Witte's peptone; and (*c*) unalterability with sterilisation. Since, however, in an actual experiment amino-acids are always tested for—peptones in my experience being never found in the dialysate—the early life of a sac is perfectly satisfactory. But it is obvious that in any given experiment the sacs employed should have been made together at the same time, and should have been autoclaved an equal number of times.

The results obtained with such tubes will be published in a subsequent paper, but it may be pointed out here that by the use of graduated doses of serum and by invariably testing the dialysate with sulpho-salicylic acid a constant record of the permeability of the sacs is kept. Since sulpho-salicylic acid detects 1 part of albumin in 40,000 of water, it is clear that any alteration in the behaviour of the sac towards albumin is indicated at the earliest possible moment and before quantities recognisable with ninhydrin can pass. And, further, by the use of graduated doses of serum any alteration in the permeability of the sacs to amino-acids would be indicated by discordancy in the results of the ninhydrin tests.

THE GEOGRAPHICAL DISTRIBUTION OF APPENDICITIS.[1]

BY R. W. MURRAY, F.R.C.S. ENG.,
HONORARY SURGEON, DAVID LEWIS NORTHERN HOSPITAL, LIVERPOOL.

THERE can be no doubt that inflammation of the vermiform appendix is met with far more frequently now than was the case 20 years ago. Not only so, but from my own experience I am convinced that the type of the disease has altered. When treating appendicitis 20 years ago my general practice was to apply fomentations and attend to the bowels. I very seldom had occasion to operate, and when I did it was merely with the view of opening an abscess. The immediate and after results of this treatment were satisfactory. To-day, owing to the more virulent type of the disease, such treatment would surely end in disaster, and in common with most surgeons (I wish I could say all surgeons) I arrange for an operation as soon as the diagnosis has been established. This line of action has been forced upon surgeons owing to the rapidity with which gangrene of the appendix occurs, and the frequency with which concretions are found within its lumen.

The Etiology of Appendicitis.

Why is it that appendicitis has increased in frequency and altered in type? A very natural and interesting question, but by no means an easy one to give a satisfactory answer to. This communication is an endeavour to find an answer, and I have accumulated certain evidence which I believe may help in solving the riddle. However, before adducing my evidence I wish to draw particular attention to a paper which appeared in the *Liverpool Medico-Chirurgical Journal* in 1910. This paper, entitled "The Etiology of Appendicitis," was written by that brilliant young physician, the late Dr. O. T. Williams, and to my mind is by far the most important pronouncement on this subject which has appeared in recent years. In a previous communication Dr. Williams had shown that intestinal sand, appendix concretions, and the large bodies resembling gall-stones sometimes found in the intestines are allied in chemical constitution and formed of fat compounds. In the paper to which I refer he says:—

> This contribution records further observations on the relation of abnormal fat processes to the etiology of appendicitis, and shows that similar changes occur *in the wall of the appendix itself.* ...... Concretions do not occur in all cases of appendicitis, but the following investigation into the nature of the changes taking place in the appendix shows that the process by which they are formed may go on in the wall of the appendix and give rise to morbid conditions which allow of early invasion by micro-organisms, and thus to the acute and chronic forms of appendicitis. These changes are the formation of calcium soaps in the mucosa and submucosa of the appendix. These soaps, normally expelled into the lumen of the appendix and then into the cæcum, in cases of appendicitis block up the lumen of the glands or (as in many of the specimens obtained) form almost a complete ring in the submucosa. ...... The changes cannot be due to involution, as they are seen in specimens obtained from cases occurring in children. ...... The important question consequently arises whether this change is the cause of the disease, or whether there is some underlying cause which produces these changes and the disease. From what we know of the formation of these calcium soaps it is a very slow process, and therefore must have commenced long before the attack of acute disease. It may therefore be presumed that these fat changes go on, produce the altered condition of the mucous membrane, or in some instances form an impermeable barrier in the submucosa, cutting off the nutritive supply to the already altered mucous membrane. The invasion by organisms is thus rendered much easier. ...... Sections of appendices stained by the methods used by Koltz and Lorrain Smith show the colour reactions from which the nature of the chemical changes in the wall has been deduced. The specimens were obtained from appendices removed by operation and placed immediately in formol. ...... The nature of the fats in the food determines to some extent the nature of the fats in the tissues. It would therefore seem that as these abnormal processes are set up by saturated fatty compounds (palmitic and stearic) and not by unsaturated fatty compounds (oleic), the nature of the fat in the diet might have some influence in their production. This is made still more likely when we recognise that the absorbability of these two forms of fat is so different.

In order to ascertain whether an excess of saturated fat (as in beef or mutton) in the diet is more liable to produce the disease than unsaturated fat (as in olive oil) Dr. Williams wrote to His Majesty's representatives in all countries having a population of over 2,000,000, and "the statistics showed an increasing incidence in appendicitis in those countries where much saturated fat is consumed." I have quoted at some length from the paper of Dr. Williams, not merely on account of the interest and importance of his remarks, but also because they lead up to the clinical facts I have gathered together, which are complementary to his views.

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[1] A paper read before the Liverpool Medical Institution.

Results of Inquiry into its Geographical Distribution.

So far as the geographical distribution of appendicitis is concerned the information obtained by Dr. Williams referred, for the most part, to the inhabitants of large towns. I thought it would be interesting to extend the inquiry, so a few months ago I wrote to medical men practising in more remote parts of the world, asking whether they commonly met with cases of appendicitis, and if it occurred among the natives in that district. One weak point regarding evidence so obtained is that practitioners in these distant regions may not have sufficient clinical knowledge to make their diagnosis of appendicitis sufficiently reliable. In order, as far as possible, to obviate this error I made a careful selection of the men I wrote to, most of whom hold hospital appointments and have been in practice in that district for some years. Although I have already acknowledged their letters, I must take this opportunity of once again thanking these gentlemen for so kindly furnishing me with most interesting and useful information.

I now propose to take you for an appendicular trip round the world. The following are the chief points contained in the letters I have received:—

Nyassaland, Central Africa.

1. I have never seen appendicitis amongst the natives.
2. I asked Dr. Caverhill, of the Blantyre Mission, who has charge of the native hospitals and has been in this country ten years, and he authorises me to state that in 5000 in-patients he has never seen a case of appendicitis in a native.
3. I have met with four cases here in Europeans: two yielded to palliative treatment, two were operated upon.

A. H. BARCLAY.

Fez, Morocco.

Among the natives in Morocco appendicitis is a very rare disease. During my 16 years in the interior I can recall only two cases. I have seen several cases among Europeans, but my work lay chiefly among the natives.

E. S. VERDON.

English Mission Hospital, Jerusalem.

Amongst the Jews here we see appendicitis less frequently than at home. I have only attended 12 cases since 1909. A medical man here of my acquaintance has during the past four years seen only one case of appendicitis among the natives proper. Jewish living is rather more civilised than the native living.

O. H. CORBETT.

The Victoria Hospital, Damascus.

Appendicitis is fairly common in these regions. As you can readily understand, many such cases are overlooked or misunderstood. The medical men in these outlying districts are not always capable of diagnosing them. During the past nine months I have operated upon half-a-dozen cases.

FRANK J. MACKINNON.

I regret that Dr. Mackinnon, who has been resident in Damascus for over 20 years, did not state whether this disease is more commonly met with now than when he first came to the city, and whether it was more prevalent in one nationality than another in this ancient and cosmopolitan city, for Sir Frederick Treves tells us that here are to be seen customs and details of living which appear to the traveller now just as they did four centuries ago when the Caliphs reigned.

In *India* appendicitis is commonly met with in the large cities, but there is a general consensus of opinion among medical men practising in India that this disease does not occur among the natives in the outlying districts.

Membakut, British North Borneo.

In two years' residence on the West Coast of Borneo I only remember seeing one case of appendicitis, and that was in a coolie, an indentured Chinaman. As regards the occurrence of this disease among natives, my experience is of small value because native labour is very little used on estates and I rarely have a native as a patient.

R. S. ROPER.

Chung King, Western China.

In all my 16 years in China—most of it spent in West China—I have only seen one case of appendicitis in a Chinese, so am forced to the conclusion that the disease is very rare and hardly exists in the Chinese.

I beg to offer the following explanation why in my opinion the disease is so rare in the Chinese. Appendicitis is a rare complaint because a Chinaman eats on an average only two meals a day, but takes a good square meal of four or more bowlfuls of beautifully cooked rice and vegetables (meat or fish very seldom), and he sits down and takes a long time over his meal. The chief meat in China is pork, and the average Chinese cannot afford to buy it. The Chinese have beautiful white teeth, so that in addition to the time he takes over his meals he always masticates his food well.

RICHARD WOLFENDALE.

Pakhoi, South China.

I have not seen a single case of appendicitis during the 10 years I have been in China. I think you will find that this applies to the whole of South China.

H. GORDON THOMPSON.

Moukden, Manchuria.

None of us have seen a case of appendicitis amongst the Chinese here. I am wrong—one of us saw one case which, however, was not operated upon. One of the Pekin men told me that cases do occur amongst the Chinese there, so we may hope still!

R. HOWARD MOLE.

Territory of Papua (New Guinea).

I have been in Papua for nearly ten years, living mostly in close contact with the natives, most of the time either as medical officer or resident magistrate, and have been struck by the rarity of appendicitis. While in this country I have seen a very mild attack in a European, one rapidly fatal case in a Samoan, and one typical attack followed by recovery in a native Papuan cook boy of my own. Beyond these three I have never seen a suspicious case, and it is remarkable that the only Papuan case was one where the patient had practically taken to European food and mode of living.

W. M. STRONG,
Acting Chief Medical Officer.

Yarloop, Western Australia.

In answer to your question about appendicitis, I do not often see it here. In our hospital in-patients average 120 a year, and only 2 per cent. are cases of appendicitis. I believe it is very prevalent in the large towns.

S. C. MOORE.

British Solomon Islands.

During the past three years I have never met with a case of appendicitis amongst the natives or heard of one. Among the white population I heard of a man who was taken suddenly ill, shipped off to Sydney, and successfully operated upon for appendicitis.

R. H. S. MARSHALL.

Trinidad, B.W.I.

We have had a good many cases of appendicitis here during the last few years. They have occurred, however, chiefly among those of European birth or descent. Personally I have not met with any cases among the coloured races. The population of this island is about 330,000, and, roughly speaking, the whites would number about 4000.

WILLIAM S. CLEAVER.

Kingston, Jamaica.

I send you a short catalogue of the cases dealt with at the hospital here, from which you will gather that appendicitis is not common. We have formed the opinion that race is not the factor to be considered, as the condition occurs among those who conform to the standard of European life, and is very rare among the natives who live a more or less primitive life.

J. A. ALLWOOD.

With regard to the *Southern States of America* Dr. Howard Kelly, in his work "The Vermiform Appendix," says:—

> The negro race seems to be comparatively exempt from this affection. In order to obtain some information upon this point I wrote to several surgeons practising in Southern cities having a large proportion of negro inhabitants. The replies were unanimous in regard to the rarity of the disease in this race. ...... Dr. L. L. Hill, of Montgomery, Ala. (in the "black belt") with a coloured population of 9000, could collect the histories of only four cases that had occurred among them, and found that the physician who had been consultant for a number of years at Booker Washington's school, where there are about 1400 coloured students, did not remember ever to have seen a case there; at the Alabama Polytechnic Institute, however, 20 miles distant, where there are 400 boys, there has been an annual average of eight cases. At the former school the diet is simple and the same for all, but at the latter the cadets live at different boarding-houses in the town.
>
> There are 800 negro prisoners at one of the Alabama coal mines, and the physician in charge states that appendicitis is unknown among them. The explanation given for the relative exemption of the negro is that their diet is simple, they take a great deal of outdoor exercise, and they are free from digestive disturbances.

In order to learn whether prisoners in this country, living upon a simple diet and taking adequate out-of-door exercise, are subject to attacks of appendicitis, I wrote to the medical officer in charge of Portland Prison. Dr. Watson kindly furnished me with the following particulars:—

> *H.M. Prison, Portland.*
>
> During the past ten years one case of appendicitis is known to have occurred. I do not think a well-marked case of appendicitis could have escaped detection during this period. The average daily population during the year ending 31st March, 1913, was 696.
>
> W. R. K. WATSON, Medical Officer.

Appendicitis in Animals.

From the prisoners in Portland Prison I went one step lower and wrote to Mr. Plimmer, asking whether appendicitis was met with among wild animals during their captivity in the Zoological Gardens. Mr. Plimmer very kindly looked up the records of the post-mortem examinations and wrote me as follows:—

> *Zoological Society of London, Regent's Park.*
>
> I have gone through the books myself, and enclose an accurate statement of appendicitis here. It is only in the higher apes that we can speak strictly of appendicitis, the other cases are inflammations of the end of the cæcum, which is often pointed, and of similar histological structure to the appendix in apes.
>
> H. G. PLIMMER, F.R.S.

(18 cases in 5 years, 1908-1912.)

Appendicitis proper:—Chimpanzee. Agile Gibbon. Horlock Gibbon.

Inflammations of Cæcum or Cæca in Animals not possessing an Appendix:—

Guereza	1	Wallaby	1
Lemur	2	Peccary	1
Suricate	1	Phalanger...	1
Wild cat	1	Marmoset	1
Cavy	1	Hyena	1
Leopard	3	Snow leopard	1

The Influence of Diet and Other Factors.

Reviewing the facts I have collected I think it must be admitted they go a long way to prove that diet is a very important factor, probably *the* important factor, in the etiology of appendicitis. As this disease prevails amongst meat-eating nations it is further probable that the view of the late Dr. Williams is the correct one—namely, that the most important constituents in our food *predisposing* to appendicitis are the saturated fats, such as are contained in beef and mutton. Though it is true that man is an omnivorous animal, still some of us are possibly more allied to the herbivora than to the carnivora, both as regards idiosyncrasy of tissue and of temperament. However that may be, much of the evidence I have adduced, more especially the experience in appendicitis at the Booker Washington school and at the Alabama Institute, clearly indicates that a change from a simple to a more complicated diet is attended with grave dangers. What actual organism leads the attacking force I do not know, but the bacillus coli group are invariably in at the death.

Mr. Plimmer's observations at the London Zoological Gardens strike me as being a most valuable and interesting contribution to my inquiries, though it must be remembered that altogether, apart from the question of diet, these animals have their whole mode of life radically changed. It is impossible to learn whether wild animals living in their natural surroundings ever suffer from appendicitis, still it is reasonable to suppose they do not. However that may be, it is clear that animals in captivity, owing to the artificial conditions under which they live, do suffer and die from this disease. Those of us who have the privilege of living in large civilised communities, owing to the artificial conditions under which we live, are to a very great extent "animals in captivity," and we, too, suffer and die from this disease.

When we remember that modern social requirements demand that our food shall be such as may lead to an accumulation of calcium soaps in the wall of the vermiform appendix, thus seriously interfering with the circulation through its blood-vessels and impairing its glandular excretion, and further that this cæcal appendage is so placed as to have poured into it the most poisonous of the intestinal flora, the wonder is that any of us escape from attacks of appendicitis.

At the same time, there can be no doubt that, apart from the question of diet, other contributory causes have to be considered. We live in an age of luxury, and taking it all round the pace at which we live has increased greatly of recent years, and I believe the increased frequency of appendicitis and of other gastro-intestinal troubles is the consequence, for our intestinal tract is called upon to do work which is not congenial to it, and naturally rebels. Irregular meals, the "quick lunch," and imperfect teeth all play their part, and in spite of the blessings of golf the general want of physical exercise is very noticeable. For the most part we watch others play games. Nowadays a man has to be in so many different places at the same moment that he has not time to walk—he must be driven; and the motor has come to stay.

I believe the reasons I have mentioned account for the increased frequency with which appendicitis is met with, and the increased virulence of the poison is, I believe, due to the fact that our food is adulterated to an extent unheard of in days gone by. This is an age of patent foods, food preservatives, tinned meats, and frozen mutton, and from early infancy we have over-burdened our digestive tract with chemical and bacteriological poisons it is unable to cope with. All these things follow in the wake of civilisation and the geographical distribution of appendicitis can be determined with a fair degree of accuracy. With a map of the world before one, if a red cross is made in localities where appendicitis prevails it will be seen that all the crosses are placed on civilised communities.

It really would appear that our gastro-intestinal arrangements are not at all suitable for twentieth-century requirements, and a vermiform appendix altogether out of date. As it is hopeless to expect the vermiform appendix to disappear in response to its altered environment, the only way to ensure intestinal peace, so far as it is concerned, is either to remove it during infancy, which would be quite wrong, or to alter very materially our habits of life, which would be quite right. Otherwise this worm-like remnant of a greater cæcum, destined to continue as a companion of the human race, will surely make its presence felt more frequently in the future than it has done in the past. It may even do so in that far, far distant future, "when some traveller from New Zealand shall, in the midst of a vast solitude, take his stand on a broken arch of London Bridge to sketch the ruins of St. Paul's."

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

THE CAUSATION OF STRICTURE FOLLOWING SUPRAPUBIC PROSTATECTOMY.

BY H. W. MILLS, M.R.C.S. ENG., L.R.C.P. LOND.

IT has been stated[1] by one of the greatest authorities on the subject that post-operative stricture does not occur after complete suprapubic prostatectomy, or, to be more technically exact, after subtotal suprapubic prostatectomy, for it is now universally recognised that the surgical capsule of the prostate itself consists of prostatic tissue.[2] Such a statement, although doubtless generally speaking correct, is too sweeping; there are exceptions, and these notes have been written to draw attention to the most frequent cause of such exceptions.

It is a well-known fact, a recognised surgical axiom, that if the mucous membrane be removed from any of the circular orifices of the body occlusion results, and this fact has been taken advantage of to base thereon, for example, Ochsner's operation for radical cure of femoral hernia. Now occasionally—rarely, it is admitted, but still occasionally—on sweeping the finger across the apex of the prostate in the final stage of its enucleation, the mucous membrane of the urethra carries away from a half to three-quarters of an inch anterior to the said apex, with the result that a portion of the membranous urethra is denuded of mucous membrane; unless this is noticed and special measures adopted to prevent such unfortunate results, occlusion of the urethra obtains, and the mucous membrane of the bladder heals completely and smoothly over the original site of the internal meatus.

CASE 1.—The patient was a man aged 67. Operation was performed on Sept. 17th, 1911; it was easy, enucleation lasting four minutes; practically no bleeding; two calculi, one very rough and tuberculated, about the size of marbles; bladder clean; skin wound healed by first intention; about an inch of mucous membrane came away anterior to the apex of the prostate. Sept. 29th: No urine passed per urethram; digital examination of interior of bladder revealed the fact that internal meatus was closed; No. 27 steel sound forced through on to finger; immediately thereafter urine was passed per urethram, and through and through irrigation was possible; sounds were passed daily thereafter, which caused some pain and bleeding for several days; subsequently Kollman's four-bladed prostatic dilator was used regularly, screwed up to 40, and ultimately complete recovery without any stricture occurred. The cure has been permanent.

CASE 2.—The patient, a man aged 73, was sent to me for operation. He had led a catheter life for many years—15 he stated; he denied any venereal history, but admitted alcoholic excesses for 30 years; he had a copious foul purulent urethral discharge, and a tight phimosis, the prepuce being greatly swollen and indurated—so much so as to suggest malignancy; he declined preparatory treatment, and insisted on immediate operation; this was accordingly performed on July 16th, 1910. The operation was simple and rapid, but about half an inch of mucous membrane carried away anterior to the apex of the prostate; recovery, except for threatened delirium tremens, was rapid. I was compelled to leave town two days after the operation and did not return until July 28th, on which day, finding that no urine had passed per urethram, and that through and through irrigation was impossible, as also was the passage of No. 27 steel sound, I made a digital examination of the interior of the bladder, and found that the mucous membrane had healed smoothly over the base of the bladder, and that no opening existed there. A sound was forced through on to the finger, and the opening kept patent daily with the Kollman dilator screwed up to 40. Circumcision had been done at the time of the prostatectomy, but the discharge still obtaining a microscopic examination of the latter was made which revealed gonococci. The explanation which followed revealed the fact that irregular coitus had obtained for two weeks before he came in to see me. This old man had been unfortunate enough to contract his first and only attack of gonorrhœa at the age of 73. An obstinate stricture resulted, requiring constant treatment for many months.

The treatment, of course, is to keep the parts well dilated, until such time as the raw surface is completely covered with mucous membrane, and for a considerable period thereafter insist on the periodical passage of large-size metal sounds; ultimately all is well, for the pathology of stricture, other than traumatic, presupposes the gradual cicatricial contraction of a ring of previously chronically inflamed extra-urethral connective tissue, which in these cases does not obtain.

Case 1 is now quite well with no stricture at all. Case 2 has a modified stricture, though not enough to trouble him; but here the Neisserian infection introduced the factor which is the usual pathological precursor to stricture, so that the present condition must not altogether be laid at the door of the accident, for the purpose of drawing attention to which these notes were written. 2·29 per cent. represents in my personal practice the frequency of this occurrence. I have also observed one instance of stricture in a case in which the urethra was so tough that I could not tear it through with my finger but was compelled to cut it with scissors; the prostate was of the hard scirrhous type.

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[1] Freyer: Enlargement of the Prostate, third edition, p. 77. "In not a single instance has there been any contraction to interfere with the free flow of urine."

[2] Wilson and McGrath: The Prostate Gland, *Journal of the American Medical Association*, vol. lvii., No. 20, p. 1601, quoting Tandler and Zuckerkandl: "The surgical capsule is composed of prostatic tissue."

San Bernardino, California, U.S.A.

THE USE OF LIQUID PARAFFIN IN ENTERIC FEVER WITH CONSTIPATION.

BY LLEWELLYN P. PHILLIPS, M.A., M.D.CANTAB., F.R.C.P.LOND., F.R.C.S.ENG.,
PROFESSOR OF MEDICINE IN THE EGYPTIAN GOVERNMENT MEDICAL SCHOOL; AND SENIOR PHYSICIAN TO KASR-EL-AINI HOSPITAL, CAIRO.

IN Egypt it is the exception to see cases of typhoid fever with diarrhœa. Constipation is the rule, and this constipation is often very difficult to manage. I used to treat it by daily enemata, preceded if necessary by a preliminary injection of olive oil; in most cases this was successful, but occasionally the result was not satisfactory. (The enemata are given out of a douche can.) During convalescence I used to commence treating constipation by using cascara and maltine as an aperient. On one occasion during an attack of typhoid fever with mania I had to give olive oil and castor oil in equal parts by mouth and the patient did well. I prefer, however, to leave such aperients alone during the acute stage.

In 1912 one of my patients was so constipated during the beginning of her convalescence that I resolved to use paraffin, and I did so with excellent effect; after that I commenced to use it throughout the illness, and such now is my routine. I have found that in cases in which during former acute illnesses enemata have acted with the greatest difficulty, paraffin, if an enema is necessary, acts easily and painlessly, and both my patients and the nurses have been more than satisfied with the result. It seems absolutely free from risk and, further, it probably acts as an emollient dressing to the typhoid ulcers. The only disadvantage I have seen from its use during typhoid fever has been a little occasional leakage per anum.

I give the drug in a dose of half an ounce at night and, if this be not sufficient, in a dose of half an ounce in the morning as well; it is best taken floated on the top of a little soda-water. With such dosage enemata are often unnecessary, though I still often order the bowel to be washed out so as to remove as much toxic material as possible.

Cairo.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of the directors of this society was held on July 8th. Dr. Rigden, senior vice-president, being in the chair. Nine gentlemen were elected members of the society. The sum of £1890 was voted for the payment of the half-yearly grants to the widows and orphans. At the present time there are 45 widows and 13 orphans in receipt of grants. The invested funds of the society now amount to £139,500. Membership is open to any registered medical practitioner, who at the time of his election is resident within a 20-mile radius of Charing Cross. The annual subscription is 2 guineas. Special terms for life membership, which vary with the age of the member. Relief is only granted to the widows and orphans of deceased members. Since the last court five letters had been received from widows of medical men asking for relief, but this had to be refused as their husbands had not been members of the society. Further particulars and application forms for membership may be obtained from the secretary at the offices of the society, 11, Chandos-street, Cavendish-square, W.

Reviews and Notices of Books.

Tropical Diseases: A Manual of the Diseases of Warm Climates.

By Sir PATRICK MANSON, G.C.M.G., M.D., LL.D. Fifth edition. With 12 coloured and 4 black and white plates, and 239 figures in the text. London: Cassell and Co. 1914. Pp. 937. Price 12*s*. 6*d*. net.

SINCE the publication of the first edition of this manual by Sir Patrick Manson in 1898 it has held a foremost place among the text-books of tropical medicine. Although in the course of time the dimensions of the work have had to be increased to keep pace with the numerous discoveries and advances in our knowledge of the diseases of warm climates, it still retains to a large extent its original characters and its claim to give adequate information on the subject in a concise and handy form, so that the volume can be carried about by the practitioner in the tropics for consultation on his long journeys or on his tours of duty. Since the previous edition (the fourth) was issued in 1907 the etiology and pathology of a number of tropical diseases have undergone rapid development, such, for example, as kala-azar, trypanosomiasis, spirochætosis, and beri-beri, so that there was urgent need for the publication of the fifth edition of this book. The author, affectionately known to his former pupils and others as "the father of tropical medicine," has now left the fighting ranks of the profession, but has continued in his retirement to keep well in touch with the progress that is going on respecting the diagnosis, treatment, and prevention of the diseases of warm climates. The text in the fifth edition has been enlarged, extended, or revised throughout, while new plates and other illustrations have been added, but the general plan of the book remains the same. The author acknowledges his indebtedness to Dr. Philip Bahr for invaluable assistance in the preparation of this new edition, for rewriting the appendix on protozoa so as to bring it into conformity with the generally accepted teaching of the subject in this country, and lastly, for revising the nomenclature of the many parasites which form so important a feature of tropical pathology.

After an introduction which is concerned with the etiology of tropical diseases, the volume is divided into seven sections, dealing respectively with fevers, general diseases of undetermined nature, abdominal diseases, infective granulomatous diseases, animal parasites and associated diseases, skin diseases, and lastly, local diseases of uncertain nature. In the appendix are described some of the commoner parasitic protozoa of vertebrates and invertebrates, the classification adopted being for the most part that followed by Professor E. A. Minchin in his "Introduction to the Protozoa." The important section on fevers occupies nearly half of the whole book and comprises 24 chapters, nine of which are devoted to malaria in its various aspects. Some persons may question, perhaps, whether pellagra and heat-stroke should be classed among fevers, and whether pellagra at least should not be relegated to the section on general diseases of undetermined nature until its etiology has been worked out. The author himself says that the duration of pellagra is variable and that it may last from two to 15 years or more; in these circumstances it might be urged that this malady can scarcely be regarded as a "fever" in the usual sense. In discussing the incidence of plague in England in recent years Sir Patrick Manson refers to the occurrence of some cases in 1910 accompanied by an epizootic among rodents in "Norfolk." He evidently intends to refer to the group of instances reported in the south-east of Suffolk in that year. In describing the mechanism of the transmission of plague by fleas reference is made to the "recent observations made by Dr. C. J. Martin," no mention being made of his collaborator Mr. A. W. Bacot, entomologist to the Lister Institute, who was responsible for a large share of the experimental work, the official report to the Plague Advisory Committee being entitled, "Observations on the Mechanism of the Transmission of Plague by Fleas, by A. W. Bacot and C. J. Martin." The claims of Dr. H. Seidelin to have discovered the specific parasite of yellow fever are rather curtly dismissed as not being supported by convincing experimental evidence. In the chapter on trypanosomiasis the statement is made that Professor M. Taute, the German sleeping sickness expert in East Africa, *infected* himself with 2 c.c. of blood from a trypanosome-infected dog, the trypanosomes being of the Rhodesian type, but there was no bad effect. We had been led to understand that Professor Taute's experiments on himself failed entirely, so it is perhaps incorrect to say that he "infected" himself. Perhaps "infected" himself should read "injected" himself.

There can be no question that this manual deserves the confidence of every student of tropical medicine and of every medical man practising his profession in the tropics. The advice given as to diagnosis and treatment has been carefully weighed beforehand, the great knowledge and ripe experience of Sir Patrick Manson enabling him to speak with undoubted authority on most of the diseases of warm climates. It gives us great pleasure to recommend this handy volume to the notice of all medical men and students interested in the subject of tropical medicine.

Principles of Surgery.

By W. A. BRYAN, A.M., M.D., Professor of Surgery and Clinical Surgery at Vanderbilt University, Nashville, Tennessee. With original illustrations. London and Philadelphia: W. B. Saunders Company. 1913. Pp. 677. Price 18*s.* net.

IN this work the author has put, in a concise and understandable form, the principles on which the practice of surgery is built. The book treats of surgical bacteriology, of the various infections, of wounds, and of hæmorrhage. It describes the general principles of fractures and dislocations and the various forms of tumours, but it does not enter into the questions connected with special fractures or the occurrence of new growths in any particular organs. This will serve to show the scope of the book, and we may say that it is evidently the work of one who has had much experience in teaching, and we can recommend it to students.

While we appreciate the excellencies of the book, there are some passages to which we must take exception. For instance, we find it stated that "the fact that the hair rapidly comes out in patches (alopecia areata) is very suspicious of syphilis," and "alopecia of the eyebrows is considered by high authority to be pathognomonic of syphilis." It is true that occasionally the loss of hair in syphilis may tend to be patchy, but it is certain that alopecia areata has absolutely nothing to do with syphilis. Alopecia of the eyebrows, also, is far more commonly seen in non-syphilitic cases than in those suffering from syphilis. Again, the author sometimes employs terms which are rarely used and therefore unknown to the average student; thus we find it stated that "enchondromata form in connexion with normal cartilage, especially in the larynx, the ribs of old people, and at the clivus Blumanbachii." We venture to say that 99 students out of 100 would not know what or where the clivus Blumanbachii is.

There are numerous illustrations, some of which are very good, but many show almost nothing, this being in part due to the use of half-tone plates. It is too often imagined that a photograph must show well the condition present, but many details are quite lost in a photograph and others disappear in the process of reproduction for printing. We may instance Fig. 23, which is described as an infected hand, but really it illustrates nothing. In Fig. 198, described as "a metastasis of carcinoma in axillary lymphnode," nothing characteristic is clearly to be seen, and we doubt if a student could learn anything from it. It would be far better if these photographs were redrawn for the purpose of reproduction.

Immunity: Methods of Diagnosis and Therapy and their Practical Application.

By Dr. JULIUS CITRON, Assistant at the University Clinic of Berlin, II. Medical Division. Translated from the German and edited by A. L. GARBAT, M.D., Assistant Pathologist and Adjunct Visiting Physician, German Hospital, New York. Second edition, revised and enlarged. London: J. and A. Churchill. 1914. Pp. 267. Price 14*s.* net.

JUST two years have elapsed since we reviewed the first edition of this American translation of Dr. Citron's work, and we are glad to see the appearance of a second with considerable additions to the subject matter. While the general scope of the work is not altered, chapters have been added on chemotherapy, on anaphylaxis, and on the serological reactions which have been described in relation with tumour formation. The first two chapters deal with the theory of immunity and with laboratory equipment. After these come two devoted to active immunisation, with a special account of aggressins; two on the use of tuberculin in diagnosis and treatment; and two on the relations of toxin and antitoxin. A few pages are devoted to the toxins derived from higher plants and from animals, such as snakes, toads, and so forth, and to ferments present in the blood. Then follow chapters on agglutination, precipitation, and bacteriolysis and hæmolysis. Complement fixation claims two chapters, while one each is devoted to phagocytosis, tumours, anaphylaxis, passive immunity, and chemotherapy. There is an adequate index of subjects and a second of the names of authors quoted, but as the references to the latter are not given the second index is not particularly useful.

The book is the work of an expert, and deals both with theory and with laboratory technique. It will not assist the practising physician in treatment of disease, but is rather designed to initiate the student and practitioner into the theories underlying the various laboratory tests to which so much importance is now assigned. For this purpose we can very highly recommend it. The translation has been considerably improved since we had occasion to point out certain peculiarities of diction in the first edition. We suggest, however, that the two first letters of the word "aërobiosis" do not form a diphthong, and can therefore not be replaced by a single e ("erobiosis"), even on American principles.

A Text-book of Medical Entomology.

By Captain W. S. PATTON, I.M.S., and Captain F. W. CRAGG, I.M.S. Madras: The Christian Literature Society. 1914. Pp. 764. Price £1 1*s.*, or Rs.15.12.

THE title of this book is somewhat of a misnomer, as the authors themselves admit in the preface, for they describe it—and rightly—as "a guide to the study of the relations between arthropods and disease, rather than a text-book of entomology." The actual entomology consists only of the orders Rhynchota, Diptera, Siphonaptera, and Anoplura, because these subdivisions of the insect family alone are concerned with the propagation of disease; but the contents of the volume are increased by a consideration of the mites, ticks, and linguatulidæ, all of which arthropod groups are concerned with the transmission of various "fevers," and the crustacean cyclops belongs to the category by virtue of the fact that it harbours the larva of the guinea-worm, filaria or dracunculus medinensis.

The book is intended, as the first words of the preface denote, for medical and veterinary officers in the tropics; and for their sakes it is constructed as a treatise. In out-of-the-way places in Asia and Africa it is hardly necessary to state that the literature of this subject is not as a rule accessible. Hence the voluminous character of Captain Patton and Captain Cragg's work. All that is wanted must come under two covers for the great majority of those who are occupied with this department of medicine and biology and who find themselves away from civilisation. We do not think that the mode of treatment of the various groups of animals under review in this work is too lengthy, even though the result is somewhat cumbersome. To include after each section a list of the more important publications in journals and elsewhere argues, of course, the hope on the part of the authors that their handbook will prove as useful to those surrounded by libraries as to those scattered in desert places of the earth. And in so far as there does not appear to be any similar condensation of special knowledge this hope can be encouraged. But it is mainly addressed to men who will commence the study of the subject in the "field" with a groundwork of acquaintance with the more general facts of entomology derived from lectures and laboratory work at home. The book is not at all intended to embody an introduction to zoology in general and the history of the arthropods in particular. But given this quite elementary knowledge, the way into the further intricacies of the matter is well lighted up by our authors. Nor do they, as will sometimes happen, betray any favouritism for one or more groups, awarding other groups what the Germans term a "stepmotherly" treatment. Rigid impartiality reigns throughout. The reader will learn just as much of the Rhynchota as of the Siphonaptera. The illustrations, too, are as copious in one case as in another. The actual form of the illustrations is distasteful to us, consisting as it does of so much outline figure on plates, which is better rendered in the form of cuts. But the accuracy and intelligibility are to be praised.

In examining the work we have read with special attention the sections dealing with the two groups of insects just mentioned, which are important with us at home as well as in the tropics. With regard to the fleas (Siphonaptera) we note that the authors advise that all specimens should be sent to the Hon. Charles Rothschild, who is so well known for his careful study of these insects and for his large collections of the same. Here, as in the case of other groups, a very considerable list of memoirs, some of them from Mr. Rothschild's pen, is to be found at the end of Chapter V., which is concerned with these degraded diptera, as some zoologists think them. *The* flea, Pulex irritans, is singularly enough the only species of the genus Pulex to which, according to general opinion perhaps, all fleas belong. It is not confined to man; and, *per contra*, the cat and the dog flea occasionally occur on man. This both confirms and destroys current semi-scientific opinion on the matter. The multitude of species of flea is usually pointed out in works on the subject, but the impression sometimes left is that each of them is rigidly confined to its own pet host. Pulex, think our authors, is originally an Old World genus, but it has accompanied man on his travels, and is now, like man and very few other creatures, world-wide in range. Another very pestilent flea, the "jigger," is, on the other hand, a native of the New World, but has extended its range to Africa and the East. The rat is oppressed with no less than five species of flea—a fact of importance for the medical biologist in view of the transference of the plague by rats. The actual carrier of the germ has to be recognised among its fellow fleas.

We wish that we could commend the publishers' share in this volume as heartily as we do that of the authors. But it is not to be disguised that the appearance of the book is most unattractive and unwholesomely swollen. The two authors, we need scarcely point out, are already favourably known for their investigations into the structure of disease-carrying insects, and we have had many occasions lately of noticing their work in these columns.

A Text-book of General Embryology.

By WILLIAM E. KELLICOTT, Professor of Biology in Goucher College. London: Constable and Co., Limited. New York: Henry Holt and Co. 1914. Pp. 376 Price 10*s.* 6*d.* net.

ENTERTAINING the view that general embryology should occupy an important place in the collegiate study of biology, the author has published this book, which is the direct outgrowth of his own experience as a teacher of the subject, and its substance has, in fact, been in use as a text for several years. The facts of embryology lead directly to the great problems of the science of biology, and therefore the topics considered have been approached from the standpoint of their general biological relations. For those desiring a more elementary and brief course the parts in large type suffice. The small type also will be used by those pursuing a more elaborate course. The illustrations are particularly good, clear, and well selected. Most of them have been redrawn from the original sources. At the end of each chapter is a list of references to literature. We indicate the space occupied by the important sections to show the symmetrical planning of the work.

Ontogeny is first dealt with in about 30 pages. Embryology is defined as the science of the genesis of the adult organism. The various processes of reproduction are described and illustrated by numerous figures in the text, and the fundamental character of the relation of embryology to the cell theory is emphasised. The author attempts to explain "how it all happens"—i.e., the transformations of substance, energy, and form. The Cell and Cell Division occupy about 50 pages, the cell in structure and action being the basis of modern embryology. More especially is the importance of polarity in germ cells dwelt on. The description of mitosis as it occurs in various classes of animals is particularly lucid and well worthy of perusal and study, for the mitotic figure is a mechanism effecting the equal distribution to the daughter cells of chromosomal division within the nucleus of the parent cell, so that each new cell has a complete group of chromosomes similar to those of the parent cell. Germ Cells and their Formation are the next subject, and are dealt with in over 40 pages. Lode computed that the total number of sperm formed in man may average about 340 billions, or approximately 850,000,000 sperm for each one of the 400 ova matured during the reproductive period of the female. On the other hand, the codfish is said to form 8,000,000 to 10,000,000 ova and a single species of sea urchin 20,000,000 ova in one season. The number of eggs is smallest where they develop within a brood cavity or where some parental care is exercised. Maturation is next discussed (30 pages) and then Fertilisation (54 pages). When fertilisation is internal the spermatozoa may remain alive and able to function for a very long time—e.g., in bats and snakes from autumn to the following spring, in snails for three years, and in bees for four or five years. Once within the ovum a "foreign" sperm seems to act almost as efficiently as the proper sperm in inaugurating development. The action of the spermatozoon is not specific. Human spermatozoa swim at the rate of 27 mm.—i.e., about 550 times their own length—in 7·5 minutes. At the corresponding rate of progression a man would walk a mile in 12·4 minutes. "Cleavage" (40 pages) is the second of the "grand periods" in individual history. In nearly all species the earliest cleavage planes are definitely related to the polar axis of the ovum. Differentiation, Heredity, and Sex Determination require about 60 pages, and form one of the author's most suggestive chapters, and he comes to the conclusion "that the chromosomes are to-day the determining factors in development and heredity." The final chapter (36 pages) deals with the Blastula, Gastrula, and Germ Layers.

Altogether the work is both lucid and suggestive, while it ranges over the whole sphere of general embryology in a manner which makes the study of so recondite a subject fascinating and attractive.

The Treatment of Diseases of the Digestive System.

By ROBERT SAUNDBY, M.D. Edin. Second edition. London: C. Griffin and Co. 1914. Pp. 179. Price 4*s.* net.

THE first edition of this excellent work, reviewed in THE LANCET of May 18th, 1907, was intended as a guide to the principles and practice of the treatment of diseases of the digestive organs, based on the author's personal experience. The second edition follows the same lines as the first; it has been brought up to date, revised, and enlarged by [illegible] an appendix on dietetics.

Its first 50 pages consist of a general introduction to the subject, the methods of examining the patients, and general considerations about foods, drinks, and diets. Then follow five sections on diseases of the œsophagus, stomach, intestines, and rectum, and on the symptomatic disorders dependent upon gastro-intestinal troubles. In addition to the appendix already mentioned there is at the end of the book a brief list of prescriptions.

This thoroughly practical little volume may be warmly commended to the attention of all medical practitioners. It is written in a concise and straightforward style, and is clearly the fruit of a mature and extensive experience. Dr. Saundby shows great skill in his avoidance of the fads and far-fetched fancies, the *outré* diets and ultra-scientific treatments, that are sometimes imposed upon the well-to-do dyspeptic patient.

Diseases of the Rectum and Pelvic Colon.

By MARTIN L. BODKIN, M.D. New York, Rectal Surgeon, St. Mary's Hospital. Illustrations specially drawn by FRANCIS A. DECK. New York: E. B. Treat and Co. 1913. Pp. 416.

THIS is a convenient guide to the diseases of the rectum in a form likely to prove useful to the general practitioner who looks for assistance in the treatment of a rectal case. It begins with a chapter on the anatomy and physiology of the rectum and of the pelvic colon. An account of the methods of examining a patient follows, and then come chapters on diagnosis and on the symptoms usually associated with disease of the rectum. The various affections of the rectum are described in turn, special stress being laid on those rectal affections that are suited for treatment by medical men in general practice. The treatment of the more serious diseases, such as cancer, is described, but not so fully.

On the whole, we may express a very favourable opinion of this little book. It is clearly written and illustrated by plates which show what they are intended to show. It is only natural that the author should approve of those operations which he himself employs, but the terms in which he condemns the crushing operation for hæmorrhoids suggest that this is a method which he can hardly have personally used. He says "the operation is only applicable to cases one would select as favourable for the injection method." The method can be used with perfect success in any case of hæmorrhoids, as those know who employ it. The author appears to prefer the clamp and cautery operation, which is also an excellent method.

Sanitation in India.

By J. A. TURNER, M.D., D.P.H., Executive Health Officer, Bombay Municipality. With contributions by B. K. GOLDSMITH, M.B., D.P.H.; S. C. HORMUSJI, M.D., D.P.H.; K. B. SHROFF, L.M. & S., D.P.H., D.T.M.; and L. GODINHO, M.D., D.P.H. Bombay: Times of India Press. 1914. Pp. 1014.

IN this volume, dedicated to the municipal corporation of the City of Bombay, is contained the matter of the courses of lectures and demonstrations given to the students of the sanitary surveyors' class by the public health officers of the city, elaborated so as to form a handy and practical guide to sanitation in India. The first chapter deals with the administration of the Public Health Acts, which are based on the English Public Health Act of 1875, and are carried out by the executive officer (who may be [illegible] municipal commissioner, chief municipal officer, or collector), taking the place of the sanitary authority in England. The public health administration of Bombay City is naturally taken as an example of the application of modern sanitary methods in India, and their practical working is described in detail, with a summary of the by-laws now in force, including also the sanitary administration of the port. This section will be of great value to all concerned with the sanitary supervision of a large city or port in a tropical climate in any part of the world.

The collection, removal, and disposal of town refuse are next dealt with; in addition to describing the procedure in London, the details of practice in Bombay, Calcutta, and Madras are furnished. The subject which follows—the collection, removal, and disposal of sewage—is of the greatest importance in a tropical city, and also one of the greatest difficulty. The system at work in Bombay is described in detail and with illustrations; there is also some account of the various dry methods of disposal in use in the country districts and cantonments, though not so fully detailed a description as might have been given. The Shone and Liernur methods of pneumatic removal are mentioned, but not fully described, though the installation of the former system at Rangoon is, we believe, the most complete and extensive in the world. Water and its supply is considered in the fourth chapter. It may be doubted whether the bacteriological details given would be of use to the readers for whom this manual has been compiled; and the arrangement of this chapter cannot be said to be satisfactory. In the next section, on food and milk, we find a description of the parasites in water, which would surely be better placed in Chapter IV. The chapter on infectious diseases and their prevention contains much valuable material, though the information is not always given in an assimilable form, and it is odd to find Bristowe referred to (p. 524) as "a recent writer," under the heading of typhus fever. J. S. Bristowe's treatise on medicine was published in 1876. On the other hand, in a book published in 1914, referring to Indian public health, we think something more should have been said about the causation of beri-beri than that "several theories have been put forward, the most favoured being that of uncured rice; possibly some micro-organism in certain forms of food producing a toxin." There is a full description of plague and the procedure necessary for its prevention; and the chapter on malaria is very complete and well illustrated.

There is a great deal of information in this volume, but the method of presentation does not always do justice to the subjects. It would have been more useful if it had been provided with an index.

LIBRARY TABLE.

The Fundamental Basis of Nutrition. By GRAHAM LUSK, Professor of Physiology, Cornell University. London: Humphrey Milford, Yale University Press. 1914. Pp. 62. Price 2*s.* 6*d.* net.—Patients and laymen often ask for simple books on the theory of diet, and to such inquirers this brochure can be entirely recommended. The position and reputation of Professor Lusk are sufficient guarantee of the scientific accuracy and value of the matter presented, though the presentation is so simple that everyone can follow it. After a short historical survey the reader is introduced to the theory of calories, and proper stress is laid upon the necessity for comprehending the measurement of heat production as a standard of the value of foods. Persons who cannot realise the importance of a knowledge of calories "must be reasoned with and persuaded to listen." They cannot do better than begin with these lectures. From the question of the need of "fuel," heat-producing foods, the author passes to the comparison of various forms of proteins, showing the unquestionable superiority of the proteins of meat, fish, eggs, and milk over those of wheat, beans, or maize; the proteins of rice and potatoes hold an intermediate position. We have given here an excellent account of the varied proteins of the commoner cereals—wheat glutinin, gliadin (the alcohol-soluble protein of wheat), edestin of hemp, and other bodies—which have been laboriously prepared by Osborne and Mendel in the United States. After a brief glance at the habits of different populations in the matter of diet, the writer passes to the important subject of vitamines, upon which much work has probably yet to be done. The initial researches into their nature arose from inquiries into the causation of beri-beri, and are excellently sketched here. The closing chapter is a very practical review of the monetary value of foods, in which a proper tribute is made to the valuable contribution to this subject afforded by Miss Dorothy Lindsay, under the direction of Dr. Noel Paton. A very wide investigation has recently been made by Dr. F. C. Gephart, of the Russell Sage Institute, who obtained his material from the ordinary meals of the "Child's Restaurants," establishments well known throughout America for the high quality of their food material and the moderate scale of their charges.

The Purpose of Education: An Examination of the Education Problem in the Light of Recent Psychological Research. By ST. GEORGE LANE FOX PITT. Cambridge: University Press. 1913. Pp. 83. Price 2*s.* 6*d.* net.—The author has written a little book on the application of certain findings of experimental psychology to the elucidation of educational problems in the hope of clearing up some prevailing confusions and difficulties. He believes that we err either on the side of making exaggerated claims for the importance of the "inner life," or on the side of assigning too much to the effect of "environment." In the pursuance of a middle path lies our best hope for the future of the race. As far as the former is concerned, the author holds that the strength and worth of our personality are determined by the quality, nobility, and coördination of the "complexes" of which it is composed. Complexes are ever in a state of flux, ever changing and developing, adapting themselves to, or assimilating themselves with, their environment. Hence the right way to awaken or develop character is by the harmonious interaction of varying complexes with chosen or accidental environments. An individual's likes and dislikes, tastes and preferences, can be cultivated, repressed, or developed, and in the subordination of the lower to the higher lies the true goal of systematic education. It is a fallacy to imagine that mental disposition and environment are mutually independent; to attain the ideal state of perfect interaction instincts must be rationalised, not ignored. To use a Freudian expression, they must be sublimated, not denied. The book commends itself to the thoughtful reader and to the teacher who wishes to be more cognisant of the psychical processes involved in the art of pedagogy.

Diabetes: Its Nature and Treatment. What Diabetics Ought to Know. By the Hon. Dr. T. M. NAIR, M.D. Madras: Higginbothams, Limited. 1914. Pp. 147. Price 6*s.* 6*d.* net.—The author, an Indian, and an M.D. of Edinburgh, in the preface expresses the hope that his small book "will be of some little use in enabling the public to understand what has already been established, and to estimate what there is yet to be disclosed." On glancing it through to appraise its fitness as an enlightener of the public in those things that a patient ought to know, the first thing that struck us was two or three pages of graphic chemical formulæ illustrative of the difference between normal katabolism and its perversion in the production of acetone. The natural inference was that this was a specimen of the quasi-learned book making an *ad captandum* appeal to the public. Extended perusal, however, showed it to be really a conscientious and careful summary of present knowledge and theories in regard to diabetes in almost all its relations. A book whose author closes by describing it as a "short account of a disease whose etiology we do not know and for which we have no effective treatment" seems hardly ascribable to unprofessional motives. The frequency of diabetes in India gives point to the statement in the introduction that "an organised research into the etiology and pathology of diabetes ought to be conducted in India very much like cancer research or the campaign against tuberculosis in England." The book is written in excellent English and shows a discriminating study of a wide field of modern medical literature. We should prefer to describe it as indicating much that the diabetic's medical attendant, rather than himself, ought to know.

Nouveau Traité de Chirurgie. Publié sous la direction de A. LE DENTU et PIERRE DELBET. *Maladies de la Mamelle.* Par AMÉDÉE BAUMGARTNER, Chirurgien des Hôpitaux de Paris. Avec 56 figures dans le texte. Paris: J. B. Baillière et Fils. Pp. 339. Price, paper, 6 francs; boards, 7.50 francs. —In this volume of Le Dentu and Delbet's elaborate treatise on surgery Dr. Baumgartner has succeeded in putting into a comparatively small volume all the essential facts connected with the breast. The difficult subject of the classification of the tumours of the breast has been treated in a very satisfactory manner. Especially good is the account of the operative treatment of cancer of the breast. The illustrations are numerous, and altogether the work is of the high standard of the other treatises contained in this excellent system of surgery.

MISCELLANEOUS VOLUMES.

IN *The Struggle for Scutari (Turk, Slav, and Albanian)*, by M. EDITH DURHAM (Illustrated by photographs and sketches by the Author. London: Edward Arnold. 1914. Pp. 320. Price 14*s.* net), is presented a stirring account of the events of 1911–13 in Albania, as seen by one familiar with the country and people who had special opportunities for seeing and a capacity for appreciating the complexity of the problems involved. It is not a cheerful story by any means, with its recital of atrocities and duplicities, disgraceful alike to Christianity and civilisation, but practised apparently by all sides indiscriminately during the rising against Turkey, and the contests between the different subject races that shook off her yoke. The authoress herself felt that, in carrying out her work of relief to the sick and wounded and enabling them to return to the front, she was "not only prolonging the war, but aiding and abetting every kind of atrocity," and that she ought not to do so. Particular instances are given of Montenegrin and Servian barbarities which may rank with the "Turkish atrocities" that have long been considered by many English people to be characteristic of the Moslem. The author's conclusion is that no permanent solution of the Balkan question has been arrived at. "The ethnographical questions have been ignored. ...... The seeds have been sown of hatreds that will grow and bear fruit." There are many illustrations from the author's photographs and sketches.

Dr. A. B. Neligan is physician to H.M. Legation at Teheran, and has resided for some years in the country, so he writes with knowledge in his *Hints for Residents and Travellers in Persia* (London: John Bale, Sons, and Danielsson, Limited. 1914. Pp. 195. Price 5*s.* net.) Persia is somewhat of a *terra incognita* to most Britons, and Dr. Neligan's little book contains much useful information as to life and how to live in a country which is of interest in many ways. Persia is mainly a great elevated plateau, a certain amount of which is desert, but most of which (if irrigated) is extremely fertile, while the climate is very pleasant. True, the winters are severe and the summers hot, but the air is so dry that the heat is quite bearable. This, however, is not the case in the Caspian provinces and in the districts around the Gulf, where heat and humidity are combined. Dr. Neligan's hints and instructions as to food, housing, hygiene, and other matters are straightforward and sound, though on one or two points other observers may differ from him. First, as to food. In some parts of Persia, surely, food is good both in quality and variety. True, there is no beef, but always excellent mutton; about 12 different kinds of *pilaf*, almost all good; and vegetables in abundance. Fruit in the Urmi Plain, at any rate, is magnificent, and the chickens, even the post-house breed, are quite worth eating. Secondly, Dr. Neligan says that in his experience Persia is singularly free from fleas. The reviewer did not find it so. He remembers camping for the night about half-way between Urmi and Khoi, at a place where there were no houses but a ruined stone hut, and the ground simply shimmered with fleas. Persia is a delightful country in which to travel or reside, and for those who can appreciate colour in landscape we can imagine no more fascinating place. Dr. Neligan supplements his writings on Persia with instructions as to how to get there, but has omitted to give the route *viâ* Vladikafkas, the Dariel Pass, and Tiflis. If more expensive than some others, the magnificence of the scenery makes it quite worth while taking. This is a very interesting book.

It is fitting that a notice of a work on *Travel and Politics in Armenia*, by NOEL BUXTON, M.P., and the Rev. HAROLD BUXTON, with an introduction by Viscount BRYCE and a contribution on Armenian History and Culture by ARAM RAFFI (London: Smith Elder and Co. 1914. Pp. 274. Price 5*s.* net), should follow that dealing with travel and residence in Persia, for Persia and Armenia touch one another both geographically and in many ways politically. The greater part of the work deals with politics, and on this part of the book we can say nothing. But we can cordially recommend the book to all those who desire to know something of an ancient people with a most interesting history, while apart from the Armenians the description given of the Kurdish tribes is sympathetic and lifelike. We are glad to see that the authors highly appreciate the Armenian Liturgy, for to our minds it is singularly beautiful and only excelled among Eastern Liturgies by that of Malabar and among Western by the Mozarabic rite.

Lourdes, by JOHANNES JÖRGENSEN, translated from the original Danish by INGEBORG LUND (London: Longmans, Green, and Co. 1914. Pp. 195. Price 2*s.* 6*d.* net). There is less disposition in these days than formerly to deny the reality of the cures at times effected under the influence of strong emotion, religious or otherwise. The tendency of others than those whose religious principles, of whatever kind, are involved is rather to explain them as being due to subjective suggestive influence. In this book a sympathetic attempt is made to present a picture of one of the pilgrimages to Lourdes. The history of the shrine is recounted and the spectacle afforded by the pilgrimage is somewhat flamboyantly described, but when we come to look for happenings we are told only of a paralytic who became able to move her hand, a blind person who insisted that she had received her sight, but concerning whom the verdict of Dr. Boissarie, director of the Bureau des Constatations Médicales, was "Quite destroyed; impossible to see with those eyes"; and two cases of gastric ulcer in which at least a symptomatic cure apparently must be admitted. For the rest, recourse is had to the case-books of the Bureau des Constatations, from which are cited several cases, one of whom, Augusta de Muynck, was present to show that a cure effected during 1908 in 24 hours of a freely discharging abdominal fistula left after three laparotomies had been maintained. The descriptions of the cases generally are too diffuse and lacking in precision and the necessary knowledge of the relative importance of medical factors to be of much assistance to the inquiring medical man. The descriptive portion of the book, particularly the story of Bernadette Soubirous, by whose "vision" the grotto was made known, is readable enough.

JOURNALS AND MAGAZINES.

The Journal of Physiology. Edited by J. N. LANGLEY, Sc.D., F.R.S. Vol. XLVIII., Nos. 2 and 3. May, 1914. Cambridge University Press. Price 7*s.* 6*d.*—Further Observations on the Constricting Action of Adrenalin on the Cerebral Vessels, by Carl J. Wiggers. Adrenalin was perfused through the brains of animals removed from the skull after the manner described by Dixon and Halliburton. In all 13 experiments were made, and in eight of these adrenalin caused constriction of the cerebral vessels.—The Influence of Carbohydrate and Fat on Protein Metabolism: III., The Effect of Sodium Selenite, by E. P. Cathcart and J. B. Orr. The toxic effects of selenium have long been known. The authors' experiments were made on an Airdale bitch, weight 12 kilos. Throughout the series of experiments the protein content of the food was little altered, but the amount of carbohydrate was varied from 33 to 204 grammes per diem, while the fat content was varied inversely to maintain an approximate constant calorie value for the diet; sodium, 2 grammes per diem, was added to each diet. The methods used for estimating the urinary constituents are given in the text. The injection subcutaneously of a sublethal dose of sodium selenite produces salivation, vomiting, anorexia, and lethargy. The total N and urea outputs are raised as a result of the injection, a result most marked in experiments with carbohydrate-poor diets. There is no marked acidosis following the injection, as estimated by the output of ammonia, acetone, and aceto-acetic acid. After injection there is an immediate rise in the output of creatinin, with possibly a subsequent fall below normal. There is also a definite rise in the creatin output which cannot be explained by the presence of aceto-acetic acid. The output of creatin varies inversely with the amount of carbohydrate in the food. Generally it may be said that the toxic effect of the selenite was most marked when the diet was poor in carbohydrate.—The Cerebro-spinal Fluid: II., Cerebro spinal Pressure (C.S.), by W. E. Dixon and W. D. Halliburton. The C.S. pressure has been frequently measured previously, and is found to vary within considerable limits (40–72–200 mm. of water). It varies with the respiratory movements, with arterial blood pressure, with ether anæsthesia, with strychnine, and with many other factors. The authors measured the C.S. pressure by connecting a cannula inserted into the subcerebellar cisterna with a manometer containing salt solution. The movements were recorded by means of a Marey's tambour. The animals experimented on were dogs anæsthetised with morphine and urethane. Cerebral venous pressures were also recorded. Experiments were also made on the dead animal (killed by chloroform, hydrocyanic acid, or asphyxia), artificial respiration being kept up after death. The cerebral venous and C.S. pressures may or may not approximate to one another according to certain conditions, and the same rule holds true during life. The effects of changes in arterial pressure—e.g., hæmorrhage compressing blood-vessels, clamping both carotid arteries, stimulation of the vagus and sympathetic nerves—were studied, as were the effects of the C.S. pressure on cerebral venous pressure and *vice versa*. Next, the effects of substances that increase the cerebro-spinal secretion—choroid extract (intravenous injection), chloroform, and carbonic acid gas (inhalation)—were studied. The authors conclude that the C.S. pressure is an independent pressure, and that the factors determining its height are dependent on the rate of secretion and the rate of absorption of the fluid—i.e., it is an independent secretory pressure, although it may be influenced passively by circulatory changes. The effects of adrenalin, amyl nitrite, and pilocarpine were also studied. It has been generally held that the brain being incompressible, the total blood content is almost constant (Monro-Kellie doctrine). The authors come to the conclusion that the cranial contents cannot any longer be regarded as a fixed quantity without the power of expanding or contracting in volume. The C.S. pressure is influenced passively to a small extent by changes in the arterial and venous pressures, but such alterations are insignificant compared with the independent changes in pressure which occur as the result of secretory activity. Of all the conditions which influence the C.S. secretion the authors attach the most importance to deficiency of oxygen or excess of carbon dioxide in the blood.—Vaso-motor Nerves in the Lungs, by Enid M. Tribe. A considerable number of investigations have already been made on this subject since 1894. The method used consisted in artificial perfusion of the lung *in situ* with the defibrinated blood of the animal, the circulation being maintained by means of a small pump and glass valves, the animal itself (usually a cat) being immersed in a bath of 0·9 per cent. saline at 37° C. Various preparations of "adrenalin" were added to the blood in varying proportions. It was found that all preparations of adrenalin in amounts not less than 0·01 mgm., under normal conditions of pressure and temperature, produce constriction of the pulmonary vessels of dogs, cats, rabbits, guinea-pigs, and ferrets. The constriction is followed by a dilatation, best marked in cats. The minimum amount of adrenalin capable of producing constriction is 0·01 mgm., but dilatation is obtained with only 0·00002 mgm. The effects are due to action on the smaller arteries and arterioles, not merely on the pulmonary artery itself. Stimulation of the stellate ganglion produces slight motor effects. After ergotoxin the constrictor effect of adrenalin is lost, only dilatation being produced. It is concluded that the constriction is due to vaso-constrictor nerves of sympathetic origin.—On the Effects of Complete and Incomplete Castration upon Horn Growth, by F. H. A. Marshall and J. Hammond. The effects of removing in Hardwick sheep the testes, but retaining the epididymis, were studied. The authors' results clearly support the view that the testes elaborate one or more hormones which either directly or indirectly act as a stimulus to the tissues from which the horns develop.—The Carbon Dioxide Production of Heat Rigor in Muscle and the Theory of Intramolecular Oxygen, by W. M. Fletcher and G. M. Brown. This is a very important paper, as it practically disposes of the views of muscle physiology commonly associated with the names of L. Hermann ("inogen theory") and Pflüger ("intramolecular theory"). To grasp the importance of the question the whole paper with its critical discussions should be read. The CO_2 discharge of heat rigor—the discharge at temperatures between 40° and 100° C., and from heated muscle after survival in or without oxygen, after chloroform rigor, and after the addition of acid, were studied. The summary of the authors' conclusions occupies a page and a half. All the experiments point to the conclusion that in the muscle the respiratory oxidation process yielding CO_2 as an immediate product has its chief end in the supply of energy for replacing the lactic acid in the molecular position from which stimulation of same kind has displaced it, and there appears to be no reason at present for supposing that the material which is oxidised in the respiratory process is the same as, or related to, the material from which lactic acid appears, and into which, as it seems, it may again disappear.—Observations on Decerebrate Rigidity, by Lewis H. Weed. Decerebrate rigidity manifests itself as a prolonged enduring contraction of the extensor muscles. Experiments were made on about 50 cats. The effects of various cerebellar ablations on the rigidity, the pathway in the cerebellar peduncles, the mesencephalic reactions, and the inhibitory pathway were investigated. The author concludes that (1) the main reflex centre, and in that sense the source of decerebrate rigidity, lies in the mid-brain, and is probably the nucleus ruber; (2) the cerebellum forms a very important, if not absolutely essential, pathway for the afferent impulses from the limbs and trunk concerned in decerebrate rigidity; (3) the cerebellum forms an essential link in the inhibitory pathway from the cerebral cortex; and (4) the localisations of the cerebellum, as far as can be ascertained from study of the rigidities in various extremities, are not sharply circumscribed or very minutely differentiated.—Is Polished Rice plus Vitamine a Complete Food? by CASIMIR FUNK. Experiments were made on pigeons fed on "synthetical diet," and others on polished rice, and they all manifested typical beri-beri symptoms. Injections of the "vitamine-fraction" caused complete recovery. From these and other experiments the author concludes that polished rice and vitamine constitute a complete food, and that there is no justification at present to accept the necessity of two different vitamines, one for curing the nervous symptoms and one for the maintenance of body weight.

THE PREVENTION OF INSANITY.

ON July 16th a deputation waited upon Mr. Herbert Samuel, President of the Local Government Board, to advocate the provision of greater facilities for the non-compulsory treatment of early and uncertifiable mental cases. The following composed the deputation:—Sir John Jardine, M.P., Dr. Christopher Addison, M.P., Dr. W. A. Chapple, M.P., Mr. Percy Alden, M.P., Mr. J. W. Hills, M.P., Sir Henry Craik, M.P., Mr. T. E. Harvey, M.P., Sir Rickman Godlee, Dr. F. W. Mott, Dr. Howard Tooth, Dr. H. Sainsbury, Dr. Ivo Geikie Cobb, and Dr. S. E. White (honorary secretary). Lord Robert Cecil, M.P., had intended to be present, but was detained elsewhere, while Sir Francis Champneys, Sir Wilmot Herringham, and Dr. Grainger Stewart wrote expressing regret at being unable to attend.

Sir JOHN JARDINE, in introducing the deputation, read the following recommendation which has been widely signed by leading medical practitioners, and by 330 Members of Parliament of all shades of political opinion:—

"We, the undersigned, desire to advocate the provision of greater facilities for the treatment of incipient mental cases without certification. The strong popular prejudice, the loss of liberty, and the atmosphere of certified asylums combine to deter patients and their friends from seeking early and efficient treatment. We consequently recommend that certification should be restricted to those cases in which, from the serious nature of the malady, it has become necessary, and that incipient cases should have more opportunity of temporary preventive treatment in reception homes, observation wards of Poor-law infirmaries, or the wards of general or special hospitals."

The medical signatories to this recommendation are as follows:—

London: Dr. Edwin Ash, Miss L. B. Aldrich-Blake, M.S., Miss L. Garrett Anderson, Sir Thomas Barlow, Sir John Rose Bradford, Sir John Broadbent, Mr. C. A. Ballance, Mr. A. Boyce Barrow, Dr. S. H. Belfrage, Mr. Stanley Boyd, Miss A. Helen Boyle, Dr. E. Honor Bone, Dr. W. P. S. Branson, Dr. J. Mitchell Bruce, Dr. E. Farquhar Buzzard, Sir Francis Champneys, Sir W. J. Collins, Sir John Collie, Mr. James Cantlie, Dr. J. Walter Carr, Dr. Harry Campbell, Dr. J. Stansfield Collier, Dr. W. S. Colman, Dr. Dorothea Colman, Dr. F. William Cock, Dr. Ivo Geikie Cobb, Dr. E. Davies Colley, Dr. Maud M. Chadburn, Dr. James Calvert, Mr. H. Work Dodd, Dr. T. R. Elliott, Mr. Willmott Evans, Miss Frances Ede, Sir David Ferrier, Dr. H. Morley Fletcher, Mr. Percy Flemming, Dr. Emily E. Flemming, Dr. R. Hingston Fox, Dr. Selina Fox, Sir Rickman Godlee, Sir Alfred Pearce Gould, Miss E. Grace Garratt, Dr. Leonard Guthrie, Dr. Henry Head, Sir Victor Horsley, Professor W. D. Halliburton, Sir W. P. Herringham, Dr. George Johnston, Dr. H. Macnaughton-Jones, Dr. M. Sophia Jevons, Dr. W. Douglas Kirkwood, Miss Gertrude Keith, Mr. J. B. Lawford, Dr. Constance E. Long, Dr. Octavia Lewin, Dr. F. W. Mott, Dr. Sidney Martin, Sir Malcolm Morris, Dr. E. D. Macnamara, Dr. James Mackenzie, Dr. Hector Mackenzie, Dr. Isabella Macdonald, Dr. R. O. Moon, Dr. Hector Munro, Dr. J. B. Muirhead, Dr. C. M. Murrell, Dr. George Ogilvie, Dr. J. A. Ormerod, Dr. Frederick S. Palmer, Mr. J. Herbert Parsons, Dr. Arthur G. Phear, Dr. Winifred S. Patch, Dr. Henry Rayner, Dr. J. S. Risien Russell, Dr. Amand Routh, Sir George H. Savage, Dr. Mary Scharlieb, Dr. G. E. Shuttleworth, Dr. Agnes Savill, Dr. Harrington Sainsbury, Dr. Amy Sheppard, Dr. T. Grainger Stewart, Dr. Mary C. Scott, Dr. Purves Stewart, Sir John Tweedy, Dr. James Taylor, Dr. Frederick Taylor, Dr. Howard H. Tooth, Dr. W. Aldren Turner, Dr. Rose Turner, Dr. A. Campbell Thomson, Miss May Thorne, Dr. Samuel West, Professor A. D. Waller, Dr. Florence E. Willey, Dr. Hugh Wingfield, Dr. Jane Walker, Dr. Helen Webb, Dr. L. Woodcock, and Dr. A. Davis Waite.

Birmingham.—Mr. Gilbert Barling, Mr. Seymour Barling, Dr. Stanley Barnes, Mr. Frank Barnes, Mr. W. Billington, Dr. Guy J. Branson, Dr. H. Langley Brown, Dr. Violet A. Penrose Coghill, Mr. Alfred Paget Evans, Dr. Frederick Edge, Dr. J. G. Emanuel, Mr. J. Jameson Evans, Dr. F. W. Foxcroft, Dr. W. Pemberton Fooks, Dr. W. B. Featherstone, Mr. W. F. Haslam, Mr. George Heaton, Dr. R. Beatson Hird, Mr. A. E. W. Hird, Dr. John T. Hewetson, Mr. J. Fourneaux Jordan, Mr. F. Emrys Jones, Dr. O. T. Kauffmann, Dr. William Lamb, Mr. Albert Lucas, Dr. Edward Malins, Mr. Christopher Martin, Mr. F. Marsh, Mr. J. T. J. Morrison, Mr. G. Percival Mills, Dr. W. J. McCardie, Dr. Caroline E. O'Connor, Dr. Leonard G. Parsons, Dr. C. E. Purslow, Dr. W. A. Potts, Dr. James W. Russell, Dr. John Robertson, Sir Robert M. Simon, Dr. Robert Saundby, Dr. C. W. Suckling, Dr. J. Douglas Stanley, Dr. James E. H. Sawyer, Dr. Mary D. Sturge, Dr. Peter Thompson, Dr. Thomas Wilson, Mr. Beckwith Whitehouse, Dr. E. Wood White, Dr. Beatrice Webb, and Dr. William H. Wynn.

Liverpool.—Dr. John Hill Abram, Sir James Barr, Dr. Thomas R. Bradshaw, Mr. H. Briggs, Dr. Robert J. Buchanan, Mr. Thomas H. Bickerton, Dr. J. M. Beattie, Dr. Richard Caton, Dr. T. B. Grimsdale, Dr. A. Gordon Gullan, Mr. Damer Harrisson, Dr. John Hay, Miss Frances Ivens, M.S., Dr. Charles McAlister, Dr. J. C. McDougall, Dr. Benjamin Moore, Mr. R. W. Murray, Mr. Rushton Parker, Dr. W. Permewan, Mr. Frank T. Paul, Dr. Nathan Raw, Mr. Charles H. B. Shears, Dr. G. Stopford Taylor, Dr. W. B. Warrington, Dr. J. Hayward Willett, and Dr. Courtenay Yorke.

Manchester.—Dr. Judson Bury, Dr. J. Grey Clegg, Dr. Catherine Chisholm, Dr. J. R. Carver, Dr. H. Cully, Dr. Archibald Donald, Professor Sheridan Delépine, Dr. A. Hill Griffiths, Dr. A. Emrys-Jones, Dr. C. Paget Lapage, Dr. Charles H. Melland, Dr. F. Craven Moore, Sir William Milligan, Dr. Ernest S. Reynolds, Dr. S. M. Ross, Dr. Arthur Sellers, Dr. W. Fletcher Shaw, Dr. E. J. Sidebotham, Mr. W. Thorburn, Mr. F. H. Westmacott, Dr. Robert B. Wild, Mr. Philip R. Wrigley and Mr. Garnett Wright.

Leeds.—Dr. Alfred G. Barrs, Mr. L. R. Braithwaite, Dr. de Burgh Birch, Mr. Edward W. Bain, Dr. T. Churton, Professor Cameron, Mr. Harold Collinson, Dr. E. O. Croft, Mr. J. A. Coupland, Mr. J. F. Dobson, Mr. T. W. Daw, Dr. T. Wardrop Griffith, Dr. John B. Hellier, Dr. J. K. Jamieson, Mr. R. Lawford Knaggs, Dr. Carlton Oldfield, Dr. M. Phillips, Dr. Henry S. Raper, Mr. E. Robinson, Dr. W. H. Maxwell Telling, Dr. Rawdon A. Veale, Dr. C. Wilfred Vining, Dr. George W. Watson, Mr. Henry Secker Walker, Dr. A. L. Whitehead, and Dr. W. McGregor Young.

Sir JOHN JARDINE said that the view of the committee which he represented was embodied in the following memorial:—

> We respectfully urge that the Local Government Board should, with a view to the prevention of insanity, enable and encourage county and borough councils and other local authorities to supply or aid the supply of homes intended for the treatment of early and uncertifiable mental cases at the period when they can most easily be cured, such institutions to be subject to the approval of the Local Government Board. That patients (if suitable) should enter such homes as they would enter a hospital—i.e., on an absolutely voluntary footing, and without certification, authorisation, or compulsion. They should be controlled during their stay by the rules of the institution, but be free to leave it after giving a specified notice. Unless urgency demands certification and immediate removal to an asylum, no patient who has entered shall be certified except by independent doctors after his departure from the institution. Private patients would pay on terms similar to what they now pay in county asylums. Pauper patients of the class who are now received for observation in Poor-law infirmaries, and who are found not to be certifiable, should receive treatment appropriate to their case. Both private and pauper patients should be dealt with on modern hospital lines.
>
> No change is proposed in the lunacy laws or in their administration.
>
> The object of the treatment here recommended is to prevent people becoming certifiable. It is particularly desirable that these institutions should not be regarded as "half-way houses" to asylums. With a view to encouraging the public to come to them for the early treatment which is so necessary as a preventive of insanity, it is essential that the institutions here proposed *should be kept wholly outside the jurisdiction of the Board of Control.* The patients contemplated are not in any sense "mentally deficient," neither have they been certified as "of unsound mind." Hence the Board of Control, whose function it is to deal with people belonging to the aforesaid two classes, is not concerned with individuals such as are here described *previous to certification.*
>
> We would also respectfully urge that the Local Government Board, as the authority concerned with public health, has an interest in encouraging the prevention of all forms of illness, bodily or mental, which may result in those who are affected by them becoming a permanent charge on public funds. We cannot regard with idle complacency the annually increasing and alarming accumulation of the registered insane in our asylums. The spread of insanity is not being checked by the way in which it is at present treated. Some measure is required of farther reaching scope, which shall antagonise the causes that lie at the root of early mental instability. We would point out that a preventive measure of this nature, if successful, would not only be a great gain to the community, but would materially reduce the expenditure on costly asylum accommodation which has become a burden pressing very heavily upon the rates.

Dr. CHAPPLE and Dr. MOTT spoke in support of the memorial, and Mr. HERBERT SAMUEL, in his reply, noted that the essential feature of the recommendation now made to him was that the measures were to be taken apart from the Board of Control—that is to say, outside the jurisdiction of the Lunacy Commission. If legislation were needed to carry out this purpose he feared that the prospect for the immediate future was not rosy, since Parliament was already overburdened with work; but much might be done, he thought, along the lines suggested, by administrative action. He would direct the medical department of the Local Government Board to inquire carefully into the problem and communicate with the Board of Control and to report to him upon the subject. An inquiry of this kind seemed to him necessary in order to ascertain the facts, to find out what experience had been gained elsewhere, and along what lines they should proceed administratively in default of legislation. Having carefully considered the weighty memorial submitted to him, he would not hesitate to take administrative action.

THE NEW EAST SUSSEX HOSPITAL AT HASTINGS.—The Duke of Richmond and Gordon, Provincial Grand Master of Sussex, laid the foundation-stone, on July 15th, of the new East Sussex Hospital at Hastings with masonic ceremonial. The old building has been found to be quite unadaptable for present-day requirements, and the new building, besides providing for modern requisites, will be a memorial to King Edward VII. The cost of the new hospital will be £50,000, of which a sum of about £18,000 is needed.

BRITISH PHARMACEUTICAL CONFERENCE.

FIFTY-FIRST ANNUAL MEETING.

THE British Pharmaceutical Conference inaugurated the second half century of its existence by the annual meeting which was held at Chester on July 21st and 22nd.

Mr. E. H. Farr, the President, one of the most persistent of the research workers in the pharmaceutical field, dealt in his presidential address with recent work on plant products. During the past 15 years, he said, a great amount of attention has been devoted to the study of the chemistry of plants and their products, as used in commerce, the arts, and in medicines. A great advance has been made in the direction of establishing the relationship existing between allied substances found in the same or different plants, ascertaining their chemical constitution and decomposition products, and thus making practicable a considerable degree of classification, depending on the presence of definite chemical groupings common to the members of certain classes. The physical constants and general reactions of an enormous number of compounds have been recorded, and the existence of these records very considerably facilitates the work of identification of the ultimate products of plant analysis. After dealing with the classification of the alkaloids and referring to the work done in connexion with carbohydrates, fats and oils, the glucosides and the enzymes, Mr. Farr drew attention to the stabilisation of drugs—that is, the rendering permanent of the easily decomposed natural combinations in which the active constituents of plants occur by the destruction of the ferments which cause deterioration. This process, in Mr. Farr's view, will become an important phase in the pharmaceutical practice of the future, but seeing that our drugs have gained their repute on the strength of non-stabilised material, it behoves us, he thought, not to be too hasty in altering the whole of our methods; and in any steps to be taken the medical profession should, he suggests, be called on to coöperate by submitting the products to pharmacological test and to clinical practice. At the present time Mr. Farr thinks we might with advantage proceed to stabilise our liquid extracts and concentrated infusions, the proportion of alcohol in most of these preparations being too low to stop the action of any enzyme present. "Strictly speaking," he said, "these matters should be in the province of a Pharmacopœial Committee, representing the medical profession and our own calling, and the funds proceeding from the sale of the Pharmacopœia should be devoted exclusively to defraying the expenses connected with its production, including the investigations required in that connexion. Hitherto practically all the work done with the object of bringing the volume up to date has been undertaken by manufacturing firms and by private pharmacists, their suggestions later on being adopted by the editors appointed by the General Medical Council to draft the monographs and edit any new edition."

Sixteen papers were communicated to the Science Section. Mr. H. Finnemore and Mr. E. Williamson contributed a paper of no little usefulness to prescribers, the subject being "The Incompatibility of Strychnine and Nux Vomica with Alkalies, Iodides, and Bromides." Very few systematic experiments have been recorded respecting the limits in which strychnine may be dispensed with alkaline substances without precipitation, and the series of investigations conducted by the authors shows that, speaking generally, there is a great difference between the amount of strychnine hydrochloride that can be administered with alkalies when in solution in water and when in the form of the tincture or the liquid extract of nux vomica. In the first case, should crystallisation occur, the alkaloid is deposited in well-defined crystals, which are in some cases fairly large, while with nux vomica preparations, although there is often a deposit, this is usually amorphous and does not appear to be alkaloidal. Of these two the tincture would appear to be the safer, because the alcohol in the latter retards crystallisation. The most striking feature of the experiments is the difference in the behaviour towards alkalies of strychnine in the form of the solution and that existing in its natural state in admixture or combination with those other ingredients of nux vomica seeds which are extracted with alcohol. It appears that whereas strychnine and alkalies or iodides may become dangerous under varied and indeterminate conditions when the drug is given in the form of the tincture or liquid extract, no precipitation occurs and no danger need be apprehended provided the concentration is not greater than that found under normal conditions of prescribing and dosage.

Mr. Finnemore also contributed a useful paper on the Anæsthetic Ether of Commerce. Although not recognised by the current Pharmacopœia, anæsthetic ether of commerce is largely prepared from industrial methylated spirit; the author examined the products of practically all the British makers, and "it is only fair to say that, while some samples have been rather inferior in the main, they have reached a very fair average of purity." Incidentally, it is interesting to note that the odour of ether is a very useful guide to its purity. Quite a good idea of its relative freedom from impurities may be obtained by pouring 2 c.c. or so into the hand and allowing it to evaporate, and noting the odour and that of the residue. A number of ethers in actual use as anæsthetics leave a residue which is quite pungent, and from some the residue produces violent sneezing.

Liquid extract of male fern is one of the most nauseous drugs in the British Pharmacopœia, and it is not an easy matter to present it in a palatable form. In his paper on the subject Mr. F. W. Crossley Holland suggested that it should be administered in the form of a jelly, the following being the formula:—

Liquid of extract of male fern	90 minims.
Gelatin	56 grains.
Glycerin	1 drachm.
Elixir of saccharin	5 minims.
Oil of cinnamon	1½ "
Water	265 "

These ingredients manipulated by an experienced dispenser form a not unpalatable preparation.

With the object of removing the uncertainty concerning the composition of "tinctura iodi decolorata," investigations were undertaken in the Pharmaceutical Society's Chemical Research Laboratories by Mr. W. R. Pratt, who communicated the results of his experiments. He finds that the finished tincture is an alcoholic solution of ammonium iodide with excess of ammonia, containing about 0·1 per cent. iodoform and in some cases traces of ammonium iodate, hydroxylamine, and acetaldehyde.—Commercial standards for "dried magnesium sulphate, sodium sulphate, and sodium phosphate" were suggested by Mr. J. C. Umney and Mr. C. T. Bennett. who pointed out that commercial samples of these dried salts are not of constant composition.

Owing to a shortage in the supply of belladonna leaves adulteration has, especially of late, been largely practised. In a paper dealing with this question Mr. G. Stafford Allen and Mr. H. Deane brought together a description of the chief diagnostic characters of these substitutes. The adulterants found were phytolacea decandora, scopola carniolica, and ailanthus glandulosa, and samples offered as belladonna leaves have consisted of pure scopola, mixtures of phytolacea and ailanthus, and mixtures of belladonna with each of these substitutes, the proportion of substitute varying from about 20 to 80 per cent.

In a paper entitled "The Purity of Pepsin, Bacteriologically Considered," Mr. E. Quant reported on 11 samples of pepsin in powder and scales from English, American, and continental sources which he had investigated with a view to determining their bacteriological condition. His conclusion is that the bacteriological purity of pepsin is hardly satisfactory, but that scale pepsins are superior to the powders, those which showed an acid reaction being preferable.

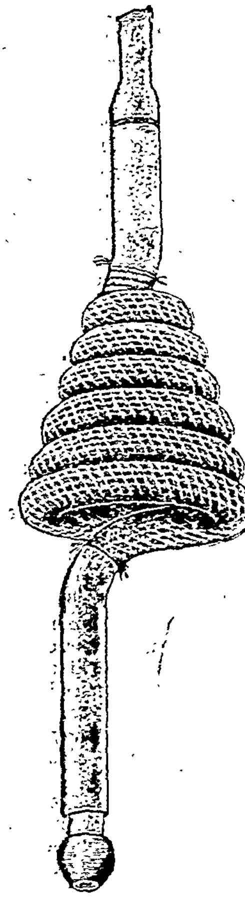
Mr. R. R. Bennett and Mr. T. T. Cocking suggested an improved process for the preparation of "liquor opii sedativus."

The titles and authors of the other papers read in the Science Section were as follows:—The Rate of Dialysis of Alkaloids in Aqueous Solution and in the Form of Galenicals, by H. Finnemore; the Analytical Characters of Benzoin, by T. T. Cocking and J. D. Kettle; the Mineral Constituents of Certain Tinctures and Drugs, by S. Judd Lewis; the Stability of Cinnamic Aldehyde, by H. A. Phillips; the Determination of Iron in the Presence of Phosphorus, by C. E. Corfield and W. R. Pratt; the Place of Carbon Disulphide in Official Pharmacy and Suggestions for its Further Use, by F. H. Alcock; the Composition of the Glycerophosphates of Commerce, by J. C. Umney and C. T. Bennett; and Some Uses of a Tincture Press, by E. W. Pollard.

New Inventions.

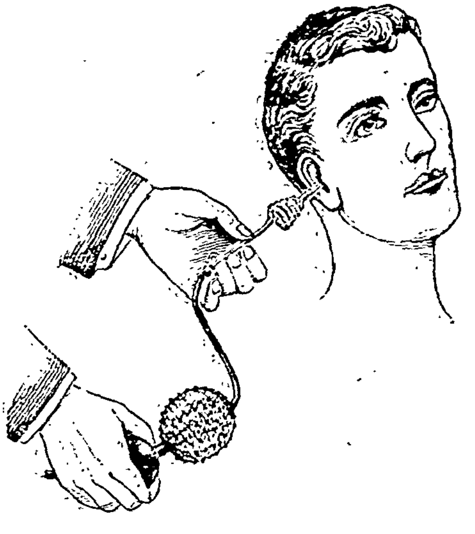
A COLD AIR LABYRINTH TESTING APPARATUS.

FIG. 1.



THE value of the caloric test for the activity of the vestibular section of the internal ear is now well established. It is at present mainly carried out by the irrigation of the ear with cold water, and, as a rule, the data are in every way reliable. At the same time the use of fluid injections into the ears is contra-indicated in various conditions, such, for instance, as the presence of a perforation in the tympanic membrane after an acute or more often a chronic suppuration in the middle ear has subsided; in such circumstances a liquid injection tends to reawaken the suppuration. Of course, if it enters a deep-seated cavity in which cholesteatoma formation is going on, the distension and pressure induced may be followed by serious or even fatal consequences. A convenient means of insufflating cold air instead of injecting cold water must have been a desideratum in the minds of many practitioners, as it has been in that of the writer. To supply this want he has devised the apparatus illustrated, which he thinks meets the requirements of the case in so far as it can be employed either on a normal membrane or on one which is perforated, either with or without persistence of suppuration. Again, it can be used with the head placed in such a position that the ear under investigation is directed downwards, which, though not impossible with water tests, is, to say the least, extremely inconvenient. The apparatus consists essentially of a tube of good conducting metal; aluminium has hitherto been used but copper has been found preferable. This is covered with absorbent linen webbing and is coiled in the form of a hollow cone. The covering is well wetted with chloride of ethyl and air is then blown through the tube by means of an ordinary spray bellows. When the air blown on the cheek is felt to have reached a high degree of coldness it is introduced into the meatus of the ear in such a direction that the cold blast impinges directly on the tympanic membrane. Inflation is continued until nystagmus is or ought to be induced. The free extremities of the tube are insulated by means of indiarubber tubing and a portion projects beyond the metal for insertion in the ear; the distal part of this is separated from the rest and can be easily changed to meet æsthetic or aseptic requirements. When the bore of the metal tube was as at first uniform the air entered in a somewhat pumping way into the ear, and this was found to be extremely disagreeable; in order to make the flow of air gentle and continuous it was only necessary to use a fairly strong secondary bag to the bellows and to choke very considerably the bore of the proximal end of the metal tube. When the instrument is thus arranged the maximum of coldness is obtainable in from 12 to 15 seconds and is kept up for about 75 seconds, when more chloride of ethyl can be added easily. In most normal cases the nystagmus is induced in an average of 30 seconds, the head being thrown back 60 degrees beyond the vertical and the eyes being intermittently directed towards the opposite side at an angle of 50 degrees from the middle line (Brüning's optimum position) and up to the ceiling. Fig. 1 shows the cold air labyrinth testing apparatus and Fig. 2 the mode of employing the apparatus. (The patient's eyes ought to have been depicted looking further towards the left.)

FIG. 2.



The apparatus in its present form has been constructed by Messrs. Allen and Hanburys, Limited, of Wigmore-street, London, W.

DUNDAS GRANT, M.A., M.D., F.R.C.S. Eng.

Cavendish-square, W.

RADCLIFFE INFIRMARY, OXFORD: COMPLIMENTARY DINNER TO MR. HORATIO P. SYMONDS.—On the evening of July 16th a dinner was given at Christ Church by the committee and the medical staff of the Radcliffe Infirmary to the senior surgeon, Mr. H. P. Symonds, on the occasion of the presentation to the infirmary of a portrait sketch by Mr. J. S. Sargent, R.A. Among those present in addition to the medical staff were the mayor of the city, the president of Magdalen, Mr. Gamlin, the treasurer of the infirmary, the secretary, Captain G. C. Rynd, and a number of old house physicians and house surgeons, the senior of whom was Mr. A. Winkfield, to whom Mr. Symonds was originally apprenticed. Sir William Osler, in presenting the portrait, remarked that Mr. Horatio Symonds was the seventh surgeon in direct succession from Richard Symonds, who practised at Atherstone, in Warwick, in the early part of the seventeenth century. His son Joshua was a surgeon at Shrewsbury; the third, John, practised at the same place; and the fourth, also a John, at Kidderminster. His son John practised at Oxford, and was the father of Frederic, for many years a surgeon to the Radcliffe Infirmary, whose son Horatio succeeded him. For three centuries the Symonds had served the public of that part of England in the capacity of surgeons. A son of the first John who settled in Oxford, John Addington, who practised at Bristol for many years in the middle of the last century, became one of the most distinguished physicians of his generation. His son, of the same name, became the interpreter of the Italian Renaissance to the last generation, and his daughter, Mrs. Green, a member of the committee, was one of warmest friends the infirmary had ever had. Horatio Symonds studied at University College, and after qualifying in 1874 settled in practice with his father, and soon became the leading surgeon of the Oxford district. He was elected on the staff of the infirmary in 1878, and was largely instrumental in introducing the new methods of Listerian practice. It was well known that it was through his influence that the late Mr. Briscoe left the infirmary the large sum of nearly £65,000, which had made possible the recent additions. Sir William Osler then read an exceedingly gracious letter from Mr. Sargent, to whom the company voted their hearty thanks for the splendid representation of the well-known features of their old and valued friend.

THE LANCET.

LONDON: SATURDAY, JULY 25, 1914.

A Week of Congresses.

NEXT week will be a very busy one in the medical and scientific world. Two congresses of first-class medical importance will be proceeding in the United Kingdom—viz., the British Medical Association, which holds its eighty-second annual meeting at Aberdeen, and the Clinical Congress of Surgeons of North America, which holds its fifth annual session in London. During the same week the French Association for the Advancement of Science is meeting at Havre and welcoming many members of the kindred British body who are unable to be present at the annual meeting which this year takes place in Australia. The programmes of the two medical congresses have for some time been before our readers, who know therefore the particular fields of medicine, surgery, and pathology that it will be designed especially to cover, and who know also that the activities of the British Medical Association are every whit as pronounced in the direction of medical politics as in that of scientific progress. We are leaving out of consideration here the political functions of the British Medical Association, and considering the two medical Congresses as designed especially to further medical knowledge, to standardise clinical achievement, and to explain technique and procedure.

In each case the Congresses will follow what has now become a formal arrangement in the conduct of such gatherings. At the meeting of the British Medical Association the plenary addresses are three in number and will be delivered by Sir ALEXANDER OGSTON, the President, by Dr. A. E. GARROD, who will deliver the address in Medicine, and by Sir JOHN BLAND-SUTTON, who will deliver the address in Surgery. Then the work of the meeting will be done in sections, at which presidential addresses of varying importance will be delivered, the different presidents interpreting their duties to the chair as they choose. Thereafter certain set subjects will be debated in the particular sections, the initiation of the discussions having been committed to selected observers. The remaining time of the session will be occupied as usual by the reading of independent papers, which have been approved of as suitable, and for the communication of which time can be made. Roughly this pattern will be followed at the American Congress, although here we have the organisation applied to one subject, that of clinical surgery. Here also we have preliminary addresses delivered by Sir RICKMAN GODLEE, chairman of the London Committee of the Congress; by the Hon. W. H. PAGE, the American Ambassador; and by Dr. G. E. BREWER, of New York, and Dr. G. E. ARMSTRONG, of Montreal, respectively the retiring President and the Vice-President of the Congress. In addition to these preliminary and official addresses there will be clinical addresses by Professor VON EISELSBERG, of Vienna, who will speak on the choice of operation in ulcer of the stomach; and by Dr. J. B. MURPHY, of Chicago, the President for the year, who will open a debate upon the limitations and technique of arthrodesis and bone-transplantation. In both the general and special surgical divisions of this Congress important subjects have been selected for debate, and the discussions will be opened by men who are famous for the work which they are doing and the views which they hold. But the American Congress is a clinical rather than an academic one, and its work will therefore be supplemented by a remarkable series of hospital visits such as would not be possible in connexion with any but a well-defined special gathering held in a great capital city. The main hospitals in London have offered their clinical practice for the inspection of the members of the Clinical Congress of Surgeons of North America, when opportunities for observation and informal discussion will arise among men exceptionally qualified both to give information and to sift it when given, such as must be absent as a rule from any mere general scientific gathering. Chances will thus obtain for the clearing up of doubts among the protagonists of different views, additional to those offered by set debates.

The utility of scientific congresses, whether international or domestic, general or special, has been challenged of late on the ground that far too much is said at the meetings that is not of any importance. The same judgment has at different times been passed upon gatherings as important as those of the British Association for the Advancement of Science, as well as upon the numerous semi-popular congresses now being held with frequency in this country. Those who follow this line can find much to support them, but in our opinion, when medical congresses are in question, the critics do not take sufficient account of the care that has been expended lately in the organisation of these gatherings to suppress loose and desultory talk, to check the recording of experiences that are not to the point, and to prevent the laborious refutation of views that are no longer held. Every year the attempts are multiplied to make medical congresses into meetings of thinkers and doers by employing some such scheme of arrangement as that which has been already indicated and under which certain points only, at any rate in any set programme, come up for debate. But it must be admitted that the critics sometimes have right on their side when they say that despite all pains thus taken a large amount of time may be wasted. We do not think it therefore irrelevant to suggest to those who intend to take an active part in the congresses now imminent that they should assist the organisation of the meetings by conciseness in their communications and brevity in their speeches.

The Report of the Chief Inspector of Factories.

THE report of the Chief Inspector of Factories and Workshops for the year 1913, which has just been issued, will be welcome to all who are interested in the relation which exists between industrial employment and disease. This report bears evidence of excellently designed administration, of careful study of the conditions affecting safety and health, and of efficiency in the methods adopted to limit as far as possible the injuries which result from industrial occupations. Sir ARTHUR WHITELEGGE'S period of office has been characterised by marked advances in the knowledge of industrial disease and of the methods by which it can be controlled, and his present report affords evidence of the progress which is continuously being made in these directions. Some idea of the extent of the work which devolves upon the department is shown by the number of premises which come under its supervision, this number amounting in the year 1913 to over 250,000. In these factories and workshops all the conditions affecting health are under the observation of the staff of the inspectors, who thus become responsible for pointing out defects in lighting, ventilation, humidity of atmosphere, and the safeguarding of the persons employed against accident, whether from machinery or other source of risk to life and limb; they have also to deal with the enforcement of special rules for occupations which are known to have particular risks associated with them. But beyond this it is the duty of the department to make continued search for variations in health which may have relation to industrial processes; and previously unrecognised pathological conditions are from time to time found in this way and appropriate preventive measures adopted.

Among subjects which deserve attention in the report we may refer to an account by Dr. E. L. COLLIS of illness among the workers in one factory in which it was eventually found that both lead and antimony had been concerned in producing somewhat complex symptoms in those engaged in dealing with yarn dyed with yellow chromate of lead and other yarn in which antimony salts are used. Dr. COLLIS writes that "possibly in those cases in which lead poisoning was diagnosed the symptoms were complicated by the presence of subminimal doses of antimony, and in the other cases of illness subminimal doses of lead rendered toxic doses of antimony which might not otherwise have been so." The same observer has continued his investigations into the relation between mineral dust and pneumoconiosis, but has found no reason for modifying the views he expressed in his paper on the effects of dust in producing diseases of the lungs, read last August at the Seventeenth International Congress of Medicine.[1] The paragraphs in the report relating to this subject compare the death-rates from phthisis among men engaged in working oolitic limestone, which are about 1·5 per mille, with the death-rates prevailing in Derbyshire for persons employed in and about gritstone (with free silica up to 95 per cent.), whose phthisis death-rate is over 13 *per mille*. The importance of maintaining close observation in respect of the dependence of miner's phthisis upon the presence of silica in the stone which is being worked cannot be overrated. Reference is again made in the report to "weaver's cough" which had previously been the subject of a special report by Dr. COLLIS during the year.[2] This malady appears to be dependent upon inhalation of a mildew, probably a particular mildew in the warp or weft. It is suggested that the introduction of antiseptics into size should solve the problem for warp threads, but it is no use for weft threads, which are not sized. The malady is only occasionally found, and it is evidently one which should be borne in mind by all engaged in the weaving industries. Account is given of 70 cases of anthrax which were reported during the year with 7 deaths. This number is in excess of those of previous years, a fact due to increase in the cases of disease contracted from wool, probably East Indian wool; and reference is made to the tests of the Anthrax Investigation Board to decide whether steam disinfection of wool is practicable or not. In one case salvarsan was inoculated but with fatal result, apparently due to inability of the kidneys to eliminate the salvarsan after its action on the anthrax bacilli had been completed.

The above are necessarily illustrations only of the subject matter which is dealt with in the report of the Chief Inspector of Factories and in the valuable communications presented by Dr. T. M. LEGGE, the medical inspector. They suffice to show the comprehensiveness of the work of the department and the thoroughness with which it is being performed. It cannot be doubted that this work contributes substantially to improvement in the health of the large section of the population engaged in industrial occupations. It is particularly satisfactory that the spirit of research should so thoroughly permeate the labours of Sir ARTHUR WHITELEGGE and his colleagues. This is no red-tape administration, but an enlightened struggle to relieve the drawbacks and guard against the injuries which are incidental to factory life.

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[1] THE LANCET, August 16th, 1913, p. 433.

[2] THE LANCET, Feb. 22nd, 1913, p. 551.

Annotations.

"Ne quid nimis."

THE MEXICAN SITUATION FROM A MEDICAL STANDPOINT.

FOR some time certain political parties in the United States have been calling loudly for a war with Mexico on the plea of "vindicating the national honour." With the rights or wrongs of the dispute between these nations we are not at present concerned, but our attention has been drawn to the medical aspects of the position by an article published recently in the *American Journal of Tropical Diseases and Preventive Medicine* entitled "The Mexican Situation," by Dr. Howard D. King, of New Orleans. In this article the attitude of these bellicose parties in the United States is sharply criticised, it being evident that while calling for war they do not realise the grave consequences that must inevitably follow. In Dr. King's opinion all thinking men must view with horror and dread the prospect of such a war, with the certainty of war's grim ally, pestilence, also taking the field. Behind the looming presence of war stalk the shadows of epidemic disease. The medical profession in the United States is aware, for example, that two of the most serious epidemic maladies, plague and yellow fever, are at present exhibiting signs of activity which forebode mischief, more particularly to the Southern States of the Union. It is common knowledge that the prospect of one or both of these dangerous diseases extending beyond their present limits is just now causing some anxiety in official circles; and it is generally recognised that if the United States are plunged into a war with Mexico the spread of the infection would be greatly facilitated. The present plague situation in America was dealt with in THE LANCET of July 11th, and the position as regards yellow fever is also somewhat gloomy, judging from current reports. If it became necessary to land large bodies of non-immune troops on the shores of Mexico, in parts of which yellow fever is endemic, it would be very difficult to prevent the development of a serious epidemic of the disease, with probable conveyance of the infection to the Southern ports of the United States. The way in which small-pox and enteric fever harass armies in the field is now well recognised, and although vaccination on the one hand and antityphoid inoculation on the other might diminish the dangers, yet it is more than probable that these beneficial procedures would not be generally carried out during the bustle and excitement of dispatching an expeditionary force to the seat of war. Small-pox is already prevalent on the Northern frontiers of Mexico among the refugees from those parts of the interior where military operations are being carried out. At the port of Vera Cruz, now occupied by a United States force of soldiers and sailors numbering nearly 30,000, small-pox is also prevalent; and diarrhœa and dysentery, it is reported, have increased of late. Apart from the ravages of epidemic and other diseases there would have to be reckoned, in the event of a war, the deaths and disablements upon the field of battle. The medical mind can best appreciate the horrors of war and the advantages of dealing with disputes by diplomacy rather than by the edge of the sword. The soldier takes a more sanguine and professional view of the case, and naturally prefers a settlement by force of arms. In this connexion Dr. King remarks: "War means devastation and blood, depopulated fields and smoking villages; the acclamation which the conqueror wins from one portion of his species is answered by the curses and execrations of another; the laurels of the warrior are always bedewed with the tears of widows and orphans; the delusive splendour, the proud and imposing array with which he contrives to gild the honours of his profession, are but the pomp and retinue of the Prince of Terrors; Disease, the warrior's faithful ally, is the King of Terrors." It is greatly to be hoped that, in spite of the cavils of political malcontents, President Wilson will persevere as far as practicable in his peaceful policy, which will ultimately assure in all probability the deliverance of the United States from what Dr. King designates as "a most frightful visitation of epidemic disease." The recent retirement of ex-President Huerta from Mexico should remove many of the obstacles to peace and thus prepare the way for a satisfactory settlement of the protracted dispute between these two determined nations; at the least it should postpone for a time the threatened war and its direful consequences.

CLARET AS A BEVERAGE.

WHEN, for varying reasons, a wine is to be selected because it contains the least amount of sugar, of alcohol, and of acid, the choice should obviously fall upon claret, for analysis shows that the percentage of these substances is lower in Bordeaux than in any other wines. It is quite a common impression, however, that the white wines of the hock and moselle type are more innocent than other wines in these three respects. That is not the case, although we are finding no fault with these wines. To not a few people claret appears to be a sour-tasting wine simply because it contains no sugar to speak of, which in other wines masks the acidity present. Claret is practically a finished wine—that is to say, the original sugar of the grape is for all intents and purposes completely changed by fermentation, and as the original strength of the Médoc grape juice as regards sugar is relatively weak, the amount of alcohol produced is correspondingly small. The production of claret is perhaps the simplest example of wine making. It is purely fermented grape juice with nothing added and nothing deducted. When therefore a wine becomes the subject of a prescription it would appear that we are on safe grounds dietetically when we recommend claret if qualities like freedom from sugar and from an excess of alcohol and acidity are characteristics to be sought for. When a stimulant is ordered it has been customary for some time past to recommend weak whisky and water as a safe beverage. The danger here, however, is that of overstepping the alcoholic allowance. The simplicity of genuine claret is accountable for its well-known sensitiveness, which perhaps has brought it into disfavour in some quarters. Its flavour is peculiarly evanescent and delicate and is easily spoiled by careless management. But the fact that claret will not keep sound more than a few hours after opening precludes the suggestion of preservatives, including extraneous alcohol, being added. As a rule the best clarets are the most liable to become unsound. The coarse fortified clarets keep longer for obvious reasons. Connoisseurs value sound claret for its exquisite flavour and delicacy of character. Not so many years ago the fine wines of the Médoc, including all the superior classed growths or "crus," but not them alone, commanded relatively big prices, but nowadays many excellent wines can be purchased showing all the pleasing qualities of the genuine high-class Médoc wines at a very reasonable figure. It is surprising that the medical profession and the public do not realise this fact. Excellent genuine wines, especially of the vintages 1907 and 1909, from the best districts of Médoc and St. Emilion, and embracing such well-known growths as the Châteaux Giscours, Beychevelle, Léoville, Cos d'Estournel, L'Evangile, and others, are now to be had at prices not exceeding 30*s.* per dozen, while there is a large choice of wines of exceptional quality at considerably lower prices. No apology for bringing these facts forward is needed in view of the dietetic virtues of these wines. It is very doubtful, according to our experience, based in part upon laboratory examination and in part upon the evidence of the palate, whether the supply of sound and really superior clarets was ever so good, so cheap, and so plentiful as it is now, and from the point of view of alcohol it is safe to say that if for beverage purposes at dinner or luncheon claret were substituted for diluted spirits, liqueurs, and so forth, there would be much less alcohol consumed, to the unquestionable advantage of the consumer. Also the æsthetic palate would gain by those agreeable wholesome impressions which good Médoc wines are invariably capable of giving, and appetite is thus helped. A sound claret, according to the foregoing considerations, may almost be placed in the temperance category by reason of its low alcoholic strength, and we are not disposed to think that in drawing attention to the good value in choice clarets now available to the public any possible injury to the cause of temperate living, which all reasonable persons have at heart, can arise.

A NEW TEST FOR MORPHINE.

IN a preliminary report, published in the *Medical Chronicle* for July, Dr. T. H. Oliver, medical registrar at the Manchester Royal Infirmary, describes a new reaction of morphine and its salts which may turn out to be exceedingly useful to analysts. If to a solution of morphine a few cubic centimetres of hydrogen peroxide and a little strong ammonia are added, and the mixture be stirred with a piece of copper wire, the previously colourless solution assumes a deep port-wine tint, with a considerable evolution of gas. The test is said to be exceedingly delicate, for 0·00002 gramme of morphine can be readily detected; but in dealing with very small amounts it is necessary to add a few drops of potassium cyanide solution to remove any blue colour (from the copper) which may otherwise mask the port-wine tint. It is important not to add the cyanide before the copper, as this may prevent the occurrence of the reaction. The reaction is also a very delicate one for copper, detecting 0·00001 gramme easily. It will occur if monomethylamine (NH_2CH_3) be substituted for ammonia, but not with dimethylamine, nor with caustic soda. Codein and dionin (methyl and ethyl morphine respectively), which are indistinguishable from morphine by ordinary tests, do not give the reaction; apomorphine gives an orange colour. The following alkaloids give negative results: strychnine, brucine, atropine, narcotine, heroin, cocaine, nicotine, cephalin, emetine, veratrine, physostigmine, pilocarpine, and coniine. Other substances were tried as substitutes for copper but proved useless, such as aluminium, iron, nickel, calcium, the salts of manganese, cobalt and iron; and colloidal selenium and rhodium. The red substance which is formed is insoluble in the ordinary morphine solvents, and also in ether, chloroform, and toluol; and the whole of the morphia is changed, for none can be recovered from the ammoniacal solution. Dr. Oliver does not state whether the presence of body fluids, such as urine, blood, serum, cerebro-spinal fluid, interferes with the reaction; but as his report is stated to be preliminary this point will doubtless engage his attention, for its medico-legal importance is obvious. We have tried the test described and obtained confirmatory results.

MERYCISM.

MERYCISM, or chewing the cud, is a rare phenomenon among human beings. It was first recorded in 1681 by Fabricius ab Aquapendente; he and some other writers of that epoch saw in it the mark of the beast, and even noted that merycising patients were apt to grow horns on their foreheads and the like. Nowadays it is more reasonably held to be an atavistic phenomenon, not due to an unfortunate maternal impression during pregnancy, as Peyer (1685) believed, or to gastric antiperistalsis, such as occurs in vomiting (Haller, 1764), or to pylorospasm. In 1904 Presslich collected 145 cases of merycism from the literature; most of the patients were adults, but it appears that some 30 were children; and Schippers has found records of 10 instances in infants to which he adds[1] two new cases of his own. It is a curious fact that men seem to be more prone to rumination than women except in infancy; Wirtz found 10 women among over 140 merycists, while 7 out of 11 ruminating infants were girls. The habit is generally adopted between the ages of 5 and 15, and it appears that heredity, or perhaps imitation, is an important factor in its occurrence; it is not evidence of feeble-mindedness or idiocy, as has sometimes been supposed. Yet it is very much under the control of the nervous system. Some patients indulge in merycism only after partaking of certain kinds of food—vanilla ice, for example, or liquid and not solid food; infants may cease to ruminate when exhibited for demonstration purposes, or when an X ray examination is to be made. It appears that there is an optimum quantity of food that should be given to these infants when merycism is to be provoked, which was about four ounces in one of Schippers's patients. There is no doubt that in infants the habit is a bad one, leading to chronic malnutrition. In none of the 12 recorded cases was the child up to its proper weight, and in several the temperature of the body was often subnormal, falling as low as 91° F. The outlook is less favourable when the merycism is combined with dyspepsia, as is often the case with infants. The object of treatment in these patients must be to prevent the child from merycising. It should be given food that it does not care to ruminate, in quantities (usually small) that do not provoke rumination; being a neuropath, it should be kept quiet, and it is not likely to benefit by the exhibition of sedative drugs. As for adult merycists, Schippers indicates the necessity of determining how far rumination is akin to vomiting—a question that might well be answered by X ray examinations. It appears that the adult patients themselves clearly distinguish between the two processes. To describe merycism as a reflex movement, or even as a "Bedingungsreflex" as described by Pawlow and Czerny, a conditional reflex dependent upon an association of ideas rather than any direct stimulus, does little to advance our comprehension of the phenomenon. Schippers points out that both his infant patients might begin to chew the cud while asleep, waking up at once, while Wirtz states that merycism may go on during dozing; yet the true associative reflex can only occur in persons who are awake.

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[1] Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam, 1914, 785.

MR. H. G. WELLS ON MEDICAL BIBLIOGRAPHY.

Mr. H. G. Wells's paulo-post-future tense is somewhat hard on the arduous achievements of the present. In his "World Set Free" we are told that in 1970 or so the world will have been benefited by vast improvements in surgery and medicine, and these will have been in great part the result of a tremendous system of research indexing, which, while preventing the medical men of the future from doing the same work twice, will constantly tend to keep them in touch with the newest discoveries and the most notable recent cases, as well as all the ancient literature of their subject. "Of course, the present indexing of research is in itself a very big work, and it is only now that we are getting it properly done," says Mr. Fowler, an English or American surgeon of the far future, addressing his eminent Russian patient in the presence of the Italian director and the Finnish matron of "the new station for surgical work at Paran, high in the Himalayas." In old days, according to Mr. Fowler, indexers were a mean paid race; in 1970 they work for the love of the thing, a truly damnable practice from the darkened point of view of 1914. Mr. Fowler's patient, a Russian cripple, has contributed to world-thought the scarcely original discovery that self must be abolished in favour of society, and Mr. Fowler is about to kill him up in the surgically aseptic Himalayas, and he is glad to talk a little shop before succumbing! It is only natural. But is it fair for 1970 thus to patronise 1914? True, we grant that in 1970 probably a thousand persons will be "thinking hard" to one who did so in 1900, but we must still set up our feeble protest against this wholesale snowing under of the present. Medical indexing is not neglected among us. Apart from the magnificent "Index Medicus" of the Surgeon-General in Washington, the whole of the medical literature stored in London has been very fully indexed. True, only author-titles of books and pamphlets, and subject-titles derivable from these, are indexed in England, but in America magazine and periodical articles are recorded as well. If, as Mr. Wells seems to suggest, every case, every operation, every separate subject, mentioned in the course of every article were indexed, the resulting mass of catalogue cards would be so enormous as to stultify research itself. The researcher would be lost in a labyrinth of facts, most of which would be of very little use to him. At present the indexer, who in England is not, as a rule, specifically paid as such, knows that the title of a modern article is fortunately a fair indication of its contents, but, like a faithful worker, he rarely omits to mention any salient subject which may be recorded therein. Thus in recording the title of an ancient book—say Alpinus on the Medical Botany of the Ancient Egyptians—the good indexer who is also an alert reader will mention the balm of Gilead, with which that remote work greatly deals, but the shortness of human life will prevent him from indexing the whole work page by page. What Mr. Wells's Mr. Fowler should have said is that in 1970 an index of all important cases is being kept, and not an index of every subject in every book. Cases are the gist of medical literature.

UMBILICAL SINUS DUE TO A PIN IN THE APPENDIX.

IN the *Australian Medical Journal* of May 23rd Dr. R. M. Downes has reported the following curious case. A healthy-looking girl, aged 3½ years, was seen. The history was that 16 months previously a small protuberance from the umbilicus was noticed. It discharged pus two days later, and this subsequently occurred from time to time. The discharge at times had an offensive odour, but not suggestive of bacillus coli infection. From the apex of the protuberance a probe could be passed for about 1½ inches in a caudal direction. The sinus was filled with bismuth paste and under the X rays was seen to form a small pouch situated slightly to the right of the middle line. Methylene blue injected into it did not appear in the urine. She was shown at the Pediatric Society as a case of cyst of the urachus. The sinus was curetted and mopped with tincture of iodine without benefit. The discharge continued at intervals for a year, the longest period at which it was absent being four months. At the end of this time it was more profuse than ever, and it was decided to adopt radical measures. Under chloroform the probe was now found to pass 4 inches in a lateral and downward direction, and for the first time a mass was felt in the right iliac fossa. A vertical incision was made to the right of the middle line, the anterior layer of the rectus muscle was opened, the muscle was displaced laterally, and the probe was cut down on. The tract was found to be internal to the transversalis fascia, the sinus was swabbed with iodine, and the layers were united. The discharge continued to be profuse and the mass remained unchanged. Three weeks later the incision was reopened and extended. On cutting down on a director in the sinus a black and coated pin was found, and the peritoneal cavity was opened. The mass previously felt was partly due to a structure adherent to the peritoneal end of the sinus and running towards the cæcum. This was first thought to be a Meckel's diverticulum, but after the mass was separated it was found to be an appendix arising from a cæcum of the fœtal type. The appendix was removed, the wound sutured as far as possible in layers, and the septic umbilicus cut out, a small tube being left in for 24 hours. Recovery was uneventful. The appendix and surrounding tissues were very thickened. The distal end, where it was adherent to the sinus, was bulbous, and closed from the rest of the appendical lumen by an impermeable stricture. The mucous membrane showed signs of previous inflammation. No communication with the umbilical sinus could be demonstrated. A urachal cyst may have been present into which the pin was accidentally introduced, and the appendix may have become adherent to the peritoneum covering this cyst internally. But Dr. Downes thinks it much more likely that a swallowed pin passed into the appendix—an occurrence which would perhaps be more easy owing to the latter's fœtal type of origin from the cæcum; that it then caused inflammation of the appendix, with adhesion to the parietal peritoneum in the region of the umbilicus, and finally passed through into the abdominal wall, where it remained embedded, the resultant pus finding a route of egress by the umbilicus. In either case it is curious that so much inflammatory change in the appendix and fixation of the cæcum should not have given rise to abdominal pain or intestinal disturbance.

TEMPERATURES IN SCHOOL CHILDREN.

IN continuation of the series of Research Memoirs of the Drapers' Company, the statistical department of University College, London, has issued a contribution on national deterioration entitled, "A Statistical Study of Oral Temperatures in School Children, with especial Reference to Environmental and Class Differences."[1] It is the joint production of Mrs. Mary H. Williams, M.B., Miss Julia Bell, M.A., and Professor Karl Pearson. Most of the materials for this investigation were collected by Dr. Mary Williams in the course of her duties as medical inspector of schools in Worcestershire. They include the taking of the temperatures of nearly 3000 children, record being kept of the age, weight, and height of the children individually. They were also examined clinically with respect to the presence or absence of definite disease, and were classed accordingly. The diagnosis was wholly independent of the temperatures, the object being to test how far temperature may be relied on as an indication that further examination as to pathological condition was required. In order to compare the physical condition at stated ages of boys in elementary schools with that of boys of a different social class appeal was successfully made to the headmasters of Winchester and Charterhouse. Similar comparison of the girls was secured through the courtesy of the headmistress of the great public schools at St. Andrews, and of the lady superintendent at the Royal Soldiers' Daughters' Home at Hampstead. The results of medical inspection respecting the relation of pulmonary tuberculosis to rheumatism among school children are very interesting. The authors explain that diagnosis was based on the following characters. Pulmonary tuberculosis was indicated by physical signs alone, not symptoms; the common signs found being persistent localised basal dulness with râles. Rheumatism was diagnosed on: (*a*) clear history of "*growing pains*"; (*b*) presence of mitral disease; (*c*) history of chorea. As far as practicable, inquiry was made as to the occurrence of tuberculous or rheumatic affections in either or both of the parents. In summarising the results of their investigation the authors affirm the existence of a real and marked difference between the children of the upper and lower classes, the temperatures of the poorer children at the several ages being undoubtedly the higher. No observations of these conditions were practicable at the public schools, but the authors suspect this higher temperature to be due to the greater prevalence in the poorer classes of "puerile phthisis" and rheumatism. The rheumatism is probably of a markedly hereditary character; the puerile phthisis appears to be also partly hereditary, but it is also partly due to greater risk of infection in some of the primary schools, or to an environment favouring the development of an infection received elsewhere. With regard to the high temperatures recorded in certain of these schools, the authors suspect that they run through epidemics of puerile phthisis at different seasons and with different degrees of severity. An important statement is noteworthy with reference to rheumatism and phthisis in early life. The authors agree in affirming that no child is affected with both these conditions; the two poisons appear to be antagonistic. Dr. Williams states that in the thousands of children she has examined she has never seen a case in which she was certain that the two diseases coexisted in an active stage, and only two cases in which she was doubtful on this point. The observation agrees with a previous statement by Sir Dyce Duckworth that one of the most remarkable features of the arthritic diathesis is its resistance to the inroads of tuberculosis. Dr. R. H. Miller, of the Paddington Green Children's Hospital, is also quoted by the authors as writing that rheumatism and tuberculosis are very seldom found active in the same subject. There is apparently some evidence that the one infection tends to protect against the other, but we do not agree with the author's conclusion that pulmonary tuberculosis is a common disease in childhood, since other basic conditions, such as bronchiectasis and collapse, would have to be excluded in such an inquiry as this.

THE SIMULATION OF ANEURYSM BY OTHER AORTIC AND CARDIAC DISEASES.

X RAYS have aided largely the diagnosis of thoracic aneurysm. Mediastinal growths can in a majority of instances be thus distinguished from aneurysm. There are, however, certain aortic conditions which closely *resemble* aneurysm. Usually the conditions are of syphilitic origin—a syphilitic aortitis. General aortic dilatation may show marked episternal pulsation. Again, as Dr. Carey F. Coombs points out,[1] arterio-sclerosis may imitate aneurysm, and so, also, may cases of aortic dilatation associated with aortic valvular incompetence. In all these cases some of the physical signs of aneurysm are produced. There is on either side of the manubrium sterni a strip of dulness extending as far as two fingers' breadth beyond the sternal margin on the right and rather less on the left. Pulsation is visible at the inner ends of the second and third right intercostal spaces. Often the aortic second sound is accentuated, even when followed by a diastolic murmur. Occasionally, if the aortic valves are incompetent, hæmoptysis may occur. Sometimes pressure signs are present. There may be inequality in force of right and left carotid or radial pulses, but this is due to locally distributed aortitis at the site of exit of these vessels from the aorta. Of cardiac conditions which resemble aneurysm, those associated with mitral stenosis are of interest. Pressure signs may be caused by enlargement of the left auricle, such as paralysis of the left recurrent laryngeal nerve due, it is suggested, not to direct contact with the auricle but rather to the pushing up by the auricle of the pulmonary artery, and it is this structure which nips the nerve between it and the aorta. Two instructive cases of such paralysis are recorded. Less familiar pressure signs arising from the same cause are inequalities in the radial pulses; pressure upon the left bronchus; pupillary inequality; and, finally, even dysphagia. A screen examination of a case presenting the latter symptom showed diversion of the bismuth stream to the right at the level of the auricle, whilst there was delay at the level of the cricoid cartilage. Attention is also directed to the fact that hypertrophy of the conus arteriosus of the right ventricle may simulate aneurysm. Distinction in all these cases may be arrived at, we suppose, with some certainty if all the factors of the case be *taken into account*, but X rays furnish, by their power of excluding aneurysm in suspect cases, a powerful final corroborative factor.

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[1] London: Dulau and Co. Pp. 124. Price 6s. net.

[1] Medical Press, May 13th, 1914.

EPIDEMIC ALOPECIA AREATA.

BALDNESS in its ordinary form has not been held to be a definite infective condition. Certainly no definite causative organism has been found. It has been suggested that alopecia areata is not *infective*, but there is some difference of opinion amongst dermatologists, and an epidemic of alopecia areata has been described by Haldin Davis in the *British Journal of Dermatology* (1914, xxvi., 207) which certainly suggests an infective origin in some cases. The epidemic broke out at an orphanage for girls, of whom there were 300, all under the age of 14. It was first noted in March, and in June there were 174 cases, amongst which were *two* foster-mothers and a servant-maid. The patches in the head resembled ringworm, but the author was emphatic that this was not the condition. The patches were not entirely bald; there were some stumps of hair which were swollen at the free end and which did not come out easily. The hairs which were left were found to break with difficulty (unlike ringworm), and within the hair, near the seat of fracture, was an opaque substance which was doubtless concerned in the condition and which was due to some infection, the organism of which, however, *could not be discovered*. There were no scurf and no parasites in the cases. The condition was suggested by the writer to be alopecia areata, but not of the ordinary type. The treatment adopted was vigorous and successful. The hair was washed with methylated spirit and soap, then an ointment was rubbed in consisting of beta-naphthol and sulphur. Massage of the head was given. In the severer cases a blistering fluid was applied, and in eight cases the scalp was shaved. By October all the cases were cured. In the following March a similar outbreak occurred. There were 30 cases. Hairs from 15 of these cases failed to show evidence of ringworm. In six weeks this second epidemic was ended.

THE BRITISH PHARMACEUTICAL CONFERENCE.

THE number and quality of the papers communicated at the fifty-first annual meeting of the British Pharmaceutical Conference, which was held at Chester this week, bear evidence of the continued usefulness of an *organisation* which has contributed largely to the advancement of pharmaceutical science during the last *half* century. The President's address consisted mainly of an epitome of the work that has been devoted in recent years to the study of the chemistry of plants and their products, and in view of the position held by Mr. E. H. Farr among workers in this domain his suggestion that problems of materia medica should be considered by a pharmaceutical committee representing the medical profession and pharmacy, and that the funds proceeding from the sale of the British Pharmacopœia should be devoted exclusively to defraying the expenses connected with its production, including the investigations required in that connexion, is worthy of respect. But it is a suggestion that connotes some financial compensation for the General Medical Council. Of the papers read at the Chester meeting several are of direct interest to medical practitioners, notably those which refer to anæsthetic ether and the prescribing of strychnine in combination with alkalies. Although not recognised by the British Pharmacopœia, anæsthetic ether is largely prepared from industrial methylated spirit, the high price of that made from rectified spirit having of late years been the cause of the increased use of the former. As a matter of fact, methylated ether is in use at all the large London hospitals, and a paper by the chief pharmacist at Guy's Hospital, in which the results of the scrutiny of a number of samples of methylated ether are stated, is therefore of especial interest, while it is satisfactory to know that anæsthetists can continue to use the cheaper product as a substitute for that manufactured from rectified spirit, which is subject to a high Excise duty. It seems clear from the communication on the incompatibility of solutions of strychnine with alkaline substances, that the limits within which these may be dispensed without fear of precipitation and consequent danger are by no means so wide as those within which preparations of nux vomica may be mixed with alkalies. These communications serve to show how pharmacy can assist medicine, and other papers furnish material which, indirectly at least, can be utilised to advantage in medical practice.

SIR Ronald Ross, K.C.V.O., F.R.S., will deliver the biennial Huxley lecture at the opening of the winter session at Charing Cross Hospital Medical School on Oct. 1st.

AT a meeting of the council held on July 16th Sir John Tweedy, F.R.C.S., late President of the Royal College of Surgeons of England, was elected President of the Medical Defence Union, *vice* Dr. Edgar G. Barnes, retired.

Sir StClair Thomson has been elected an Honorary Fellow of the American Laryngological Association. The American Laryngological Association is a select body, the number of Active Fellows being strictly limited, and the list of Honorary Fellows very restricted, up to the last meeting Chiari, of Vienna, Massei, of Naples, Moure, of Bordeaux, and Sir Felix Semon comprising the list.

THE Registrar of the General Medical Council has received a copy of a despatch from His Majesty's Consul-General at Rio de *Janeiro* stating the conditions under which persons holding foreign diplomas are permitted *to practise* medicine, surgery, and dentistry within the Federal District. This will be incorporated in the next edition of the pamphlet published by the Council giving the conditions under which persons qualified in their own country may practise abroad, and in the meantime the Registrar will be pleased to show the despatch to anyone who calls at the Council office, 299, Oxford-street, London, W.

IMPERIAL CANCER RESEARCH FUND.

The annual meeting of the supporters of the Imperial Cancer Research Fund took place on Tuesday, July 21st, at the Examination Hall, Queen-square, Bloomsbury, the Duke of Bedford presiding.

There were present among others Sir R. Douglas Powell, Sir Thomas Barlow, Sir Rickman J. Godlee, Sir William Church, Sir W. Watson Cheyne, Captain Sir John Shelley, Sir John Tweedy, Professor G. Sims Woodhead, Dr. F. W. Andrewes, Dr. John Tatham, Sir Frederic Eve, Dr. J. A. Ormerod, Dr. E. F. Bashford (general superintendent), Dr. J. A. Murray, Dr. W. E. Bullock, Dr. Sternberg, and Mr. F. G. Hallett (secretary).

Report of the Executive Committee.

The report of the executive committee was presented by Sir William Church. In this report Mr. F. G. Hallett, the secretary of the Fund, briefly summarised the proceedings of the year, mentioned the changes in the personnel of staff and workers, and enumerated the publications from the laboratories during the year. The details of the pathological and research work were given to the meeting in the report of Dr. E. F. Bashford, the general superintendent.

The Report of the General Superintendent.

Dr. Bashford's report mentioned first a diminution in the claims to "cure" cancer which had been brought to the notice of the Fund. He stated also as a result of many experiments during the year that "up to the present time, even in the laboratory, the only way in which rabbits, guinea-pigs, rats, and mice can be freed with certainty of transplanted and often of spontaneous tumour is by early removal." The number of experimental investigations has been decreased during the year as some of the tumour strains on propagation duplicated the behaviour of other strains. The experiments on heredity are being continued, and the biochemical investigations have been further developed during the year, while the observations on the specific properties of the tumour cells have gone to show how independent these cells are of influences proceeding from the environment, the etiological issues being thus further narrowed to alterations proceeding within the cell mechanism itself and not awakened by external factors.

Statistics.

With regard to the statistics of cancer the report said:—

The insistence in 1905 on a more detailed study of age-incidence has been completely justified and has rendered a further statistical report superfluous. Many new facts are revealed—e.g., it is confirmed that the rates of mortality for different organs at different ages are similar for the two sexes, while the separate organs vary widely among themselves, some showing a curve rising to a maximum only at the end of life, others a curve with a maximum earlier and followed by a fall to the end of life, and yet others two maxima at different age-periods. These peculiarities must be of the utmost importance in elucidating the nature of the disease.

The separate tabulation of deaths in institutions enables a comparison to be made between areas where institutions are common and where they are rare, and thus brings out the fact that they contribute to raise the number of deaths assigned to cancer. This separate tabulation also shows that no comparison between deaths in hospital and deaths outside is possible; such a comparison has, however, in the past often been used, and the increase in deaths from cancer in hospital statistics advanced as proof of a true increase of cancer in the population generally. The tabulation of deaths in institutions shows also that a higher proportion of males than females seek the aid of such institutions, and also that the ages at death are lower than in the general population. The explanation probably is that where the breadwinner is attacked resort to hospital becomes quickly more essential than when this is not the case.

As regards the increase in the number of deaths assigned to cancer, it is quite justifiable to make such a crude statement as that the number of deaths has increased in 1911 for females to 1088 per million living in 1911 as compared with 508 in 1860, and for males to 891 from 200 during the same period. It is also justifiable to express these facts in another way (also crudely)—namely, that of women attaining the age of 35, 1 in 12 was recorded as dying of cancer in 1889, but 1 in 7·4 in 1911, and of men 1 in 21 in 1889, but 1 in 9·7 in 1911. This latter statement also brings out more clearly how the male rate has been overtaking and approximating to the female. However, these figures ought not to be set out, as they still are, before the public without any qualification, and interpreted forthwith as a demonstration of the reality of the increase of cancer.

Both methods show the approximation of the male to the female death-rate and also raise the question of why the increase, if real, should affect one sex more than the other; but both lump all cases of cancer together, a proceeding which, if excusable in 1889 because nothing else was possible, is quite a misleading and erroneous thing to do to-day.

It is not proposed to refer in detail to the real or apparent increase of cancer, since modern statistical methods were applied by independent investigators to the new data at a recent meeting of the Epidemiological Section of the Royal Society of Medicine, when also the subject was fully discussed. Suffice it to say that the increase in the number of deaths is not uniform for the different parts of the body and, that for some parts, notably the uterus, an actual fall is persistently evident since 1902. For this organ diagnosis is relatively easy. Therefore, the number of cases treated probably approximates more closely than in other sites to the absolute number, and the effects of successful surgery are showing themselves in diminution of the deaths. For other parts of the body the increase may be apparent, for yet others real, although it is as yet impossible to decide. All the statements widely circulated in the newspapers as to the increase of cancer as a whole should be ignored, and attention only paid to those in which the different parts of the body are considered apart.

Cancer Areas and Cancer Houses.

In the concluding part of the report Dr. Bashford went thoroughly into the question of "cancer areas" and "cancer houses," pointing out that the determination of whether cancer is more frequent in certain houses is very much more complex than the simple arithmetic of enumeration.

"All the details of the population," he said, "not only of the 'cancer houses,' but also of the other houses in the same neighbourhood, must be known as regards numbers living in each house, sex, age, nature and site of the growth, duration of stay, occupation (environment and irritation), habits (alcohol, tobacco). Economic considerations must also be taken into account, since a house may be sought after by old people who have to content themselves with old or insanitary buildings because of the low rental, or a house may be let to couples without children, or may be frequented by aged lodgers. It has been shown above by experiment that hereditary influence cannot be summarily dismissed; further, the presence of other diseases cannot be ignored. The duration of stay is essential to determine whether the disease was acquired on the spot or brought from one district to another, but the long duration of the disease and the movements of population present peculiar difficulty to obtaining this information. The influence of occupation may overlap or be of more or less importance than habits such as indulgence in alcohol, tobacco, or diet. Very important will be the time relation between series of cases—viz., whether they succeed one another rapidly or are so distributed in time that this relationship has as little significance as the aggregation in families or in houses. Account must be taken of the fact that the frequency recorded to-day is very much greater than it was 50 years ago."

The report then gave details of an investigation conducted by Dr. Bashford into the well-known instances of cancer attacking certain houses and streets. The original examples brought forward by the late Dr. Law Webb having been shown to break down under analysis of the data, the report gave an account of visits paid by the superintendent to the different localities described respectively in 1898 and 1903 by Mr. D'Arcy Power as suggesting an endemic infection. It was difficult to recollect the evidence and test the statements, but the conclusion of the report was that the endemicity was not established. Mr. Power had already suspected that the age factor explained the apparent position, for in both village communities the higher ages were unduly in excess. Of the last case inquired into the report said:—

It has been deemed desirable to make an independent inquiry into a case which attracted widespread attention recently as the result of an address by Sir Thomas Oliver, published in THE LANCET of April 4th of this year, and widely commented upon in the lay press. He stated that his attention had been drawn to a short street in a small town in which between the 15 years 1893 and 1908 19 persons and one dog had died from cancer. In some of the houses two or three cases had occurred. Since in nearly all the patients there was no hereditary history of the disease, the large number of deaths among successive occupants suggested that the matter is more than a coincidence. Commenting on "cancer-houses" Sir Thomas Oliver wrote: "It is not an agreeable subject, and many medical men are of opinion that cancer germs lurk in houses."

The street referred to by Sir Thomas Oliver is in the town of Ayr. The attention of the Imperial Cancer Research Fund was drawn to it in 1908 as the result of a letter addressed by a lady to the late King Edward VII. The data obtainable in 1908 did not justify an investigation. The lady continued to make inquiries, and wrote to various Government departments in London and Scotland, as well as to prominent members of the medical profession, and in 1912 published an article in the *Ayrshire Post* entitled "Observations on Cancer Areas." This article was a memorandum she had submitted in 1908, amplified and modified as the result of her experience and inquiries. As the result of correspondence and an interview it appeared that the lady, whose mother had died from cancer, held strong views that cancer is an infective disease; that she had been called upon to investigate it; and that in her opinion the alleged frequency of cancer in the street referred to was due to its dissemination from paupers in the workhouse through the agency of mice and fleas, which came into houses in the winter time. Inquiries were made early in 1912 of the local authorities in Ayr, from which it appeared that they had inquired into the statements and did not agree with the importance attached to them. In consequence of Sir Thomas Oliver's address it seemed desirable to make an investigation on the spot, and a visit was made to Ayr, where every facility was given by the town clerk, the burgh medical officer, and the medical officer of health for the county. As a result the following facts set out in the table were obtained.

Reference to the table will show that it includes two duly authenticated cases of cancer not given in the lady's catalogue, and transfers three cases to the correct houses, including one to the opposite side of the street. Cancer as a cause of death is not upheld in at least 11 out of the 22 instances advanced. The dog is omitted in view of the fact that all the weight of scientific evidence is against the communication of cancer from one species to another, and also because no information could be obtained about it beyond the original assertion that it was a young dog, 4 years old. In the 11 cases in which nearer examination bears out the statement that death was due to cancer, the site alleged did not agree with that given on the death certificates, although for three of these five there is merely confusion between the primary and secondary site, and in the other two the vague statement of "bowel" is replaced by the accurate statement of "rectum" and "prostate." For a sixth case, where the site was not stated originally, a definite reference to "stomach" has been obtained. The comparison of the facts as actually found, with those on which Sir Thomas Oliver based his statements, is made in the table.

Table showing Death of and Cases of Tumours in Cancer Area, Ayr, from 1892–1912.

House.	Case.	Age.	Occupation.	Died.	Alleged site of cancer.	Certified cause of death.
A	1	64	Clergyman.	1894	Bowel.	Epithelioma of rectum.
	2	—	Maid. Operation.	1912	Stomach.	Still living.
B	3	65	Wife of manufacturer.	1893	Womb.	Cancer of uterus, 1 year.
C	4	86	Widow of doctor.	1897	Stomach.	Morbus cordis. Cardiac failure.
	5	80	Gent. No relation.	1903	Kidneys. Not verified.	Renal following upon with cystitis.
D	6	73	Retired.	1892	?	Cancer of stomach, 4 months.
	7	78	His wife.	1911	Breast.	Cancer of lung.
E	8	—	Lady feared to have cancer.	1912	Internal.	Still living, not ascertained.
	9	69	Hatter's wife.	1899	Not in list submitted.	Cancer of lung.
F	10	—	Lady.	1900	Breast.	Died in Glasgow.
G	11	71	Lady.	1896	Womb.	Cancer of stomach.
	12	80	Brother of above.	1893	Bowel.	Cerebral anæmia. Senile decay.
	13	—	Sister of above.	1903	,,	Not found.
	—	—	New people bought house.	1907	—	—
	14	—	Young lady. Operation.	1910	Breast.	Still living.
	15	84	Father of above.	1911	Stomach.	Cancer of stomach.
	16	71	Mother.	1912	—	Paralysis agitans. Carcinoma of left lung.
H	17	60	Wife of lawyer.	1895	Arm.	Scirrhus of mamma, 2 years.
	18	79	Lawyer.	1906	Bowel.	Malignant tumour of prostate gland.
	19	—	Daughter.	1908	Face.	Still living.
I	20	25	Lady.	1894	Womb.	Not found.
J	21	72	Wife of missionary.	1899	Breast.	Scirrhus of mamma.
K	22	49	Lady.	1899	—	Not found.
L	23	—	Dog, aged 4.	1909	—	,, ,,
	24	55	Chemist.	1900	Not in list submitted.	Malignant disease of tongue (6 months) and sublingual and pharyngeal glands (2 months.

In three out of the six houses the occurrence of one death was confirmed; in only one out of four houses the claim of two deaths was confirmed; for one house for which three deaths were claimed only two were confirmed, and for another house for which six deaths were claimed, three were confirmed. In the first house with two verified deaths the first death occurred in 1892 and the second in 1911, after an interval of 19 years; in the second house with two verified deaths the first death occurred in 1895 and the second in 1906, or after 11 years; in the only house with three cases the first death occurred in 1896, the second in 1911 (or 15 years later), and the third one year after the second. When the cases are considered as they occurred from year to year, for the years 1892 to 1898, there was one death each year. 1899 and 1900 each had two deaths. The years 1901 to 1906 showed no deaths. 1907 to 1910 each showed one death. 1911 and 1912 had two deaths, and in 1913 and up to the present date there has been no death.

Since wide publicity has been authoritatively obtained for the statements of a cancer street in Ayr, it may be mere justice to point out the true significance of the facts.

The street referred to is broad and contains the best type of residential detached and semi-detached villas with gardens front and back. It runs east and west, so that the fronts of the houses on one side of the street and the backs of the houses on the other side of the road face south. Hence, there is no excuse for attaching significance to the south side as "the shady side" in the way that has been done. On the south side there are 23 houses, on the north side 18, and all the houses are occupied. The householders are mostly retired business men or belong to one of the professions; several are widows. The average age is therefore higher than in other parts of the town. A glance at the table giving the details of the cases claimed as cancer shows the youngest aged 25 and 49 were not confirmed. The age of the youngest verified case is 55, and four alleged cases are aged 80 or above, although only one could be verified. In view of the very small numbers—13 persons in all—it is not advisable to attempt an age and sex distribution; the facts may therefore be stated crudely in the absence of exact information as to the age and sex of each of the inhabitants of the street. The total number of houses is 41, in six of these cancer had occurred over a period of 21 years, there being intervals of 19, 11, and 15 years between the first and second cases in each of three houses, and in the third house a possible third case occurred one year after the second. The total population of the street is 246, or an average of six persons per house. For 21 years this gives a population of 5166 with 13 deaths, or a crude death-rate of 2·5 per 1000. The total deaths in Ayr in 1913 were 44, or 1·3 per 1000. The death-rate for Scotland in 1911 at the age of 45 is 2·04 per 1000, and inquiries on the spot show that 45 is not an under-estimate of the age of the population in the street.

The higher recorded incidence in this street is explained partly by the high age of its inhabitants as contrasted with other areas inhabited by factory hands and miners with young children. The coincidences and accidents inseparable from a disease of such frequency suffice to minimise the significance of the numbers recorded, and by the fact that cancer is more than ten times as frequent at 70 as it is at 30 or 35 years of age.

As sanitation and water have also been incriminated, it may be pointed out that under a very enlightened municipality, the Burgh of Ayr in recent years has entirely rebuilt the whole drainage of the town at a cost of some £120,000, making it as perfect as sea drainage can be. Further, over 800 more or less insanitary buildings have been removed, and all this in a small seaside and residential town of less than 34,000 inhabitants.

The history of how the idea of a "cancer street" originated and became current in the town of Ayr is as interesting and instructive as the manner in which in the course of a few years it acquired the standing of a scientific statement of fact, publication in a leading medical journal, and consequently widespread currency in the lay press as a duly authenticated instance of "cancer houses."

THE TREASURER'S REPORT.

The report of the honorary treasurer, Sir W. Watson Cheyne, for the year ending June 24th, 1914, was a fairly satisfactory one. Unlike last year, he was unable to report any increase in the total receipts for the researches. He said:—

> For the first year since 1896 we have received no legacy except a small balance of less than £2 from a legacy received in a previous year, but the receipts again include the sum of £500 which has been paid in advance by Mrs. Streatfield as part of a promised legacy of £2000. This being the second amount of £500 kindly contributed by her under the conditions of the original scheme, Mrs. Streatfield now becomes a member of the general committee.
>
> The total number who have subscribed to the Fund during the year is 146, as compared with 137 in 1913, but whereas the number of small contributions has increased, those of higher amounts have somewhat declined. It is due to the personal efforts of our President in appealing for new subscribers that there is this increase in the number of subscriptions. On the general principle that legacies may be averaged over a period of years, it is to be hoped that during next year the income from this source will be increased.
>
> The expenditure, including all items, amounted to £6491 6s. 9d., being rather less than last year, but as in last year's account an item of £622 appeared for expenditure on fittings, the general working expenditure this year must be said to have increased by about £358. In this sum, however, is included the salary of an additional assistant, Dr. Bullock, who took up his duties in August.
>
> Every care has been taken during the year to safeguard the expenditure, whilst at the same time all the requirements of the general superintendent in regard to the necessities of research have been met.
>
> The total expenditure has exceeded the fixed income of the fund from investments by £1444 18s. 9d.

THE RESOLUTIONS OF THE MEETING.

The adoption of the report was moved by Sir WILLIAM CHURCH, seconded by Professor SIMS WOODHEAD, and carried unanimously.

Sir RICHARD DOUGLAS POWELL moved, and Sir JOHN TWEEDY seconded, a vote of thanks to the executive committee, sub-committees, and treasurer of the fund. This was carried unanimously.

Sir W. WATSON CHEYNE proposed a vote of thanks to the Duke of Bedford, president of the fund, which was seconded by Sir FREDERIC EVE, and carried unanimously.

The Duke of BEDFORD, in a brief reply, referred to the magnificent services rendered to public health by Mr. Joseph Chamberlain.

MEDICINE AND THE LAW.

A Question of Liability.

IN the Blackpool county court his honour Judge Sturges tried an action recently in which Mr. F. C. Sprawson sued Mr. T. Firth, a theatrical manager, for £17 6s. 6d. as fees in connexion with an operation which he had performed upon the defendant's wife. The defendant alleged that he was not liable to Mr. Sprawson but to Dr. John Stewart, the patient's medical attendant, upon whose advice Mr. Sprawson had been consulted and had operated. The defendant had, in fact, after the proceedings were commenced, made payments to Dr. Stewart, and a sum of £10 had been handed to Mr. Sprawson and had been paid into court. The defendant in support of his case produced an account from Dr. Stewart for £35, which purported to include the plaintiff's fees. Dr. Stewart in evidence said that he had received two sums of £10 on account, the second of which he had handed to the plaintiff. He denied that he was liable for Mr. Sprawson's fees, or that it was customary for a medical man who advised that a surgeon should be called in to be so liable. Mr. Sprawson said that he had booked the debt to the defendant and not to Dr. Stewart. He had given no authority to Dr. Stewart to collect his fees, and not having done so should not look to him for payment. He had never followed such a course with regard to medical men for whom he performed operations, and it was not customary to do so. For the plaintiff it was argued that in the absence of any authority given by him to Dr. Stewart the plaintiff's position was not affected by Dr. Stewart's act in sending an inclusive account for fees. His honour held that he would take the document produced into account in deciding the case, and he was of the opinion that this being so the defendant's position in looking upon Dr. Stewart as the person to whom the money was to be paid was correct. He was further of the opinion from his own knowledge that there was no certainty of custom such as the plaintiff and Dr. Stewart alleged. He therefore gave judgment for the defendant. It was intimated that there might be an appeal.

A Sham Medical Practitioner Convicted.

t the recent Hants assizes a person whose ne was given as Hugh Munro McLeod Mackenzie ; convicted upon an indictment charging him h giving certificates of the cause of death hout being entitled to do so. The prisoner was ed to possess no medical degree, but to have at time studied medicine at Edinburgh. He ended to his signature on the certificates the ers B.M., L.R.C.S., L.R.C.P., and the court was ormed that a medical man bearing the names en above and now practising in South Africa ; the possessor of the degrees indicated. The soner had practised in Portsmouth in 1910, but question of his qualification had been raised l he had moved to Southampton, where the ences charged had been committed, and where had been placed on the panel under the urance Act. Mr. Justice Ridley took into coneration the ill health of the prisoner, and tenced him to be imprisoned for one month.

Unqualified Person Pretending to Treat Cancer.

At Altrincham recently an inquest was held upon body of a woman, 70 years of age, who had fered from cancer of the breast, for which she l been attended by Mr. H. Lund and Mr. J. R. lson, but who had since submitted herself to a n named Clay living at Hebden Bridge. This son gave evidence that he had during past year "removed five nodules, and that ere was a very diminished one left." Into at he injected a solution which he was in habit of using, after which the woman nted. He spoke of having his "limitations," d said his treatment applied to "external cancer" ly, an "internal development" being beyond his ach. The coroner asked him, "How did you know at the cancer was not internal?" and he replied at he did not know. Mr. Wilson gave evidence at death was partly due to cancer, and might ssibly have been hastened by shock and acute llulitis of the tissues. He had no doubt that the ock from the cellulitis was a contributory cause death. In any case the woman would probably ve died from carcinoma of the breast. The jury id that they felt a "strong suspicion" that ath was largely attributable to Clay's treatent, but found, as they had been advised by e coroner, a verdict in accordance with the edical evidence, adding "We think Mr. Clay deserving of censure and that his profession relieve, if not absolutely to cure, cancer is a very ngerous proceeding." The coroner appears to ave then exhorted Clay to desist from professing cure cancer, his observations ending with the ords "Oh, Mr. Clay, a great responsibility rests pon you, and I do ask you not to do it." Whether e coroner's words, which hardly seem to answer e description of "censure," or the possibility of verdict of manslaughter ensuing upon another ccasion, will deter Mr. Clay remains to be seen. he latter contingency is the one which Mr. Clay ould be well advised to consider.

Death under an Anæsthetic and a Difficult Question.

An inquest held recently at the Dorset County Iospital showed how difficult a question may have o be decided by a surgeon called upon to operate n a case where the death of the patient under the peration is likely to ensue and to entail an nquest, and where in the absence of an operation continued suffering for the patient is certain and death, more or less immediate, is at least equally probable. The deceased, C. J. Russell, was a carpenter, 65 years of age, a stout man, well known to the police and the Poor-law authorities where he lived as a heavy drinker for 20 years. He was sent to the hospital from the workhouse suffering from strangulated hernia, which was relieved by treatment, but the patient was very desirous of an operation, as he suffered frequently and considerably. Mr. W. B. Cosens, the surgeon who ultimately decided to operate, had known the man and been aware of his habits for many years, and was very unwilling to operate owing to the obvious danger due to the patient's condition, but was equally of the opinion, as he informed the jury, that if the man left the hospital and had a bout of intoxication strangulation would again take place, with the probable necessity for immediate operation in hopeless circumstances. Accordingly Russell was put to bed for 17 days and every possible preparation made to meet the danger which the administration of the anæsthetic would entail. It was given by the house surgeon, whose qualification and experience for the task were proved by Mr. Cosens, but before the man was thoroughly under its influence dangerous symptoms were observed, breathing eventually ceasing, and in spite of everything that could be done the patient died. The coroner placed the matter fairly before the jury, pointing out that the risk was recognised by the surgeon, but that he acceded to the patient's request for an operation, hoping that he might be able to relieve him from pain. The jury, a member of which showed by an observation that he, too, knew the deceased and his habits, returned a verdict in accordance with the evidence, that "the deceased came by his death through failure of the heart, such failure occurring while the said Charles Russell was under the effect of an anæsthetic properly administered, preparatory to an operation for strangulated hernia."

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

THE annual meeting of this association was held on July 14th and 15th. During the early part of the meetings Dr. JAMES CHAMBERS, the President, occupied the chair.

Dr. T. B. HYSLOP, the chairman of the committee appointed in connexion with the Mental Deficiency Bill, presented a report which showed that the committee had been concerned with the Elementary Education (Defective and Epileptic Children) Amendment Bill and in the provisional regulations in pursuance of the Mental Deficiency Act. It was hoped that the Mental Deficiency Act Regulations, which came into force in April, would be simplified when re-issued. Several recommendations were made in the report. The Central Association for the Care of the Mentally Defective took the necessary steps to register itself as an incorporated association, and a memorandum of association had been drawn up for submission to the Board of Trade. The composition of the future council had been postponed until next year. Following upon a short discussion, Dr. Hyslop said that difficulties were likely to arise, unless care was taken, from persons with no knowledge of mental conditions seeking to define the borderline between insanity and mental deficiency on the one hand, and on the other between mental deficiency and health. It was for the association to take a definite stand on this point and present a guiding memorandum.

The report was approved, and the committee reappointed to continue its work. The President (Dr. Thomson) and Dr. Bedford Pierce (chairman of the status committee) were appointed to act with the subcommittee of the Board of Control. The consideration of the report of the committee *re* the status of British psychiatry and of medical officers was deferred until the following day.

Dr. Chambers, who now retired from the presidency, and the other officers of the association were heartily thanked for their services during the year now ending.

Dr. CHAMBERS then introduced the new President, Dr. David G. Thomson, superintendent of the Norfolk County Asylum.

Dr. THOMSON acknowledged the honour conferred upon him, and announced that the association's divisional prizes had been awarded to Dr. Eager and Dr. Macphail, and the bronze medal to Mr. J. C. Wootton. He then delivered his presidential address, which consisted of a review of the legal and medical arrangements for dealing with the insane during the past hundred years, "a period," he said, "which is given point to by the fact that this is the centenary year of the establishment of the Norfolk County Asylum, the oldest county institution of its kind in the country. Hence the stages in the evolution of treatment of mental alienation find illustration within these walls." Dr. Thomson then traced the origin and progress of the laws relating to the insane. The first legislation in favour of the insane poor was, he said, "Wynne's Act," enacted in 1808, which enabled each county to build and equip institutions out of the county funds, so that parishes on a weekly *per capita* payment could send insane poor to the county institution instead of to gaols, houses of correction or industry, but only a few counties used this permissive power—namely, Nottinghamshire, Norfolk, Lancashire, Yorkshire, and Staffordshire. A special committee of the House of Commons in 1815 took evidence as to the deplorable state of the insane in privately owned madhouses, and even in a few public asylums, and Dr. Thomson gave some lurid specimens of this evidence. The committee's report resulted in an Amending Act, which sought to "enforce" the provisions of the Act of 1808. "But it was not," he said, "until the early years of the reign of Victoria—namely, in 1845—that the Act was passed which has been styled the 'Magna Charta of the Insane,' as it gave them for the first time full legal protection and supervision. Other beneficent forces were also by this time at work, for Dr. Gardiner Hill, of Lincoln Asylum, had begun a great campaign against the use of restraint. His strenuous contention that chains and manacles and other coercive measures were unnecessary and harmful led people to declare that he was himself insane, but his views ultimately prevailed, and for many years mechanical restraint has been abolished, except in occasional instances for surgical reasons. 1841 saw the foundation of the Medico-Psychological Association by a few doctors concerned with the study of insanity, its etiology, prevention, and treatment. The chained lunatic now became a patient. County and borough asylums came into being all over the kingdom, private asylums for the well-to-do put their houses in order, and every institution for the insane was put under the control of the Commissioners in Lunacy. Gradually the view that insanity was a possession of the devil or a metaphysical manifestation not amenable to medicine gave place to the conviction that it had a physical basis like other affections, and this altered view has resulted in great advance of knowledge, for alienists have not been slow to apply the great advances in general medicine to this specialty." Dr. Thomson then alluded to the more recent work of the Medico-Psychological Association, the system of training, certification, and registration of mental nurses; the adoption by six Universities of its recommendations of special post-graduate training and diplomas in psychiatry, on lines similar to those in public health and tropical medicine. "If the association," he said, "had done nothing beside provide better doctors and nurses for mental disorders, its existence would have been justified and its labours gratefully acknowledged by the public." Among the topics more particularly dealt with in this section of the presidential address were the following: the disabilities of asylum medical service and the resulting dearth of candidates; the absence of provision for early incipient forms of mental disorder without the dreaded legal certification and committal to the insane wards of workhouses and asylums; the absence of properly equipped clinics for this purpose for the ante- and post-graduate training of young men in psychiatry; the Mental Deficiency Act; the Elementary Education (Defective and Epileptic Children) Bill; and the unsatisfactory state of the law with regard to crimes committed by insane persons. The address was received with marked favour.

A paper on Intrathecal Treatment of General Paralysis was contributed by Dr. E. MAPOTHER and Dr. E. BEATON, who described the technique which they adopted and discussed whether anatomical inaccessibility of the spirochæta constituted, by itself, a complete explanation of the refractory character of the disease to treatment.

On Wednesday, July 15th, a paper was read on the Detection of a Dysentery Carrier, by Mr. H. SALTER GETTINGS and Dr. ETHEL WALDRON (of Wakefield Asylum). The dysentery bacillus was discovered in the loose stools of a patient who displayed no other symptoms; there had been no blood or slime, and no rise of temperature. There had been one or more cases in her ward for four years, and soon after her transfer to another ward there was a fatal case of the disease. Since 1913 there had been in the asylum 14 cases with five deaths. The bacillus was only found after a patient hunt.

Dr. A. W. DANIEL read a paper on the Undesirable Results Arising from Continued Use of Scopolamine Hydrobromine or Hyoscine. He gave an account of the symptoms, both physical and mental, which followed the administration of the drug. There was great excitement, with visions of members of the patient's family undergoing torture, progressive weakness of legs and arms, and rapid and progressive wasting, so that the loss of weight became serious. Imbeciles showed marked intolerance to the drug, and in any patient repeated injection should be avoided. Morally, the patients having the drug became very untrustworthy and sometimes were suicidal. Withdrawal of the drug, which was the only cure for the symptoms, brought about a speedy improvement and restoration of the body weight.

The association then proceeded to discuss, and for the most part to approve, the Report of the Committee on the Status of British Psychiatry and of Medical Officers of asylums. The report contained the following resolutions:—

> That it is desirable that provision be made for the detention of patients in psychiatric clinics for a limited time without certification.
>
> That it is desirable that any form of detention under modified conditions, such as proposed in the Lunacy Bill of the year 1905, should not be confined to private houses, but should be extended to all institutions for the insane and clinics duly approved for the purpose.
>
> That it is desirable that the provision already made for the reception of voluntary boarders into licensed houses and registered hospitals be extended to public asylums and psychiatric clinics.
>
> That the psychiatric clinics be for the reception and treatment of voluntary boarders and notified persons.
>
> That it is desirable that patients be admitted to county asylums direct from their homes without being of necessity taken to the Poor-law institutions—in this way making better use of the existing hospital accommodation at these asylums.
>
> That urgency orders be made to apply to Poor-law cases.
>
> That it is desirable that neighbouring asylums be enabled to establish and maintain joint laboratories.
>
> That it is desirable that a standing committee of the association be formed to be called the "research committee," and to have as its object the encouragement and guidance of original work in psychiatry.

It was agreed to forward copies of the report to the Home Secretary, the President of the Local Government Board, the members of the Board of Control, the chairmen and clerks of asylum boards and visiting committees, and the corresponding officials in Scotland and Ireland, and other persons interested in the subject, at the discretion of the President of the association.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the forty-sixth meeting of the Royal Commission on Venereal Diseases evidence was given by Dr. Svond Lomholt, surgeon at the Municipal Hospital at Copenhagen, regarding the methods adopted for dealing with venereal diseases in Denmark. The principle has been to provide free treatment and to render it as easily accessible as possible. As early as 1773 a rescript provided for free treatment of all poor persons suffering from venereal diseases in one of the provinces of Denmark, and similar regulations were made from time to time until by an Act of 1874 it was laid down that every person should be entitled to free treatment for venereal disease without regard to his ability to pay. In reality little was done to make this right to free treatment of practical value until 1906, when an Act was passed which contained a provision compelling the municipalities to arrange easy access for free consultation and treatment for all persons suffering from venereal disease. Since that date, especially in Copenhagen, in which town probably 80 per cent. of the disease occurring in the country is to be found, a great deal has been done. Very complete hospital facilities have been provided, and in addition there are three public consulting-rooms for contagious and venereal diseases, at one of which evening consultations are held. Twelve municipal doctors (two of whom are women) have also been appointed for the purpose of giving free treatment of venereal diseases. The experience has been that patients have shown themselves very ready to take advantage of these facilities. In some directions compulsory measures have been adopted. A doctor treating a case of venereal disease is required to point out all the consequences of the disease, and there is also provision for securing that persons suffering from venereal disease shall continue their treatment. Dr. Lomholt thought that this latter provision had been very useful. A system of confidential notification of venereal diseases is in force. The names and addresses of the patients are not notified, and the cases are identified only by numbers, and the notification is consequently only of use for statistical purposes. Dr. Lomholt has made a critical examination of the published figures, and showed that they could only be accepted with a good deal of reserve.

Mr. Charters J. Symonds, consulting surgeon at Guy's Hospital, giving evidence, laid stress on the need for largely increasing the means available for treating venereal diseases. He thought that existing institutions should be utilised as far as possible, and that these, together with any additional provision which might be made, should be linked up with Insurance Committee areas and with panel doctors. Evening clinics should be provided at every centre. It would be necessary that a scheme of this kind should receive adequate subsidies from the State. Mr. Symonds advocated the formation of a National Society which should supervise the selection of lecturers, the scope of teaching, and the publication of books and pamphlets, with a view to the education of the public respecting venereal disease. Such a society, he thought, should be voluntary and should be ready to assist the Government in any measure of which the Government approved. He would propose that the Royal Society of Medicine should nominate persons to serve as a committee of this national society, and that a definite sum of public money should be placed in the hands of that committee. With regard to the question of notification, Mr. Symonds said that the experience of other countries showed that in the present state of mind of the people notification was ineffective; it led to greater concealment of disease and tended to drive sufferers to quacks' treatment. He thought there could be little doubt that notification would help towards suppression of disease, but it was necessary to wait until people had become educated in the matter; the demand for notification and international action might then come from the great mass of the population of this and other countries.

Mr. Arthur J. Evans, honorary surgeon to the Liverpool Stanley Hospital, was of opinion that if better facilities for treating venereal diseases could be provided at the general hospitals the spread of the infection would be reduced. The establishment of such a clinic to a hospital should, he thought, be financed and controlled by the State and not by the representative of the charitable public. Mr. Evans stated that in his capacity as visiting surgeon to the Brownlow Hill Poor-law Infirmary a very large number of venereal cases were brought to his notice. He thought that in Poor-law patients the general percentage of the later manifestations was very high. In the male sex this was exceedingly striking, and in a larger number of cases permanent incapability of earning a livelihood was produced; many also were beyond any hope of benefit even by modern treatment. A great difficulty in regard to Poor-law patients arose from the fact that there was no law to compel these patients to remain till properly cured; patients frequently left the hospital while still in an infectious state. As medical adviser to an important shipping company, Mr. Evans said that it was his experience that a great deal of venereal disease was introduced from abroad, and it was his opinion that this continuous introduction of disease into this country should undoubtedly be brought under control. He recommended that the Board of Trade should take steps to warn and explain to seamen and others dangers of contracting venereal disease, and the danger of infecting others of the community. The importation of disease would, he thought, be greatly lessened if sailors were aware of the risks encountered in foreign ports, and especially in the tropics.

JUNE AT HOME AND ABROAD.

At Home.

JUNE, although subject to sudden lapses into a chilly spring temperature, after violent local thunderstorms, was one of the brightest months on record, and was also generally dry, when the total amount of rainfall is considered, while the hot and cold spells so counterbalanced each other that the mean temperature for the whole month differed very little from the average. In London, at all events in the southern and south-western districts, the chief meteorological event was the violent and fatal thunderstorm that occurred on Sunday, the 14th. During its passage certain localities had more than a month's rainfall within three hours, while others had a mere sprinkle. The heaviest falls were at Wandsworth, Wimbledon, and Richmond. In Richmond Park Sir Frederick Treves measured as much as 3·7 in., and this appears to be the greatest quantity at any given spot. At the Kew Observatory the amount was only 1·3 in., and the aggregate for the month, 1·96 in., was 0·29 in. less than the normal. The Kew temperature, which was rather low during the earlier days of the month, became very high after the middle and again towards the end, and the mean maximum equalled 69°, against an average of 68°, while the mean minimum of 51° was identical with the normal. None of the night readings were very low and none oppressively high. The highest afternoon maximum occurred on the 30th, the figure being 84°, and the lowest, only 56°, was recorded on the 8th. Every day but the 6th brought its share of sunshine, and the total number of hours was no less than 256, which represents rather more than two hours per day above the normal. The more central districts of London were also very sunny; at South Kensington the figure was as high as 258 hours. On the south coast the records were naturally higher; at Brighton and also at Ventnor the total was 280 hours. The Midlands, as represented by Bath and Nottingham, had a temperature about the same as Kew, but at Harrogate and Buxton the readings were a few degrees lower, the mean maximum being 64° and the mean minimum 47° at both resorts. Neither Bath nor Nottingham was so bright as London, but their sunshine was greatly in excess of the average. Some of the great cities of the north recorded as much as the more southern districts do during an average June. At Glasgow there were 190 hours, and at Manchester 192 hours. On certain parts of the south-west coast the temperature was lowered by sea fogs, and the same phenomenon seriously interrupted the sun's record. At Newquay and the Scilly Isles the sunshine was no more than 207 hours, but at Torquay it was as high as 261 hours. Torquay had a mean maximum temperature a degree lower than Kew, and a mean minimum 2° higher. At the Scilly Isles the corresponding figures were 61° and 53°. Over the south and south-west of England generally the weather was too dry. In some parts of Hampshire and Dorset the total rainfall was less than half an inch, and at Torquay it barely exceeded three-quarters of an inch. The Channel Isles were also very dry; at Jersey the rainfall was rather less than half an inch against an average of 2·09 in. Sea fog also intercepted much of the sunshine, with the result that Jersey's total was below the normal by 14 hours, the aggregate figure being 225 hours.

Abroad.

The weather on the continent was generally dry and fine, but the rain, when it did occur, was often heavier than in this country. At Paris the total fall was 2·7 in., while in many other parts of France, where thunderstorms were rife, it was larger. At Biarritz it amounted to 6·8 in. Paris had more hot days than London, and the mean maximum temperature was 71°. The mean minimum, however, was the same as at Kew. Brussels had the same mean afternoon warmth as Kew, while at night the temperature was 2° lower. The relatively low minimum was due to some very cold nights early in the month. In spite of some outbursts of great heat in Germany the mean maximum temperature at Berlin was no higher than at Paris, although the mean minimum was 3° above that at the French capital. Only 10 or 11 days were at all rainy, but the aggregate fall was rather large, amounting to more than 3 in. The west and south-west of France underwent some great changes in temperature. From time to time the shaded thermometer nearly touched 100°, but as a whole the month was not particularly warm. At Biarritz, where the temperature was 91° on the 3rd, the average maximum was no higher than at Kew. On as many as five days there was no greater heat than 59°. The nights were with very few exceptions warm, and the mean minimum was as high as 55°.

The most sudden change of temperature of the month, which came on the 8th or 9th, was much less felt on the continent than in this country, where a strong northerly wind, reaching the velocity of a gale over a considerable area, sent the thermometer down to the level of early spring for a time. As a whole there was little wind, and the general movement was from some point between west and north rather than from between south and west, such as occurs during an average June.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 8744 births and 4018 deaths were registered during the week ended Saturday, July 18th. The annual rate of mortality in these towns, which had been 12·1, 12·7, and 11·5 per 1000 in the three preceding weeks, slightly rose to 11·6 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these towns averaged 13·8, against 13·1 per 1000 in London during the same period. Among the several towns the death-rate last week ranged from 3·7 in Ealing, 4·6 in Walthamstow, 4·9 in Devonport, 5·2 in Ilford, and 5·6 in Eastbourne; to 16·9 in South Shields, 17·2 in Preston, 17·7 in Middlesbrough, 20·1 in Blackpool, and 23·5 in Bootle.

The 4018 deaths from all causes were 18 in excess of the number in the previous week, and included 405 which were referred to the principal epidemic diseases, against 444 and 394 in the two preceding weeks. Of these 406 deaths, 151 resulted from infantile diarrhœal diseases, 110 from measles, 73 from whooping-cough, 34 from diphtheria, 26 from scarlet fever, and 12 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·2 per 1000, and was 0·1 more than the rate in the previous week. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 79, 116, and 112 in the three preceding weeks, rose to 151 last week; of this number 38 were registered in London, 11 in Sheffield, 10 in Birmingham, 7 in Birkenhead, 7 in Leeds, 6 in Liverpool, 5 in Manchester, and 4 each in Walsall, Bootle, and Newcastle-on-Tyne. The deaths referred to measles, which had been 144, 130, and 139 in the three preceding weeks, fell to 110 last week, and included 35 in London, 21 in Liverpool, 12 in Manchester, 7 in Sheffield, 7 in Leeds, and 3 each in Birmingham, Oldham, and Newport (Mon.) The fatal cases of whooping-cough, which had been 93, 95, and 77 in the three preceding weeks, further declined to 73 last week, of which 19 occurred in London, 9 in Liverpool, 3 in Bradford, and 3 in Leeds. The deaths attributed to diphtheria, which had been 35, 64, and 30 in the three preceding weeks, rose to 34 last week, and included 11 in London, 4 in Birmingham, 3 in Liverpool, 2 in Bournemouth, and 2 in Manchester. The deaths referred to scarlet fever, which had been 30, 23, and 22 in the three preceding weeks, rose to 26 last week; of which 5 were recorded in Manchester, 4 in Sheffield, 3 in Salford, 2 in Liverpool, and 2 in Sunderland. The fatal cases of enteric fever, which had been 13, 16, and 13 in the three preceding weeks, were 12 last week, and included 4 in London.

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had steadily increased from 2862 to 3109 in the nine preceding weeks, further rose to 3126 on Saturday last; 430 new cases were admitted during the week, against 440, 442, and 414 in the three preceding weeks. These hospitals also contained on Saturday last 1059 cases of diphtheria, 230 of whooping-cough, 33 of measles, and 33 of enteric fever, but not one of small-pox. The 1021 deaths from all causes in London were 101 in excess of the number in the previous week, and corresponded to an annual death-rate of 11·8 per 1000. The deaths referred to diseases of the respiratory system, which had declined from 163 to 111 in the four preceding weeks, rose to 128 in the week under notice, but were 9 below the number in the corresponding week of last year.

Of the 4018 deaths from all causes in the 97 towns, 172 resulted from different forms of violence and 317 were the subject of coroners' inquests, while 1288 occurred in public institutions. The causes of 44, or 1·1 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and in its 14 suburban districts, in Sheffield, Leeds, Bristol, Bradford, Newcastle-on-Tyne, and in 58 other smaller towns. Of the 44 uncertified causes of death, 12 were registered in Birmingham, 8 in Liverpool, 3 in Gloucester, and 2 each in Bootle, Warrington, Preston, Hull, and Tynemouth.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1216 births and 559 deaths were registered during the week ended Saturday, July 18th. The annual rate of mortality in these towns, which had been 13·8, 14·1, and 13·6 per 1000 in the three preceding weeks, further declined to 12·7 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these towns averaged 15·5, against a corresponding rate of 13·8 per 1000 in the 97 large English towns. Among the several towns the death-rate ranged from 10·3 in Kilmarnock, 10·9 in Dundee and in Paisley, and 11·2 in Edinburgh, to 17·0 in Coatbridge, 18·4 in Perth, and 18·9 in Hamilton.

The 559 deaths from all causes were 38 fewer than the number in the previous week, and included 58 which were referred to the principal epidemic diseases, against numbers declining from 67 to 41 in the four preceding weeks. Of these 58 deaths, 18 resulted from infantile diarrhœal diseases, 15 from whooping-cough, 12 from measles, 7 from scarlet fever, 4 from diphtheria, and 2 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·3, against 1·2 per 1000 in the 97 large English towns. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 10, 13, and 10 in the three preceding weeks, rose to 18 last week, of which 11 were registered in Glasgow, 2 in Dundee, and 2 in Aberdeen. The deaths referred to whooping-cough, which had been 18, 12, and 13 in the three preceding weeks, rose to 15 last week, and included 11 in Glasgow and 2 in Falkirk. The fatal cases of measles, which had been 7, 9, and 10 in the three preceding weeks, further increased to 12 last week; 5 deaths occurred in Dundee, 2 in Glasgow, and 2 in Hamilton. The deaths attributed to scarlet fever, which had been 7, 1, and 3 in the three preceding weeks, rose to 7 last week, but showed no excess in any particular town. The 4 deaths referred to diphtheria, of which 2 were recorded in Glasgow, were equal to the average in the three preceding weeks. The fatal cases of enteric fever were registered in Glasgow and Edinburgh.

The deaths referred to diseases of the respiratory system, which had steadily declined from 99 to 61 in the six preceding weeks, further fell to 51 in the week under notice; 21 deaths resulted from various forms of violence, against 33 and 26 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 574 births and 371 deaths were registered during the week ended Saturday, July 18th. The annual rate of mortality in these towns, which had been 15·7, 16·2, and 15·9 per 1000 in the three preceding weeks, rose to 16·1 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these towns averaged 19·0 per 1000; in the 97 large English towns the corresponding rate did not exceed 13·8, while in the 16 Scottish towns it was equal to 15·5 per 1000. The annual death-rate last week was equal to 17·2 in Dublin (against 11·8 in London and 12·8 in Glasgow), 13·5 in Belfast, 14·3 in Cork, 22·8 in Londonderry, 19·0 in Limerick, and 24·7 in Waterford, while in the 21 smaller towns the mean rate did not exceed 16·4 per 1000.

The 371 deaths from all causes were 3 in excess of the number in the previous week, and included 43 which were referred to the principal epidemic diseases, against 47 and 38 in the two preceding weeks. Of these 43 deaths, 14 resulted from measles, 14 from infantile diarrhœal diseases, 6 from whooping-cough, 5 from scarlet fever, 2 from diphtheria, and 2 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·9, against corresponding rates of 1·2 and 1·3 per 1000 in the English and Scotch towns respectively. The deaths attributed to measles, which had been 13, 15, and 10 in the three

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JUNE, 1914.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1914.	NOTIFIED CASES OF INFECTIOUS DISEASE.												DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.									Deaths from all causes.	Death-rate per 1000 living.†
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Poliomyelitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Enteric fever.	Diarrhœa and enteritis (under 2 years).	Total.	Annual rate per 1000 persons living.		
LONDON...	4,516,612	—	2057	745	—	59	1	39	87	6	4	3298	7·6	—	174	24	65	120	12	104	499	1·2	5450	12·6
West Districts.																								
Paddington	142,055	—	32	37	—	—	—	2	13	—	—	84	6·2	—	—	1	4	3	1	3	12	0·9	156	11·4
Kensington	170,817	—	86	14	—	—	—	—	13	—	—	113	6·9	—	—	1	1	2	—	4	8	0·5	183	11·2
Hammersmith	124,750	—	80	9	—	—	—	—	7	1	—	97	8·1	—	—	1	1	2	1	3	8	0·7	144	11·9
Fulham	158,849	—	71	11	—	2	—	—	7	—	—	91	6·0	—	1	1	2	6	1	5	16	1·1	158	10·8
Chelsea	63,791	—	30	7	—	2	1	1	6	—	—	47	7·7	—	—	1	—	1	1	—	3	0·5	70	10·8
City of Westminster	152,346	—	114	12	—	1	—	3	9	—	—	139	9·5	—	—	1	—	3	—	1	5	0·3	167	12·0
North Districts.																								
St. Marylebone	112,892	—	39	23	—	3	—	1	10	—	—	76	7·0	—	—	—	2	1	2	2	7	0·6	128	12·0
Hampstead	86,731	—	28	9	—	2	—	—	4	—	—	43	5·2	—	—	—	1	2	—	—	3	0·4	77	9·8
St. Pancras	212,497	—	113	51	—	3	—	5	19	—	1	192	9·4	—	6	2	2	4	—	7	21	1·0	261	12·8
Islington	324,764	—	120	63	—	7	—	1	18	1	—	210	6·7	—	9	—	5	14	—	8	36	1·2	407	12·8
Stoke Newington	50,454	—	16	3	—	—	—	—	1	—	—	20	4·1	—	—	—	—	1	—	2	3	0·6	61	12·0
Hackney	223,724	—	52	46	—	1	—	4	23	—	—	126	6·9	—	1	—	8	3	—	6	18	0·8	262	12·3
Central Districts.																								
Holborn	45,861	—	18	8	—	—	—	2	4	—	—	32	7·3	—	1	—	—	—	—	—	1	0·2	71	16·2
Finsbury	83,212	—	38	14	—	4	—	1	18	—	—	75	9·4	—	20	—	—	10	—	3	33	4·1	147	18·2
City of London	17,129	—	—	3	—	1	—	—	—	—	—	4	2·4	—	—	—	—	2	—	—	2	1·2	28	17·7
East Districts.																								
Shoreditch	108,869	—	32	17	—	1	—	1	16	—	—	67	6·4	—	22	1	1	8	—	6	38	3·6	184	18·2
Bethnal Green	127,662	—	51	24	—	2	—	1	27	—	—	105	8·6	—	7	—	—	6	—	8	21	1·7	149	12·7
Stepney	273,265	—	129	66	—	4	—	3	24	—	1	227	8·7	—	45	2	10	9	—	10	76	2·9	411	16·4
Poplar	160,222	—	51	24	—	6	—	—	24	1	1	107	7·0	—	9	—	4	3	1	7	24	1·6	241	15·6
South Districts.																								
Southwark	186,941	—	166	35	—	3	—	3	25	—	—	232	12·9	—	5	3	2	4	1	4	19	1·1	260	14·6
Bermondsey	124,213	—	58	28	—	—	—	1	12	1	—	100	8·4	—	16	—	1	3	—	4	24	2·0	194	16·3
Lambeth	296,724	—	150	39	—	3	—	2	17	—	1	212	7·5	—	5	2	2	4	2	3	18	0·6	335	11·6
Battersea	167,338	—	79	18	—	2	—	1	10	—	—	110	6·9	—	2	1	4	6	—	4	17	1·1	191	12·0
Wandsworth	338,998	—	116	33	—	1	—	5	18	—	—	173	5·3	—	4	1	1	7	—	4	17	0·5	315	9·7
Camberwell	262,020	—	141	55	—	2	—	1	19	1	—	219	8·7	—	3	3	5	6	1	5	23	0·9	313	12·4
Deptford	109,182	—	95	26	—	2	—	—	19	—	—	142	13·6	—	7	—	3	—	1	1	12	1·1	125	11·8
Greenwich	96,037	—	32	27	—	1	—	—	11	1	—	72	7·8	—	9	—	3	—	—	1	13	1·4	121	12·9
Lewisham	172,433	—	75	20	—	5	—	1	6	—	—	107	6·5	—	1	1	2	7	—	1	12	0·7	151	8·9
Woolwich	122,836	—	45	23	—	1	—	—	7	—	—	76	6·5	—	1	2	1	3	—	2	9	0·8	140	12·2
Port of London	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup. † The death-rates are corrected for variations in sex- and age-constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard.

preceding weeks, rose to 14 last week, and comprised 6 in Dublin, 4 in Belfast, 3 in Sligo, and 1 in Lurgan. The deaths of infants (under 2 years) referred to diarrhœa and enteritis, which had been 11, 14, and 13 in the three preceding weeks, were 14 last week, of which 6 occurred in Dublin and 6 in Belfast. The fatal cases of whooping-cough, which had been 6, 10, and 5 in the three preceding weeks, were 6 last week, and included 4 in Belfast. The 5 deaths attributed to scarlet fever, of which 3 occurred in Dublin and 2 in Belfast, were equal to the average in the four preceding weeks. The 2 deaths from diphtheria were registered in Dublin, and the fatal cases of enteric fever in Dublin and Belfast. In addition to the above a fatal case of typhus was recorded in Belfast.

The deaths referred to diseases of the respiratory system, which had been 57, 41, and 53 in the three preceding weeks, fell to 41 in the week under notice. Of the 371 deaths from all causes, 123, or 33 per cent., occurred in public institutions and 7 resulted from various forms of violence. The causes of 15, or 4·0 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes did not exceed 1·1 per cent.

VITAL STATISTICS OF LONDON DURING JUNE, 1914.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the specified diseases was equal to an annual rate of 7·6 per 1000 of the population, estimated at 4,516,612 persons in the middle of the year; in the three preceding months the rates were 7·4, 6·3, and 7·5 per 1000 respectively. The lowest rates last month were recorded in Hampstead, Stoke Newington, Hackney, City of London, and Wandsworth; and the highest rates in the City of Westminster, St. Pancras, Finsbury, Southwark, and Deptford. Scarlet fever was rather more prevalent than in the preceding month; the greatest proportional prevalence of this disease last month was recorded in Kensington, Hammersmith, the City of Westminster, St. Pancras, Southwark, Lambeth, Camberwell, and Deptford. The Metropolitan Asylums Hospitals contained 3045 scarlet fever patients at the end of last month, against 3138, 2826, and 2859 at the end of the three preceding months; the weekly admissions averaged 396, against 337, 312, and 376 in the three preceding months. Diphtheria also showed a slightly increased prevalence last month; this disease was proportionally most prevalent in Paddington, St. Pancras, Stepney, Bermondsey, Camberwell, Deptford, and Greenwich. The number of diphtheria patients under treatment in the Metropolitan Asylums Hospitals, which had been 1306, 1121, and 1078 at the end of the three preceding months, had risen to 1080 at the end of last month; the weekly admissions averaged 140, against 158, 114, and 130 in the three preceding months. Enteric fever was slightly less prevalent than it had been in the preceding month; the greatest proportional prevalence of this disease occurred in Chelsea, St. Marylebone, Finsbury, Poplar, and Lewisham. The Metropolitan Asylums Hospitals contained 40 enteric fever patients at the end of June, against 66, 55, and 39 at the end of the three preceding months; the weekly admissions averaged 8, against 7 and 6 in the two preceding months. Erysipelas was proportionally most prevalent in Finsbury, Shoreditch, Bethnal Green, Poplar, Southwark, and Deptford. The 39 cases of puerperal fever notified during the month included 5 in St. Pancras, 5 in Wandsworth, 4 in Hackney, 3 in the City of Westminster, 3 in Stepney, and 3 in Southwark. The 6 cases of cerebro-spinal meningitis belonged respectively to Hammersmith, Islington, Poplar, Bermondsey, Camberwell, and Greenwich; and the 4 cases of poliomyelitis to St. Pancras, Stepney, Poplar, and Lambeth.

The mortality statistics relate to the deaths of persons actually belonging to the several boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided; the death-rates from all causes are further corrected for variations in the sex- and age-constitution of the population of the several boroughs. During the five weeks ending July 4th the deaths of 5450 London residents were registered, equal to an annual rate of 12·6 per 1000; in the three preceding months the rates were 15·2, 13·8, and 12·9 per 1000 respectively. The death-rates last month ranged from 8·9 in Lewisham, 9·7 in Wandsworth, 9·8 in Hampstead, 10·8 in Fulham and in Chelsea, and 11·2 in Kensington, to 16·2 in Holborn, 16·3 in Bermondsey, 16·4 in Stepney, 17·7 in the City of London, and 18·2 in Finsbury and in Shoreditch. The 5450 deaths from all causes included 499 which were attributed to the principal infectious diseases; of these, 174 resulted from measles, 24 from scarlet fever, 65 from diphtheria, 120 from whooping-cough, 12 from enteric fever, and 104 from diarrhœa and enteritis among children under two years of age. The lowest death-rates from these diseases last month were recorded in Kensington, Chelsea, the City of Westminster, Hampstead, Holborn, and Wandsworth; and the highest rates in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, and Bermondsey. The 174 fatal cases of measles were 14 fewer than the corrected average number for the corresponding period of the five preceding years; this disease was proportionally most fatal in Finsbury, Shoreditch, Stepney, Bermondsey, and Greenwich. The 24 deaths from scarlet fever were slightly in excess of the corrected average number, and included 3 in Southwark, 3 in Camberwell, and 2 each in St. Pancras, Stepney, Lambeth, and Woolwich. The 65 deaths from diphtheria were 33 above the corrected average number; the greatest proportional mortality from this disease occurred in Paddington, Hackney, Stepney, Deptford, and Greenwich. The 120 deaths from whooping-cough were 20 in excess of the corrected average, the highest death-rates from this disease being recorded in Islington, Finsbury, Shoreditch, Bethnal Green, and Lewisham. The 12 fatal cases of enteric fever exceeded by 4 the corrected average number, and included 2 in St. Marylebone and 2 in Lambeth. The mortality from diarrhœa and enteritis among children under two years of age was proportionally greatest in Stoke Newington, Finsbury, Shoreditch, Bethnal Green, Stepney, and Poplar. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases, excluding diarrhœa, was nearly 11 per cent. above the average.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet-Surgeon: R. M. Richards to the *President*, additional, for Recruiting Headquarters, temporarily. Staff-Surgeons: W. N. Blatchford to the *Pembroke*, additional, for disposal; and E. F. Ellis to the *Assistance*, vice Richards. Surgeons: F. H. Stephens to the *Victory*, additional, for disposal; A. V. J. Richardson to the *Attentive*; J. H. Burdett to the *Bulwark*; and W. Mearns and A. L. Robinson to the *Pembroke*, additional for disposal.

Surgeon George Murray Levick has been promoted to the rank of Staff Surgeon in His Majesty's Fleet (dated Nov. 21st, 1910).

ROYAL ARMY MEDICAL CORPS.

Lieutenant Basil H. H. Spence is seconded for service with the Egyptian Army (dated June 30th, 1914).

Lieutenant Pierce M. J. Brett is seconded for service with the Egyptian Army (dated July 1st, 1914).

Colonel F. C. Jones has been appointed Assistant Director of Medical Services at Tidworth, Salisbury Plain. Colonel C. Birt has taken up duty as Assistant Director of Medical Services to the Sixth (Poona) Division of the Southern Army in India. Colonel S. Westcott, C.M.G., has joined at Portsmouth.

Lieutenant-Colonel T. H. Corkery has been appointed to the medical charge of troops at Fort Efford and Mutley District, Plymouth. Lieutenant-Colonel C. A. Lane has been appointed to hold charge of the Military Hospital at Madras Cantonment. Lieutenant-Colonel E. M. Pilcher, D.S.O., has taken up duty as Professor of Military Surgery at the Royal Army Medical College, Grosvenor-road. Lieutenant-Colonel M. J. Sexton has been appointed Senior Medical Officer at Wynberg. Lieutenant-Colonel F. W. Hardy has been granted six months' general leave of absence home from Allahabad Cantonment. Lieutenant-Colonel J. J. Russell has been placed under orders for service abroad. Lieutenant-Colonel F. Begbie has joined at Maymyo. Lieutenant-Colonel S. C. Philson has been appointed to hold charge of the Military Hospital at Lucknow Cantonment. Lieutenant-Colonel S. Macdonald has taken up duty as Medical Inspector of Recruits at Headquarters of the Southern Command. Lieutenant-Colonel W. L. Gray has arrived home on leave of absence from Jullundur Cantonment.

Major H. G. Pinches has been appointed to the Military Hospital at Sheerness on transfer from Chatham. Major W. Davis has been transferred from the Military Hospital at Meerut Cantonment to Naini Tal. Major S. W. Sweetnam has been appointed Senior Medical Officer at Sheerness. Major G. M. Goldsmith has been transferred from Lebong Cantonment to the Dublin District. Major J. G. Gill has joined at Devizes. Major D. L. Harding has been transferred from the Military Hospital at Londonderry to Mullingar. Major A. G. Thompson has taken up duty at Honiton. Major H. M. Nicholls has arrived home for duty from Poona Cantonment. Major J. B. Anderson has been appointed Embarkation Medical Officer at Southampton Docks. Major H. W. Long has been transferred from the Military Hospital at Choulston to hold medical charge of the Cavalry School at

Netheravon. Major F. Ashe has been appointed Specialist in Midwifery and Diseases of Women and Children to the Ninth (Secunderabad) Division. Major S. M. Adye-Curran has taken up duty on the staff of the Military Hospital at Sialkot Cantonment. Major J. Hennessy has been selected for advancement to the rank of Lieutenant-Colonel. Major E. V. Aylen has been appointed Senior Medical Officer at Barian. Major E. T. F. Birrell has been placed under orders for service abroad during the coming trooping season. Major A. H. Morris has arrived home on leave of absence from the Military Hospital at Malta. Major J. Powell has been appointed to the Egyptian Army. Major P. MacKessack has taken up duty as Specialist Sanitary Officer at Headquarters of the Eastern Command. Major F. S. Penny has been appointed to hold charge of the Military Hospital at Limerick. Major J. G. MacNaught has joined the Aldershot Command. Major C. R. Evans has arrived home on leave of absence from Malta. Major G. J. Houghton has arrived home for duty from Sierra Leone Protectorate. Major J. C. B. Statham has been transferred from the London District to the Sierra Leone Protectorate. Major L. P. More has been appointed to hold charge of the Military Hospital at Wellington.

Captain R. Storrs has been appointed to the Military Hospital at Winchester. Captain D. G. Carmichael has been transferred from the Military Hospital at Sialkot Cantonment to Cliffden. Captain T. J. Hallinan has taken up duty at Multan Cantonment. Captain G. de la Cour has been appointed for the course of instruction for promotion to the rank of Major at the Royal Army Medical College. Captain C. Scaife has been appointed to the Northern Command on transfer from Belgaum. Captain E. Caddell has been transferred from the Dublin District to the Eastern Command. Captain W. F. M. Loughnan has joined at Hounslow. An exchange on the roster for service abroad has been approved between Captain H. O. M. Beadnell and Captain A. C. Osburn. Captain R. F. O'T. Dickinson has been appointed to the Dublin District. Captain R. C. Phelan has taken up duty in the Irish Command on transfer from Barrackpore. Captain C. H. Denyer has been transferred from the Military Hospital at Agra to the Southern Command. Captain W. K. Beaman has been appointed to the Military Hospital at York on transfer from Malta. Captain O. R. McEwen has been transferred from Multan Cantonment to the Military Hospital at Londonderry. Captain W. W. Browne has been appointed Staff Surgeon at headquarters of the Ahmednagar Brigade. Captain G. P. A. Bracken has joined at Lichfield. Captain S. Field has been appointed to hold medical charge at Queenstown on transfer from Jamaica. Captain F. H. M. Chapman has been transferred from the Military Hospital at Meerut Cantonment to Delhi. Captain A. S. Cane has been appointed to Kirkee. Captain W. E. Marshall has taken up duty at the Military Hospital, Cork, on transfer from Kinsale. Captain W. Byam has joined the Egyptian Army. Captain M. O. Wilson has been transferred from the Military Hospital at Aden to Chatham. Captain W. H. S. Burney has been appointed to Ferozepore. Captain R. A. Bryden has been appointed to hold charge of the Military Hospital at Fleetwood. Captain R. C. Hallowes has joined at Holywood. Captain F. Casement has been transferred from the Military Hospital at Lucknow Cantonment to Edinburgh. Captain P. J. Hanafin has been appointed Specialist in Ophthalmology at Dublin.

Lieutenant A. Hood has been appointed to the Military Hospital at Rawal Pindi Cantonment on transfer from Lichfield. Lieutenant J. H. M. Frobisher has embarked for service in India. Lieutenant H. W. L. Allott has been transferred from the Military Hospital at Lucknow to Bareilly Cantonment. Lieutenant M. Beddingfield has been placed under orders for service abroad during the coming trooping season. Lieutenant B. Biggar has taken up duty at Cairo. Lieutenant T. C. Sproule has been appointed to hold medical charge at West Down Camp, Salisbury Plain, on transfer from the Military Hospital at Taunton. Lieutenant H. N. Sealy has joined the Belfast District.

INDIAN MEDICAL SERVICE.

The King has approved the promotion of the following officers of the Indian Medical Service:—Lieutenant-Colonels to be Colonels: Hormasjie Eduljie Banatvala (dated April 2nd, 1914). Percy Charles Hutchison Strickland (dated May 15th, 1914).

Surgeon-General C. P. Lukis, K.C.S.I., Honorary Surgeon to His Majesty the King, has been appointed to officiate as Sanitary Commissioner with the Government of India during the absence on leave of the Honourable Major J. C. Robertson, C.I.E.

Colonel A. O. Evans, Inspector-General of Civil Hospitals in Burma, has been granted combined leave of absence home for eight months. Colonel C. J. Bamber, C.V.O., on return to duty from leave of absence, has been appointed Inspector-General of Civil Hospitals in the Punjab, vice Lieutenant-Colonel G. F. W. Braide, officiating.

Lieutenant-Colonel G. McIver Smith, civil surgeon at Ludhiana, has been selected for appointment as Civil Surgeon at Murree Cantonment. Lieutenant-Colonel D. M. Davidson, civil surgeon at Lahore, has been granted three months' leave of absence.

The services of Major M. Corry have been placed temporarily at the disposal of the Government of India for employment in the Delhi Province. Major J. G. G. Swan, civil surgeon at Jhelum, has been selected for appointment as Civil Surgeon and Professor of Forensic Medicine and Toxicology at the Medical College, Lahore, vice Lieutenant-Colonel D. M. Davidson, granted leave of absence. The services of Major M. MacKelvie have been placed at the disposal of the Government of Bengal. Major H. M. Melhuish, on return from leave of absence, has been appointed as Plague Medical Officer at Gurgaon. Major E. L. Perry has been appointed to officiate as Sanitary Commissioner of the Punjab. The services of Major R. McCarrison have been replaced at the disposal of the Foreign Department. Major W. Glen Liston has taken up duty as Director of the Bombay Bacteriological Laboratory. Major W. R. Battye has joined at Mewar as Residency Surgeon. Major H. J. Walton has been appointed Professor of Pathology at King George's Medical College, Lucknow. Major J. R. J. Tyrrell has been appointed Civil Surgeon at the Khyber. Major F. P. Mackie has been granted three months' privilege leave of absence.

Captain C. I. Brierly has been selected for appointment to hold civil medical charge at Peshawar. The services of Captain N. G. McVean have been placed at the disposal of the Government of Bombay for employment in the Civil Medical Department. Captain C. H. Cross has joined at Madras. Captain A. N. Dickson has been appointed to officiate as Agency Surgeon at Maskat. The services of Captain C. E. Palmer have been placed permanently at the disposal of the Government of the United Provinces of Agra and Oudh for employment in the Jail Department. Captain J. B. D. Hunter has been granted an extension of leave of absence home from India. Captain L. Cook has been appointed to officiate in civil medical charge at Champaran. Captain J. Kirkwood has taken up duty as District Medical and Sanitary Officer at Canara. Captain D. P. Goll has joined the Civil Medical Department of Bengal Presidency. Captain R. Kelsall has been granted leave of absence. Captain L. B. Scott has been appointed Civil Surgeon and Superintendent of the Prison at Sylhet, Assam. Captain H. G. Stiles Webb has taken up duty as Chief Malaria Medical Officer in the Punjab. Captain J. P. Cameron, superintendent of prisons at Madras, has been appointed Superintendent of the Central Prison at Coimbatore. Captain A. H. Napier has been appointed to the Bacteriological Department for duty at the Central Research Institute at Kasauli. Captain C. Newcombe has been appointed to the Chemical Examiner's Department for duty at Calcutta. The services of Captain S. C. Chuckerbutty have been placed at the disposal of the Assam Government.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Lieutenant Eben S. B. Hamilton to be Captain (dated June 29th, 1914).

Lieutenant William Crymble to be Captain (dated July 13th, 1914). Lieutenant Alexander J. Gibson and Lieutenant Thomas W. Wylie are confirmed in their rank. Cadet Corporal George Perkins, from the Oxford University Contingent, Officers Training Corps, to be Lieutenant (on probation) (dated May 20th, 1914).

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd South-Western Mounted Brigade Field Ambulance, Royal Army Medical Corps: The order of precedence of the undermentioned Captains whose appointments were announced in the *London Gazette* of May 15th, 1914, to be as now shown: John Munro Dupont and Henry Norman Barnett.

East Anglian Clearing Hospital, Royal Army Medical Corps: William Redpath to be Lieutenant (dated July 18th, 1914).

Wessex Clearing Hospital, Royal Army Medical Corps: Alfred John Hopkinson Iles to be Lieutenant (dated June 9th, 1914).

3rd South Midland Field Ambulance, Royal Army Medical Corps: Henry James Drew Smythe to be Lieutenant (dated June 18th, 1914).

Attached to Units other than Medical Units.—Lieutenant Robert Henry to be Captain (dated July 9th, 1914). Lieutenant-Colonel and Honorary Surgeon-Colonel David Lennox resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated July 22nd, 1914). Captain Thomas Harper resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated July 22nd, 1914). Captain George B. Gill resigns his commission (dated July 22nd, 1914).

EXAMINATION FOR PROMOTION TO STAFF-SURGEON, R.N.

At the recent examinations held at Greenwich and London the following surgeons qualified for promotion to the rank of Staff-Surgeon: George M. Levick, Arthur T. Rivers, Thomas R. L. Jones, Kenneth H. Hole, Gilbert F. Syms, Hugh F. Briggs, Michael P. Fitzgerald, James Barrett, Gordon A. Jackson, Alfred G. Malcolm, Horace C. Devas, and Harry W. Nichols. Two of these officers—Surgeon Hole and Surgeon Syms—obtained first-class certificates, thus becoming eligible for accelerated promotion to the extent of 12 months' seniority.

NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund, held on July 14th, Inspector-General W. Harris Lloyd in the chair, the sum of £52 was distributed among the several applicants.

ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

(FROM OUR OWN CORRESPONDENT.)

THE sixty-fifth annual meeting of the American Medical Association was held in Atlantic City from June 22nd to 26th, and proved a highly successful gathering. Atlantic City, the popular New Jersey seaside resort, is well adapted for a meeting of this character, being situated at convenient distances from the principal cities of the eastern part of the United States, and containing ample accommodation for visitors. It is also provided with buildings admirably suited to the holding of meetings. For these reasons the attendance of medical men was larger than at any previous meeting, and from the medical and scientific standpoint the papers read were, generally speaking, of a high standard.

Opening Meeting: Presidential Address.

At the opening meeting of the house of delegates Dr. JOHN A. WITHERSPOON, of Nashville, Tenn., the retiring President, apologised for not having, through ill-health, been able to prepare an address, and the various reports were then received. Among these was that of a committee appointed to advise on an invitation from the British Medical Association to hold a joint meeting in Cambridge from July 6th to 10th, 1915. The committee held that the invitation would have to be declined, as the constitution and by-laws of the American Medical Association provided that the annual meeting should be held at some place in the United States, but suggested that the British body be invited to meet with the American body at the earliest date possible.

On Tuesday, June 23rd, at a general session, a gold medal in the name of the American Medical Association was conferred on Surgeon-General William C. Gorgas in recognition of his labours to render the Isthmian Canal zone healthy, thus making it possible to build the Canal.

Dr. VICTOR C. VAUGHAN, of Ann Arbor, Michigan, the President for the year, then delivered his address, in which he reviewed the service of medicine to civilisation. "We boast," he said, "of a great civilisation, but this is justified only within limits. Science more nearly dominates the world than at any time in the past. Learning permeates the masses more deeply, but credulity and ignorance are widely prevalent. In this country of nearly one hundred millions there are thousands whose greed impedes the progress of the whole, tens of thousands whose ignorance retards their own growth, and other thousands who live by crime and procreate their kind to live on generations to come. We have our schools, colleges, and universities, but our almshouses, insane asylums, and penal institutions are full. In our cities we see the palatial homes of the ultra rich, the splendid temples of trade and commerce, the slums of want and poverty, and the homes, both rich and squalid, of vice and crime. No nation in this condition can be given a clean bill of health. Our hill-tops are illuminated by the light of knowledge, but our valleys are covered by the clouds of ignorance. We have not emerged from the shadows of the dark ages. The historian of the future will have no difficulty in convincing his readers that those who lived at the beginning of the twentieth century were but slightly removed from barbarism; he will tell that the school, saloon, and house of prostitution flourished in close proximity; that the capitalist worked his employees under conditions which precluded soundness of body; that the labour union man dynamited buildings; that whilst we sent missionaries to convert the Moslem and Buddhist 10,000 murders were committed in our midst; and that a large percentage of our mortality was due to preventable disease."

Papers read in the Sections.

In the Section on Obstetrics, Gynæcology, and Abdominal Surgery a symposium on surgery of the large intestine was held. Dr. WILLIAM J. MAYO, of Rochester, Minn., contributed a paper dealing with resection of the first portion of the large intestine and the resulting effect on its function. He said that in the past too much importance had been attributed to purely incidental changes in the position and attachment of the large intestine, bands, kinks, and adhesions of a normal character being thus given a fictitious rôle in the production of symptoms. The results of resection were good in suitable cases, patients who showed exaggerated conditions of cæcocolic stasis being relieved of these conditions. Among his own operations of this character there had been no deaths.

In the section on Surgery Dr. JOSEPH BLOODGOOD, of Baltimore, in a paper entitled "The Relations of the Surgeon to the Conquest of Cancer," assigned the mortality from cancer chiefly to ignorance or fear of operation, which led to delayed or bad treatment. He was in favour of a diffusion of information among the medical profession and the public through the lay and medical press. This information should be under the absolute control of responsible medical authority. He emphasised the importance of early thorough operation. The difficulty of making an early diagnosis must be met by the physician.—Mr. EDRED M. CORNER, surgeon to St. Thomas's Hospital, London, discussed the importance of the crucial ligaments in injuries of the knee-joints.[1] He believed that many injured ligaments had been overlooked, which accounted for poor functional results after fracture. He showed diagrams on the screen of fractured spines of tibiæ, and believed them to be overlooked occasionally. Portions of torn ligaments and periosteum sometimes became free bodies within the knee-joint.—Dr. J. B. MURPHY, of Chicago, who discussed Mr. Corner's contribution, stated that it was the first of its kind considered before the American Medical Association.

In the Section on Diseases of Children Dr. F. C. NEFF, of Kansas City, read a paper on the Feeding of Infants with Skimmed Breast Milk. He said he had found that when the fat content was reduced the digestion improved, the emptying of the stomach being facilitated. Only a temporary reduction of the fat might be necessary. Later the child might have an increased tolerance for fat. In cases of severe digestive disturbance, persistent vomiting, or pylorospasm, complete recovery often followed the removal of fat from the breast milk. The method employed by him was to obtain 24 hours' supply of breast milk, which was kept on ice, the supply of the previous 24 hours being used for feeding. The milk was placed in a rubber-stoppered bottle with a tube at the bottom for withdrawing the milk without the fat. In this way the reduction of fat could be measured.

The following officers were elected for the coming year. President, Dr. H. L. Rodman (Philadelphia); Vice-Presidents, Dr. E. S. Fairchild (Kansas City, Mo.); Dr. D. Misner R. Townsend (New York); Dr. Alice Hamilton (Chicago); Dr. William E. Darnall (Atlantic City, N.J.); Secretary, Dr. Alexander R. Craig (Chicago); Treasurer, Dr. William Alan Pusey (Chicago).

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[1] THE LANCET, May 9th, 1914, p. 1317.

CENTRAL LONDON THROAT AND EAR HOSPITAL AND THE CLINICAL CONGRESS OF SURGEONS.—We are asked to say that the medical staff of the Central London Throat and Ear Hospital, Gray's Inn-road, W.C., will welcome their American *confrères* at breakfast at the Great Northern Railway Hotel, King's Cross, at 9 A.M. on Thursday, July 30th, and afterwards, at 10 A.M., at a demonstration of interesting cases at the hospital. Cards of invitation will be sent on application to the Dean.

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

MANCHESTER.

New Central Branch of the Royal Infirmary, Manchester.

THE Central Branch for Accidents and Out-patients of the Royal Infirmary, which has been built in a convenient situation in the centre of the city and which has cost £25,000, will be opened in a few weeks. The buildings are practically complete, and they are now being furnished. On the ground floor is a large vestibule from which there open rooms for consultation and for the examination of out-patients, medical and surgical. The several rooms have communicating doorways, so that the medical officers need not pass through the vestibule to reach an adjacent room. There is a special accident room, in addition to two rooms each with two beds for cases requiring observation. On the same floor there is an X ray installation and an operating theatre.

A Babies' Hospital.

Arrangements have been made by the medical women of Manchester for the provision on a small scale of a babies' hospital for the more effective treatment of babies and very young children suffering from diarrhœa and other gastro-intestinal disorders. It is felt that in a general hospital it is not always possible to give that attention to those cases which is necessary, while there is but little accommodation for nursing babies. To begin with, the number of patients at any one time in the hospital will be limited to 12. A house has been secured, and it is estimated that the cost of carrying out the scheme for the first year will be £800. Of this amount a lady donor has offered £300 if the expenses for opening on August 1st are secured.

Blackpool Hospital Dispute.

The regrettable dispute between the honorary surgeons and the board of management of the Blackpool Victoria Hospital has entered on a new phase. The dispute began last year and has continued ever since. The nurses' dietary has been rectified; the matron has voluntarily tendered her resignation and a new matron has been appointed. Six in all of the honorary medical staff have resigned. The doctors made a suggestion regarding a medical member of the board of management which has not been acted on, hence the trouble. The medical staff called for the resignation of this medical man from the board of management. Last night, Dr. Buckley presiding, a meeting of medical practitioners of Blackpool was held, and a proposal to found a cottage hospital was adopted unanimously, and enough money was guaranteed at the meeting to set the undertaking agoing. Mr. R. H. W. Dunderdale will for the present act as secretary and treasurer. The hospital will be used to deal with acute surgical emergencies amongst the medical practitioners' own cases.

A Manchester Man for the Antarctic Expedition.

Dr. Alexander H. Macklin has resigned his position as senior house surgeon at the Blackburn Infirmary on his appointment as one of the surgeons in Sir Ernest Shackleton's forthcoming Polar expedition. Dr. Macklin graduated in medicine at Manchester in July, 1912.

July 21st.

BIRMINGHAM.

Milk-supply.

THE public health committee is issuing a circular drawing the attention of farmers and milk dealers to the necessity of taking care to ensure that the milk is free from contamination. The following is the suggested method of milking to secure greater cleanliness: (1) The cows and cowsheds to be kept clean; (2) all long hairs on udders and flanks of cows to be kept short by clipping; (3) cows' flanks to be damped with a brush and their udders wiped clean with a wet cloth before milking to prevent dust and dirt from falling into the milk; (4) milkers to wash their hands with soap and water before milking and to wear clean overalls; (5) a covered milking pail to be used with an opening in the side; and (6) the milk to be immediately removed from the cowshed into a clean dairy and passed through a strainer and cooled. Bacteriological experiments have been made recently in Birmingham at four good dairy farms. The number of germs in 1 c.c. after two hours in milk obtained by ordinary methods varied from 360 to 147,500, the average being 41,312. With the special method they varied from 140 to 400, and the average was 234. The health committee has also issued a circular to shopkeepers who sell feeding bottles appealing to them to stop the sale of bottles with long tubes in the interests of the community.

The City Sanatorium.

The opening of the new buildings of the City Sanatorium, Yardley-road, by the Lady Mayoress will take place on July 24th. Sir Robert Philip will give a short address.

July 22nd.

SCOTLAND.

Meeting of the Royal Institute of Public Health.

THE annual meeting of the Royal Institute of Public Health commenced in the Usher Hall, Edinburgh, on Wednesday evening, July 15th, when the President of the congress, the Marquis of Linlithgow, delivered the opening address before a distinguished audience. The address, which was listened to with attention, dealt with the difficulties, technical, political, and economic, with which science had to contend in combating the great public health problems of the day, and called attention to the need for educating public opinion. At the close of the address Lord Linlithgow was admitted to the honorary Fellowship of the institute and Lord Provost Inches to honorary life membership. The medal of the institute for conspicuous service in the cause of preventive medicine was awarded to Dr. James Niven, medical officer of health of Manchester, for his work in the direction of the prevention of tuberculosis. The work of the congress was continued until Monday, July 20th, when the proceedings closed by a public lecture delivered by Dr. Otto Neustatter, of Dresden. The congress was attended by a large number of prominent medical men and sanitarians.

Health of Aberdeenshire: Annual Report of the Medical Officer of Health.

Dr. J. P. Watt, medical officer of health of the county of Aberdeen, states in his annual report for 1913 that emigration from the county has received a check, its trend also having been deflected somewhat from Canada to Australia and New Zealand. The birth-rate for the county, as estimated by the Registrar-General, was 24·082 per 1000, and the illegitimate birth-rate was 18·2. The death-rate was 13·770 per 1000 on the Registrar-General's population. The death-rate of children under 1 year of age was 94·4 per 1000 births. The death-rate from tuberculosis was at the rate of 720 per million, as compared with 801 for 1912. Dr. Watt notes that from a paper published by Dr. A. K. Chalmers, medical officer of health of Glasgow, the death-rate from phthisis would appear to have fallen in Aberdeenshire from 2210 deaths per million in 1860–62 to 898 deaths per million in 1908–10, a fall of 59·4 per cent. In 1860–62 Aberdeenshire came twenty-second in the list of Scottish counties with the lowest death-rate from phthisis; in 1908–10 it came sixth, the counties having less deaths per million persons from consumption being Peebles, Fife, Wigtown, Haddington, and Berwick.

Appointment to Chair of Chemistry at Aberdeen University.

Mr. Frederick Soddy, M.A., F.R.S., was, at a meeting of the Aberdeen University Court held on July 14th, unanimously appointed to the chair of Chemistry in that University, rendered vacant by the resignation of Professor Japp. Mr. Soddy, who obtained a first class in the Honours School of Natural Science, Oxford, in 1898, went to Montreal as a demonstrator in the Chemical Laboratory at McGill University, where for three years he worked, largely in conjunction with Professor Rutherford, carrying on a combined chemical and physical investigation of radio-active phenomena. The result of this joint work was the general interpretation of radio-activity by the theory that the atoms of the radio-elements are undergoing spontaneous disintegration. Subsequently he was associated with Sir William Ramsay in London, and worked also at the Cavendish Laboratory, Cambridge, with Sir J. J. Thomson, with results too well known to need enumeration. In 1904 he was appointed to the newly instituted independent lectureship in physical chemistry in Glasgow, where he has remained until now, accomplishing much, working chiefly on the problems which surround the origin of radium.

Death of Dr. Alexander Reith.

Dr. Alexander Reith died at his residence, Aberdeen, on July 16th. He was a well-known practitioner in Aberdeen, and was a native of that city, having graduated M.D. at Marischal College in 1859. For some time subsequently he practised in England and France, and on his return to Aberdeen he acquired the practice of the late Dr. Erskine. Dr. Reith, who was highly respected by all who knew him, was of a retiring disposition, and spent much of his spare time in mechanical pursuits. He was a widower, and is survived by three sons and three daughters.

Anthrax at Buddon Camp: Territorial Attacked.

A case of anthrax was discovered at Buddon Camp on Wednesday of last week, the victim being one of the members of the 2nd Battery, 1st Highland Brigade, R.F.A., from Aberdeen. The patient was promptly removed to Aberdeen Infirmary, and all precautions were taken to prevent the spread of the disease. It is supposed that the man contracted the disease before going to camp, as in the course of his occupation he might readily have done so.

July 21st.

IRELAND.

Irish Medical Committee.

AT a meeting of this committee held on July 14th in the Royal College of Surgeons, Dublin, Dr. P. J. Macnamara and Dr. R. J. Johnstone were unanimously re-elected as chairman and vice-chairman. Financially the gross receipts for the year came to £597 0s. 4*d.*; the expenditure up to date was £624 10s., which left a debit balance of £27 9s. 8*d.* This deficit it was decided to carry forward to next account. The following subcommittees were appointed:—Finance and executive: M. R. J. Hayes, Dublin; R. J. Rowlette, Dublin; R. M. Blake, Mountpleasant; J. Power, Ardfinnan; W. Doolin, Dublin; J. S. Darling, Lurgan; A. A. McConnell, Dublin; P. J. O'Brien, Cork; and W. J. O'Sullivan, Limerick. Sanatorium: T. J. Kelly, Enniscorthy; R. J. Rowlette, Dublin; J. J. O'Sullivan, Waterford; J. Power, Ardfinnan; M. R. J. Hayes, Dublin; S. Agnew, Lurgan; P. J. Hamilton, Arklow; T. A. Davidson, Belfast; R. P. McDonnell, Dublin; J. Giusani, Cork; L. Kidd, Enniskillen; and D. Forde, Strokestown. Poor-law: G. E. Greene, Ferns; O. P. Kerrigan, Castletown Geoghegan; W. W. Murphy, Inch; T. J. Kelly, Enniscorthy; C. H. Foley, Ardrahan; W. J. Burns, Belfast; T. T. Collins, Ballinasloe; T. Donnelly, Dublin; A. C. Callaghan, Ahascragh; J. J. O'Connor, Queenstown; G. A. Hickey, New Ross; J. M. S. Kenny, Granard; J. F. Fagan, Oldcastle; and P. Donnellan, Castlerea. Hospital: R. J. Rowlette, Dublin; R. J. Kinkead, Galway; G. A. Hickey, New Ross; E. C. Thompson, Omagh; E. W. Allsom, Cork; J. S. Darling, Lurgan; H. T. Warnock, Donegal; R. C. Peacocke, Blackrock; S. Pringle, Dublin; L. Kidd, Enniskillen; W. A. Fogarty, Limerick; J. Cotter, Cork; G. I. Mackesy, Waterford; L. A. Byrne, Dublin; Sir John Lentaigne, Dublin; Sir John Byers, Belfast; Sir Alexander Dempsey, Belfast; Sir Andrew Horne, Dublin; and J. S. McArdle, Dublin.

The Water-supply of Dublin.

The long spell of dry weather has had its effect on the Roundwood reservoir, from which Dublin and most of the outlying townships draw their water-supply. The last dry season was 1911, and in that year the city was in measurable distance of a water famine when rain began to fall. At present the level in the reservoir is 3 feet 3 inches lower than it was on the same date in 1911. In 1893 there was a complete failure, and for several weeks of the autumn of that year the citizens were dependent on a supply drawn from the Grand Canal. The question arises as to why the corporation, after two such warnings, does not make adequate provision. For several years past work has been going on at Roundwood to increase the storage of water, but the progress is very slow, and the city is in danger every dry summer. The irritation felt by the citizens is not allayed by the bland advice which emanates from the waterworks committee of the corporation. The chairman of that body wrote to the press recently requesting water consumers to refrain from unnecessary use of water, and, in particular, from taking baths, flushing drains, and watering gardens. It is said that should the Roundwood supply give out the corporation is in a position again to make use of canal water.

Water-supply of Belfast.

The Belfast Water Commissioners, owing to the feared scarcity of water, have been obliged to issue notices to the public warning them against wastage of water and urging care in its use.

Accident to a Medical Man.

I regret to report that Mr. J. Kean, J.P., of Newry, medical officer for Meigh dispensary district, lies in a very precarious condition in the Newry General Hospital owing to a motor accident. It appears that on the evening of July 16th Mr. Kean with his wife and a friend were returning in his motor-car from Greenore, when in taking a sharp turn in the road the car was overturned and all the occupants were pitched out. Dr. Donegan, of Carlingford, chancing to come on the scene with his motor-car, conveyed Mr. Kean to Newry, where, after being seen by Dr. S. E. Martin, he was taken to the Newry General Hospital in an unconscious state. The latest information is that Mrs. Kean is much better, but that her husband is still in a very critical condition.

July 20th.

PARIS.

Immunisation against Rabies.

Madame Phisalix, who is attached to the Laboratory of Experimental Physiology of the Museum of Natural History, has made an interesting discovery with regard to the neutralisation of the virus of rabies by the venoms of batrachians and snakes. These two viruses appear to neutralise one another and to create an immunity in a subject subsequently inoculated with the virus of rabies. Many rabbits were given by intravenous injection about 10 mgm. of viper venom—a dose double the lethal quantity, as proved at the same time with controls. Six days after the last test the rabbits thus treated were trephined and fixed rabic virus was injected under the meninges. Control rabbits treated in the same way without any preventive inoculation were attacked by rabies some hours later. Of six rabbits inoculated with the venom of the salamander, five remained entirely unaffected. Only one, in which 15 days were allowed to elapse between the immunisation and the inoculation with rabies, died rabid. The duration of the immunity conferred by the association of the venom of snakes and batrachians is therefore quite short. Other experiments show its duration to be from three to six weeks, but that it completely disappears by the end of two months. Madame Phisalix has further been able to show that the association of the two venoms is necessary. Rabbits immunised with salamander or viper venom alone showed no resistance to the virus of rabies.

A Committee for the Dissemination of Hygienic Principles.

A committee has been established in Paris, at the suggestion of *Le Matin*, to disseminate information on the laws of hygiene and public health. It comprises Members of Parliament and of the Académie de Médecine, administrative officials, mayors of the *arrondissements* of Paris, and social workers. Three questions are selected for study and will be brought before a congress organised by the various groups. They are: (1) the rôle of the municipalities in the struggle against infant mortality; (2) hygiene at school and in the school; (3) the organisation of hygienic services in the departments. The question of hygiene at school has been made the subject of thorough discussion, and a vigorous campaign is to be undertaken to disseminate the idea that the school ought to be a powerful agent in the diffusion of hygienic knowledge throughout the world. Dr. Méry has been entrusted with the report on the first question, Dr. Mosny with that on the second, and Dr. Hott, of Rouen, with that on the third.

The Story of a Statue.

For more than 60 years a statue of Ambroise Paré presided silently over the meetings of the Société de Chirurgerie. But it was made of plaster, and one day a clumsy servant knocked it over and shattered it into a thousand pieces. Some weeks later Dr. Robert, medical inspector of the Army Sanitary Service, was shocked to find empty the place which belonged to the father of French surgery. He searched and found another statue of Paré, and in order to prevent a like disaster he had it cast in bronze, after which he generously offered it to his colleagues. A little informal ceremony was made of this occasion, when Dr. Tuffier, president of the society, complimented the donor, alluded to the close connexion between civil and military medicine, and praised the members for their loyalty to their ancestor.

An Anti-Opium League.

A league is being formed in Paris to combat the spread of the opium habit which, in addition to the ravages that it has made among the Asiatic colonies, is now spreading among the students and in literary circles where intellectual refinement contributes to the perversion. This league has for its honorary presidents Professor Charles Richet, member of the Academies of Science and of Medicine, and M. Le Myre de Villiers, senior Governor-General of French Indo-China. The acting president is Dr. Janselme, professeur agrégé of the Paris Faculty of Medicine, who is well acquainted with the East, and the secretary-general is Dr. Millant. The league proposes to enlighten the public, by means of pamphlets and meetings and other methods of publicity, upon the dangers of using narcotic drugs in general, for the fight against cocaine is included as an addition to the programme. It intends to wage energetic warfare against the traffickers in poison who swarm in Paris and in the naval ports.

A Forthcoming Congress.

The next Congress of the French Association for the Advancement of Science will be held this year at Havre from July 27th to August 2nd. It will have on this occasion a special *éclat* because of the connexion with the British Association, from which body a large number of scientists have accepted the invitation of the French Association and the town of Havre. Professor Armand Gautier will preside over the session, and Professor Albert Calmette, director of the Pasteur Institute at Lille, is vice-president of the Congress.

July 20th.

INDIA.

Lunacy in Bengal.

INTERESTING figures are given in the annual returns of the lunatic asylums in Bengal for 1913 of the cures effected during the year under review. From the proportion of cures given below among the different types of insanity it would seem that the type of insanity associated with Indian hemp smoking yields more easily to treatment than any other type: insanity due to hemp smoking, 14·38 per cent. to total treated; melancholia, 8·42 per cent.; delusional insanity, 6·60 per cent.; and mania, 6·25 per cent. The total expenditure of the lunatic asylums in Bengal in 1913 was Rs.1,94,451.

The Simla Improvement Scheme.

Major J.C. Robertson, Sanitary Commissioner with the Government of India, has proceeded to Aden to advise the local authorities on their new scheme to improve the water-supply of Aden. Surgeon-General Sir Pardey Lukis, I.M.S., will take his place on the committee appointed by Government to consider the improvement of Simla.

Sanitation in Lahore.

The fourth annual report, prepared by Dr. A. G. Newell, late health officer of Lahore, which has just been issued, shows that the infant mortality rate was 305·3 deaths per 1000 births. Of these infants 41·54 per cent. die within a month of birth, and 18·3 per cent. die within ten days. Much of this waste of life might be prevented by skilled attention at birth and by healthy conditions of food and environment during early days. A little is being done by the municipality, but much more is needed. The fact that more than half the deaths that take place in Lahore are those of children under 15 years of age demonstrates the need for improved sanitary measures. One of these measures which Dr. Newell has long urged is the improvement of the milk-supply. Milk-sellers are already licensed, and their licence is supposed to ensure that the milk is clean and unadulterated, but the regulations are defective. Dr. Newell advocates education of the cow-keepers in cleanliness, and in the proper feeding of cows, the elimination of cows from inside the city, and the establishment of model dairies. Other proposals, in view of the high infant mortality rate, are the appointment of two lady health visitors and the free registration of *dais*, so that the women could be reached and taught the rudiments of asepsis in midwifery. Both these measures would undoubtedly be most beneficial. After infant mortality the prevalence of pulmonary tuberculosis forms one of the most difficult problems before the health officer. This disease caused 630 deaths last year in Lahore, and it is estimated that there are over 6000 cases in the municipal area. The disease is much more prevalent among Mahommedans than among Hindus, and 47·46 per cent. of the deaths were among Mussulman women. Dr. Newell describes the preventive and educational work already being done, and urges the need for the appointment of a lady health visitor to go among the women. Direct instruction in the elements of sanitation is urgently needed, for by this means alone can the advantages of domestic and personal hygiene be brought home to the people.

Madras Town Planning.

It is understood that the Government of Madras have in contemplation a scheme for popularising the latest ideas in town planning and the building of model sanitary dwellings. With this end in view they are proposing to hold exhibitions and demonstrations and courses of lectures in the Presidency during the coming cold weather. This timely proposal will be welcomed by all as a step in the right direction, as a means of educating public opinion, preliminary to undertaking the necessary legislation.

Tuberculosis in Madras.

The Madras Corporation have decided to make tuberculosis compulsorily notifiable throughout the city. The initiative for this action came from the Government of Madras, which in January last requested the corporation to prepare a detailed report on the feasibility of introducing a system of compulsory notification into the city. The report of the city health officer supported the view that compulsory notification was necessary for the control of tuberculosis in this city. He recommended the payment to medical practitioners o 1 rupee fee, and the periodical disinfection of the rooms occupied by the patient. It has now been decided to adopt these measures, which will not however, come into force before the corporation have provided a sanatorium or farm colony for early cases. In addition, it is proposed to provide hospital accommodation for more advanced cases to organise stricter supervision of supplies of food and milk, and to attempt to educate both children and adults as to the cause, prevention, and cure of the disease. All these measures are highly practical, and reflect creditably on the business-like way in which Madras is approaching a difficult problem.

Mosquitoes in Ceylon.

According to an advance report of the mosquito survey of the Ceylon port, the investigations throughout 1913 revealed the fact that there were 50 different species of mosquito in Colombo, of which 15 were harmful. Several species were new to science and others not previously recorded either in Ceylon or India. Complete extermination, it is pointed out in the report, is practically impossible owing to the existence of a migratory species retaining its habit of breeding in swamps and natural pools at a distance from the centres of population, but accustomed to fly long distances to cities and towns, to feed on human blood.

June 27th.

Correspondence.

"Audi alteram partem."

ORAL SEPSIS AND THE EXTRACTION OF TEETH.

To the Editor of THE LANCET.

SIR,—I spent an hour a week or two ago with a medical man, who was quite a stranger to me, discussing the question "should he allow half his teeth to be extracted" for what had been called pyorrhœa alveolaris. He had already almost determined to content himself with the loss of four incisors. He was a man of nervous temperament, who had spent several recent years of ill-health—chiefly in pyrexial states that had been ascribed to streptococcal infections, for which he had been duly and repeatedly vaccined. But still it seemed that similar illnesses came upon him, and so I suppose his teeth had been pounced upon. I examined his mouth very carefully and his teeth were to my eye perfect; I would not speak positively as to the slightest possible gingivitis, at the edges of the gums, but I could not see it. He had commencing retrocession of the gums. I strongly demurred to the extraction of a single tooth.

Now, Sir, if this had been a solitary experience, however much I might differ from the advice that had been given, I should have nothing to say, but it is not so. In the last year or two hardly a week passes but I see man or woman said to be affected by pyorrhœa which is poisoning them, and where to save their health it is necessary to extract a number of teeth. I have several times heard that the whole lot had been condemned. In many another case a long course of vaccines had been advised or was being carried out, where I really could see nothing of importance in the way of disease and nothing to excuse such drastic treatment. I have as a result come very reluctantly to the conclusion that a good many of us have lost our heads (it has often happened so in medicine before), and that many are so obsessed by the idea of oral sepsis that they give way to the fanatical, inconsiderate, and reckless advice, that good teeth should be removed wholesale. And what for? For the most trivial ulceration of the edges of the gums that our forebears would have adequately treated by a mouthwash, and thought no more about it.

Everyone will admit that there is wisdom in taking more care of the teeth than has often been done in the past, but dirty mouths are not pyorrhœa, and the deep-seated pent-up suppuration in the alveoli that justifies the term and needs wholesale extraction of teeth is an uncommon disease; it is a painful malady, and I do not think there is much doubt about it when it is present. I have taken some time to consider this opinion, and I daily become more certain that an exaggerated view is too frequently taken of trivial conditions of the buccal mucous membrane, and that a harmful practice has come into vogue that needs to be held up.

I am, Sir, yours faithfully,

July 20th, 1914. JAMES F. GOODHART.

PS.—After the above was written Dr. R. C. Wingfield's paper on Oral Sepsis in Pulmonary Tuberculosis in THE LANCET of July 18th attracted my notice. Being of the nature of a report of an experimental inquiry, it is outside the purpose of my remarks. Nevertheless, I cannot help saying that somewhat of a shudder comes over me as I read that in 30 cases of phthisis, all of them as regards age in the prime of life, the teeth were removed "in bulk" for an assumed oral sepsis that can at best have been only problematical.—J. F. G.

THE TECHNIQUE OF ARTIFICIAL PNEUMOTHORAX.

To the Editor of THE LANCET.

SIR,—I must thank Dr. Clive Riviere for his critical interest in my paper on artificial pneumothorax. His criticisms in your issue of July 18th are numerous and I apologise if my reply is somewhat lengthy. I do not doubt that Dr. Riviere can pass a blunt needle through the parietal pleura so that the orifice rests in the pleural cavity without injuring the visceral pleura. This can be done with a sharp needle provided the point does not project beyond its orifice. What I maintain is that, even if the orifice is in the pleural cavity, he cannot obtain ample manometric oscillations without causing the lung to leak and thereby supply the necessary gas to communicate movements to the manometer. The fact that he does obtain such oscillations is, as I showed, ample proof that he does cause the lung to leak. If he is not satisfied with that proof it is for him to show how he obtains his oscillations or to point out the fallacies in my reasoning. In this connexion let us examine the details of one of his own cases—for example, that of H.B. In this case, at the first operation, he obtained manometric oscillations indicating an intrapleural pressure varying between −4 cm. and −12 cm. of water. Here, on the assumption that the lung did not leak, the maximum volume of gas entering the pleural cavity was equal to that of a column of 6 cm. of the fluid in his manometer. Of this very small volume he apparently thinks 4 cm. could have moved freely in and out through the needle to produce his oscillations. Having obtained these he asked his patient to cough. Am I right in assuming that his manometer then registered a positive pressure? If it did, he could not produce more conclusive proof that air had leaked into the pleural cavity, for a positive pressure could not be produced in his manometer except by more air than was originally present in it. If it did not register a positive pressure, such a disturbance as that caused by a cough was entirely unnecessary and likely to displace the delicately adjusted needle.

But Dr. Riviere does not appear to have considered the possibility of the valve action of the lung, although most readers will have recognised it as a frequent cause of difficulty in aspirating a pleural effusion, but, provided a sufficient quantity of fluid is still present, a difficulty overcome by altering the position of the needle. In reviewing the experiences which I described at the end of my paper—and these I must really credit him with not having appreciated—he apparently failed to see that the suspension of oscillations during the temporary cutting off of the supply of gas from the reservoir was due to this valve action, and offered the explanation that it was due to a synchronous, and therefore temporary blocking of the eye of the needle by a vexatious "piece of punched out skin." However, Dr. Riviere recognises that in some cases gas may fail to return from the pleural cavity through the needle, but suggests that in these cases such gas is "presumably lost among the pleural adhesions"—that is, lost where there is not even a potential cavity. The valve action of the lung seems to me to be a more satisfactory explanation. Gas having leaked into the pleural cavity and being suitably located it will be recognised that no further difficulty is likely to occur, and a subsequent puncture of the chest wall would probably furnish the desired oscillations and allow the operation to proceed satisfactorily. Hence the "misadventure" of puncturing the lung and making it leak would not be apparent and would escape detection. It is only natural, therefore, that Dr. Riviere should find difficulty in recognising and acknowledging it in his practice.

But apart from the question of puncturing the lung, Dr. Riviere criticises the use of the two manometers. I believe that a single manometer was once deemed an unnecessary complication even by pioneers in the practice of pneumothorax, so that I am not surprised that objection should be raised to the use of two. I hardly think that Dr. Riviere would raise his objections if he had had experience of a two-manometer apparatus, and his criticisms perhaps lose weight because he has not. Let us compare the methods of determining whether gas is flowing. With a two-manometer apparatus a mere glance shows immediately whether it is flowing or not. With his single manometer Dr. Riviere says that he pinches the communicating tube between the manometer and the needle—in view of the valve action, often an inadvisable procedure — to see whether the pressure in the manometer rises. This is a clumsy method, only applicable if the flow is rapid. In this connexion Dr. Riviere speaks of the pressure of gas in the gas bottle, the intrapleural pressure, and "the average pressure of the two combined," apparently not recognising that unless the tube between the manometer and gas bottle is throttled the manometer always records the pressure of gas in the gas bottle, and that the recorded pressure rises when gas ceases to flow because the head of water in the siphon has not now to drive water from the water bottle into the gas bottle. He then somewhat contemptuously denies that the gas pressure ever falls below the intrapleural. I would point out to him that just before he allows gas to flow from the reservoir this occurs with each expiration and every cough, and in consequence, if there is no valve action, gas passes freely into the manometer and produces the positive phase of the oscillation. In first operations fluid instead of gas does occasionally under these circumstances pass into the needle.

I admit that formulæ and calculations are at first sight somewhat forbidding, but only at first sight. I would do the "clinician" and "practical physician" an injustice if I suggested that they could not take two readings and from the lower of these subtract half the difference between the two. As a matter of fact, a very little practice will enable the practical physician to do this automatically as he is observing the readings. I pointed out that it was not necessary for practical purposes to work out any of the "complicated formulæ" to which Dr. Riviere objects. I also pointed out that by closing down the throttle, thereby shutting off the gas, he may, if no valve action occurs, obtain, in the same way as he does with his own apparatus, the "visual proof" of the intrapleural pressure (the reading by the direct method) which he desires. His fear that the inertia of the fluid in the small manometer reservoirs might result in the damping of the oscillations is groundless. This I have shown by placing an ordinary manometer between my apparatus and the needle; also by varying the quantities of fluid in the reservoirs. Curiously enough, the only advantage which Dr. Riviere sees—that is, the advantage regarding the range of working pressure—really does not exist. With regard to oxygen I recommend it because if it passes into the tissues it is readily absorbed and does not produce emphysema to the same extent as nitrogen sometimes does. Whether oxygen entirely eliminates the possibility of embolism I am not prepared to say. Probably, carbon-dioxide would be a better gas. However, except where gas is pumped in under considerable pressure, I believe embolism to be an overrated danger, and, with the indications of the flow and pressures which the two manometers afford and the low reservoir pressure with which I work, a negligible one.

Finally, apart from the actual method of procedure and the question whether the leakage from the lung is serious, the advantages which I claim for my apparatus are available even if the rules necessary when the single manometer is used are observed. The operation is not one to be undertaken lightly, and if the operator is not prepared to make some effort to master a slightly more elaborate apparatus, provided, of course, it is a more efficient one, he has no right to practise the method. I am, Sir, yours faithfully,

London, W., July 20th, 1914. WM. PARRY MORGAN.

To the Editor of THE LANCET.

SIR,—Dr. W. Parry Morgan's paper in THE LANCET of July 11th is a refreshing departure from the hackneyed stuff most of us have been writing on artificial pneumothorax during the last few years. But his paper leaves me scratching my head in an instinctive effort, presumably, to gouge new, mathematically-minded sulci in my cortex. More than a week's respectful contemplation of his
formulæ has left me in a state of
mystification. I do not doubt their correc
I dare anyone except a "wrangler," suc
Morgan, to keep them in his head an
the necessary changes on them during an
which, in its simplest form, requires con
mental alertness. After all, when a case i
plicated by pleural adhesions, and the ope
mastered the Forlanini-Saugman techn
induction of a pneumothorax is straightfor
almost free from danger. When there are
adhesions I fear the dangers and ultima
of the operation are inevitable in any c
objection I would raise to the escape o
through the needle as it traverses the c
is that it may form a small pocket sup
both pleuræ, and that manometric oscillat
occur, suggesting that the point of the ne
the pleural cavity, whereas *it is in realit*
A false pneumothorax may be as great a h
to the induction of a true pneumothorax
passage in the urethra is to the cat
tion of the bladder. Apart from this obje
which, no doubt, Dr. Morgan will have a
answer, it seems to me that his use o
stream of oxygen through the needl
punctures the parietal pleura must le
chance of injuring the visceral pleura a
This danger has lately been illustrated
Begtrup Hansen who, in an attempt to i
pneumothorax, punctured the chest in th
and ninth intercostal spaces. There
manometric oscillations, and no gas was int
The puncture in the ninth space was imm
followed by a violent hæmoptysis, and the
died a quarter of an hour later. At the
large blood-vessels were found at the *poi*
the lung had been wounded. The heart c
air. Evidently air in the lung had been
into a wounded blood-vessel, causing deat
I suspect, the pleuræ were adherent, *Dr.*
device would *not* have averted the fatal
if they were not adherent the wound
lung would presumably have been avoid
I still hold that most physicians would do
confine themselves at first to the *simpler te*
of the Forlanini-Saugman operation. Si
this is, I have frequently *found* it nece
repeat its demonstration more than onc
same person, and I have even *known a pa*
be *almost suffocated by a mistake* in the
of the simple manometer devised by P
Saugman. I am, Sir, yours faithfully,

Gorleston-on-Sea, July 18th, 1914. CLAUDE LILLING

NURSES' REGISTRATION.

To the Editor of THE LANCET.

SIR,—In your excellent, if I may say so,
article on Nurses' Registration you write of t
"No woman whose *name* is not upon this
would be allowed to claim that she has been
at a hospital and is a qualified nurse." The Bil
but not quite as bad as that. The proposa
Bill is *that* no woman should be allowed
herself a "registered nurse" if she was no
register, a very different matter—different
it is certain that if the Bill passed a large nu
the best nurses would *not register*, but yet
could ever prevent a nurse who has been trai
hospital from saying so. The opposition is rea
way personal. Dr. W. A. Chapple and the lad
work with him enjoy a bout at the *London*

nurses which does not harm the nurses, gives the hospital a gratuitous advertisement, and me the opportunity of replying. I fear they will leave off doing this soon. But the opposition, as I say, cannot be personal when nearly 500 matrons of hospitals and over 2000 nurses have quite recently signed the protest against it.

I am, Sir, yours faithfully,

London Hospital, E., July 21st, 1914. KNUTSFORD.

CARBOLIC ACID INJECTIONS IN TETANUS.

To the Editor of THE LANCET.

SIR,—I read with interest the description of a case of tetanus treated with subcutaneous injections of carbolic acid by Mr. W. Graham Reynolds in THE LANCET of May 23rd. I mention here a similar case which came under my observation. A native woman, aged about 45, was brought to me on May 15th last for general rigidity of the body with inability to open the mouth. Her husband, who accompanied her, told me that about 25 days previously she met with a bullock-cart accident. The wheel passed over her right foot and the edge of the ornament which she had on her right ankle cut the skin and a large wound of about three inches was made. The wound was dressed on the second day of injury. The husband stated that some six days previously to her visit to me she was unable to bend her neck and body and could not open her mouth properly.

On examination a wound was found below the internal malleolus of the right leg. The wound was about one inch long and healing, and was covered over with healthy granulations. The patient was unable to open her mouth and used to get spasms very frequently. Opisthotonos and risus sardonicus were present. There was general rigidity of the body. Her mental power was normal. The wound was washed with antiseptic lotion thoroughly well and dressed. Intramuscular injection of 2 c.c. of a 3 per cent. carbolic acid solution in distilled water was given, and the injection was repeated every four hours during the day. Daily three similar injections were given. First the injections were given in the buttocks and then in the thighs. Every time the site was changed. The patient's condition was bad for the first three days after admission. The spasms were very frequent and the patient restless. A dose of chloretone (gr. xxx.) was given every night to procure sleep and arrest restlessness. Some improvement was noticed on the fourth day; the spasms were less frequent and the restlessness was found diminished. On the fourth day the dose of injection was reduced from 2 c.c. to 1 c.c., but three injections as usual were given. From this day the symptoms began to diminish and the patient began to improve every day, though the progress was very slow. On the seventh day injections were not given and from this time no more injections were necessary. She was put on bromide and chloral mixture. From the ninth day the general rigidity and the opisthotonos began to diminish. The patient was slightly able to open her mouth on the eleventh day, and then improvement was rather rapid. On the eighteenth day after admission the movements of the neck and body were free to some extent, and the patient was able to take solid food. As the circumstances were such that she would not stay in the hospital longer she was now discharged, but I saw her daily for the next two weeks. Her progress was steady, and by the end of the fifth week she was quite well.

This was not a very severe case of tetanus, and the patient developed symptoms some time after the injury, and they were gradual in their onset. The peculiar interest in this case is that three days' treatment of nine injections brought the spasms under control (though injections were given for three days more in lesser quantities) and then her progress was slow but steady. I think more trial should be given to this method of treatment, and especially in severe cases, before coming to a definite conclusion about the usefulness of the drug.

I am, Sir, yours faithfully,

SHERALI K. NANJIANI, L.M. & S.,

Chief Medical Officer, Rewa Kantha, Chhota Udepur State.

June 24th, 1914.

⁂ Mr. Graham Reynolds's paper was supplemented in our issue of July 4th by a table of dosage.—ED. L.

To the Editor of THE LANCET.

SIR,—Mr. W. Graham Reynolds's very interesting case of recovery under carbolic acid injections, published in THE LANCET of May 23rd, has led me to analyse the results obtained at the Countess of Dufferin Hospital, Baroda, where treatment by carbolic acid injections has been our routine practice in cases of tetanus for the last two and a half years. Of the 17 cases of tetanus collected 7 died, 4 were discharged as cured, 4 as relieved, and 2 "otherwise." Of the 7 deaths recorded, Cases 3 and 13 died a few hours after admission, Case 10 two days after admission. In Cases 2 and 15 only slight temporary improvement was noted, the patients dying four days after admission. In Case 8 treatment was successful in so far as relieving the tetanic spasms, but the patient was from the start in a very debilitated condition and died from a terminal pneumonia. Case 14 was a very septic case, and died the day after lockjaw developed in the hospital. The cases marked as relieved were taken away by relatives before complete recovery (a practice which in the East one has constantly to put up with). The improvement, however, in Cases 6 and 11 was so great that they could have been classed as cured. Of the cases discharged "otherwise" no improvement at all was noted in Case 16 after 10 days' treatment, and unfortunately no further notes are available, while Case 17 was taken away the day after lockjaw developed. The number, then, is reduced to 13 of the cases in which the treatment could be said to have had a fair trial through the patients not being taken away or dying too soon. Given, then, the chance of a fair trial the treatment may be said to have been completely successful in 6 cases (Cases 1, 4, 5, 6, 11, and 12), to have effected notable improvement in 3 cases (Cases 7, 8, and 9), and slight or no improvement in 4 cases (Cases 2, 10, 15, and 16).

Considering the lateness and the general state of neglect in which most of these patients reach hospital, I think that the treatment may be said to have been subjected to a pretty severe test and to have yielded gratifying results, especially compared to the days when reliance was chiefly placed on antitetanic serum, yielding within my experience a mortality of 100 per cent. Antitetanic serum is now relegated by us to its prophylactic use, and in justice to the serum I must say that so far, and that may not be pure coincidence, no tetanus has developed in those cases which were given the prophylactic serum. In none of the cases were symptoms of carbolic poisoning noticed.

Chloretone, either per os or per rectum, was the sedative mostly employed in combination with the carbolic acid injections. A case had been reported about two years ago in which recovery from tetanus had been attributed to chloretone alone, but to my mind chloretone possesses no other specific value than that of a useful and harmless sedative. One hears of cases of recovery, sometimes singled out for publication, in which different methods of treatment have been adopted. I believe that under any method of treatment in tetanus there is a certain element of "spontaneous recovery," unfortunately occurring too seldom, but with which one has to reckon before estimating the value of a treatment uncorroborated by a series.

I am, Sir, yours faithfully,
CLIFFORD MAYER, M.D., B.S. Lond., &c.,
June 26th, 1914. Chief Medical Officer, Baroda State.

TUBERCULIN "ENTHUSIASTS."

To the Editor of THE LANCET.

SIR,—I wonder if any of your readers can do anything to check the activities of some of the tuberculin "enthusiasts." I use the word in its original sense. The following is one of several instances of their handiwork. A young woman attended the Brompton Hospital two years ago with symptoms and signs of active pulmonary tuberculosis. She had received much hospital treatment and a prolonged stay in two sanatoria, and I was able to tell her that, in my opinion, the disease was arrested and that she could return to work. She was free from symptoms, and she had neither cough nor sputum; the local signs indicated fibrosis. She was recommended to report herself periodically in any case, and to come to hospital at once if she felt ill. This was on May 14th.

I give the following account of subsequent events as it was reported to me by the patient. A few days after seeing me she received a typewritten letter from the clerk of the Insurance Committee instructing her to attend at a certain dispensary at a certain time. She did so, and was interviewed by the resident officer, who referred her to the "specialist" doctor. The latter said: "I do not know if injections will do you good or not, but we may as well try them." She received 18 injections in a short period, 14 of them on consecutive days. She returned to hospital on July 9th with a temperature of 100°F. at noon, blood-spitting and blood-stained sputum, and copious moist sounds over the affected area. It has been necessary to admit her into hospital without delay.

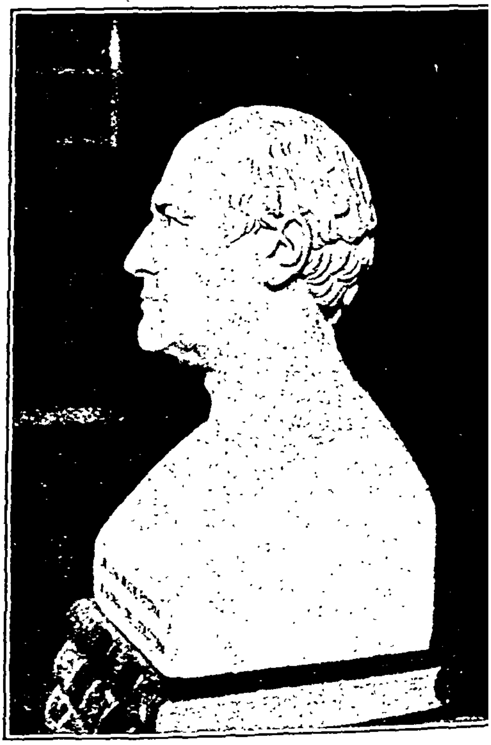
It is not my object to enter into a discussion concerning the merits—or otherwise—of tuberculin, nor to criticise the method of administration in this case. But it does seem justifiable to consider that a focus of disease, apparently arrested, was fanned into flame by the treatment. The possible sacrifice of a woman's life may not appeal to the official mind, but surely the destruction of benefits, obtained by a long and expensive treatment, will seem, even to an insurance committee, to be an achievement of which they cannot be proud.

I am, Sir, yours faithfully,
Queen Anne-street, W., July 20th, 1914. CHARLES MILLER.

WHO IS IT?

To the Editor of THE LANCET.

SIR,—After the amalgamation of the v
societies into the Royal Society of Me
the belongings of several of the dis
societies were taken out of store, and
them was found a bust which so far no or
been able to identify, nor can I find amon
officers of the dissolved societies anyone who
anything about it. It is a striking bust,
enclosed photograph bears witness—such a
should not easily be forgotten. I have
displayed in a prominent place in the
ever since the opening of our new
with a card attached to it inviting visit
identify it, but the only suggestion that has
made is that it is a bust of Dante's friend, Bru
Latini. This suggestion is based on the fac
the inscription on the bust is the description
by Dante of his friend. I do not agree wit
attribution, first, because of the style of the w
secondly, because there is in the British Mus
an illuminated manuscript containing a portra
Brunetto which does not bear the slightest re
blance to the bust; and, thirdly, because
inscription is just the kind of quotation that
one with a knowledge of Dante would wish to
scribe on the bust of an honoured teacher.



I suggest that if you publish a reproductio
the photograph identification might follow.

I am, Sir, yours faithfully,
J. Y. W. MACALISTE
Wimpole-street, W., July 17th, 1914.

*** The inscription, which cannot be deciphered
profile photograph, runs as follows:—

"La cara buona immagine paterna
Che m'insegnava come l'uom s'eterna." —E

EFERRED DEATH AFTER TRACHEOTOMY FOR LARYNGEAL DIPHTHERIA.

To the Editor of THE LANCET.

SIR.—I must thank Mr. T. Jefferson Faulder for ling attention in THE LANCET of July 18th to an parent inconsistency in my article on the above ject. The statement in question is that although overy is exceptional once obstruction develops a degree which makes extraction vital, this asure should be postponed until the obstruction omes immediately dangerous. At first thought nay seem advisable to interfere before the condition is urgent, but clinical experience does not r this out. It is better to wait, and meanwhile use *steam and the spray, which in themselves* asionally tide a patient over the critical period. rly extraction, as compared with such treatment, no more certain to avert obstruction and has its n danger. A single extraction in any stage ely gives permanent relief; forceps have to be d several times as a rule, and it can never be tain that some irritation and minor traumatic ury to the weakened mucous membrane may not ult—conditions which favour a more rapid forman of the plug. Hence I regard extraction as a last ource. All that can be claimed for it is that it ll postpone death in many cases, and offers a ance of recovery when a fatal issue is otherwise evitable. Whether any variation of the method uld improve the prognosis is an important estion on which limited investigation at Plaistow spital throws no light. At best the gain is likely be small, since behind the tracheal obstruction ere is, in the majority of instances, a grave type lobular pneumonia. I have no experience of e bronchoscope, and cannot foresee its rôle this connexion, but as Mr. Faulder has dly suggested its use I hope to test its ssibilities in due course.

I am, Sir, yours faithfully,

mpole-street, W., July 19th, 1914. JOHN BIERNACKI.

THE SCHOOL MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—One still occasionally hears the gibe against hool medical officers who are busy forming themlves into a group for the discussion of their culiar interests, scientific and sociological (and I resay it is said of the tuberculosis officers also o are doing the same thing) that it is only a ovement of *discontented* juniors bent on forcing their own salaries.

Now there is no doubt that an increase of salary s a perennial interest for most of us, but this es not entirely explain the agitation. The fact specialised services like the *school* medical rvice are more and more *feeling* the need of ing self-contained and self-feeding. We shall t in future be able to staff the lower ranks with ere transitional young people on their way to neral practice or other departments of the public edical service for which, indeed, experience in hool work very imperfectly fits them. The ideal the future must be that of a Civil Service, in hich even the lower grades of responsible workers ust have a living wage, so that if they go no igher their lives will not have *been* a disastrous ilure.

I am, Sir, yours faithfully,

[illegible], July [illegible], 1914. JOHN PRIESTLEY.

THE WORKING OF THE NATIONAL INSURANCE ACT IN GREAT YARMOUTH.

To the Editor of THE LANCET.

SIR,—It is nonsense for Dr. H. Blake, Mr. J. I. Sankey, and Dr. Y. H. Blake, of Yarmouth, to write in THE LANCET of July 18th about "the British Medical Association breaking its side of the pledge." When Dr. J. R. Ratcliffe, of Birmingham, stated last year, at the annual representative meeting at Brighton, that the organisation of the Association had broken down, the chairman of the council very rightly objected to the statement, and said it was the individual members of the Association who had broken down, and that until they could get members of the Association to be loyal to the organisation nothing could be effected.

It is now known that the members of the medical profession cannot be trusted to stand by their words. What can we expect, then, but "trouble upon trouble," and the saddest part of it all is that many men do not seem to realise what they have done.

I am, Sir, yours faithfully,

Woodbridge, Suffolk, July 19th, 1914. T. CUMING ASKIN.

THE POSITION OF THE ASSISTANT MEDICAL OFFICERS OF THE METROPOLITAN ASYLUMS BOARD.

To the Editor of THE LANCET.

SIR,—I see from your issue of July 18th that the Metropolitan Asylums Board are advertising for assistant medical officers at a new rate of salary. There has been a good deal of dissatisfaction in this service for some time past, and lately an association of assistant medical officers was formed which petitioned the managers for a redress of many grievances, of which the rate of salary was only one. No reply has yet, I understand, been received to this petition, and pending such reply the association is precluded from publishing the correspondence. Intending applicants would therefore, I am sure, be consulting their own interests by finding out from the secretary of the association (Dr. E. G. Goffe, the North-Eastern Hospital, St. Ann's-road, Tottenham, N.) what these grievances are, and how they have been dealt with, before deciding to apply.

I am, Sir, yours faithfully,

JOHN H. TRENCH, M.B. Cantab.

Edgbaston, July 20th, 1914.

CHILD MORTALITY AND ALCOHOLISM IN PARIS.

To the Editor of THE LANCET.

SIR,—May I call attention to the report from your Paris correspondent in THE LANCET of July 11th of a statement of M. Paul Juillerat and M. A. Filassier, in which they do not hesitate to attribute to alcoholism in the parents this enormous proportion of children affected with congenital debility, accounting for 12,342 deaths. This statement is so contrary to the findings of Professor Karl Pearson, F.R.S., and Miss Ethel M. Elderton (Galton research scholar)—viz.: "The mean weight and height of the children of alcoholic *parents are slightly greater than* those of sober parents, but as the age of the former children is slightly greater, the correlations when corrected for age are slightly positive—i.e., there is slightly greater height and weight in the children of the sober. In the case of the father the correlations are not significant, having regard to their probable error; in the case of the mother they may be just significant, but they are so slight as to have no importance."

My practical clinical experience entirely endorses these scientists' findings. A few years ago I was surprised to find out of a large number of mothers visited in the Hoxton district what strong, well-developed infants these mothers had, although I knew that they were addicted to alcohol in excess. This difference between scientists requires more than a passing notice, and I trust that Professor Karl Pearson will reply to M. Juillerat and M. Filassier for the benefit of all impartial medical practitioners. I am, Sir, yours faithfully,

New Cavendish-street, W., July 18th, 1914. THOMAS DUTTON.

Medical News.

UNIVERSITY OF CAMBRIDGE.—The following medical degrees have been conferred:—

M.D.—F. R. Martin.
M.C.—W. S. Perrin, Caius.
M.B., B.C.—P. Stocks, King's; H. P. Dawson, Trinity; G. Askey, St. John's; and T. L. Hardy, Selwyn.
M.B.—F. E. W. Rogers, Emmanuel.
B.C.—H. Hartridge, King's; W. B. Gordon, Clare; W. F. B. Smith, Pembroke; J. W. Pigeon, Christ's; C. Mackenzie, Emmanuel; and R. A. Thacker, Downing.

UNIVERSITY OF BRISTOL.—At examinations held recently the following candidates were successful:—

SECOND EXAMINATION FOR THE DEGREES OF M.B., CH.B.
Edwin Jennings Ball, Reginald Bertram Britton, Norman Durant, Frederick Viel Jacques, and Ronald Henry Tasker.

FINAL EXAMINATION FOR THE DEGREES OF M.B., CH.B.
Part I. only.—Oliver Charles Minty Davis.

SECOND EXAMINATION FOR THE DEGREE OF B.D.S.
William John Langford.

DIPLOMA IN PUBLIC HEALTH.
William Teulon Torrance.
Part II. (completing examination).—John Richard Kay-Mouat.

SECOND EXAMINATION FOR THE DIPLOMA IN DENTAL SURGERY.
Roy Lugarde O'Sullivan.

UNIVERSITY COLLEGE, LONDON.—Mr. T. B. Johnston, M.B., Ch.B. Edin., lecturer on anatomy in the University of Edinburgh, has been appointed to the newly created office of lecturer and demonstrator in anatomy at University College, London.

UNIVERSITY OF LIVERPOOL.—Mr. John Smyth Macdonald, professor of physiology in the University of Sheffield, has been appointed to the Holt chair of Physiology in the University of Liverpool, vacated by Professor C. S. Sherrington.

VICTORIA UNIVERSITY OF MANCHESTER.—At examinations recently held the following were awarded certificates in School Hygiene and in Factory Hygiene:—G. D. Dawson, M.B., Ch.B., and W. M. MacIlraith, L.R.C.P., L.R.C.S.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.—The summer general meeting and luncheon of this association will take place at the Grand Hotel, Aberdeen, on Wednesday next, July 29th, at 1.15 for 1.30 o'clock.

UNIVERSITY OF LONDON.—A meeting of the Senate was held on July 15th, Sir Wilmot Herringham, the Vice-Chancellor, being in the chair. It was resolved in response to a request from the Board of Control to suggest the following conditions for the grants allotted to the board by the Treasury encouraging scientific research into the causes and treatment of mental diseases and mental defect: (1) individual grants to be made to a few observers who have been thoroughly trained and who are capable of carrying out scientific investigations; (2) no grant under the scheme to be made merely to maintain or assist pathological laboratories or to be given to persons for the purpose of routine work; (3) grants to be given only to advance the study of fundamental problems connected with insanity and mental deficiency. It was further resolved to inform the Board of Control that the Senate would be pleased to advise them as to the objects towards which investigations thus aided might with most advantage be directed.

BRISTOL GENERAL HOSPITAL.—The president of the hospital, Mr. George Alfred Wills, will open the new wing and pathological laboratory on Monday next, July 27th, at 3.30 P.M.

MEDICAL MAGISTRATES.—The following Hull practitioners have been made justices of the peace for the city: Dr. Frank Nicholson, senior physician, Hull Royal Infirmary; Dr. George Gantby, ex-sheriff of Hull; and Mr. C. H. Milburn.

GLASGOW ROYAL INFIRMARY: POST-GRADUATE CLASSES.—Autumn post-graduate classes in clinical medicine, surgery, and gynæcology, and in the various special departments, will be held at the infirmary during the month of September. Full particulars may be obtained from the superintendent, Dr. J. Maxtone Thom.

BRITISH SCIENCE GUILD.—At the last meeting of the executive committee of the guild a special committee, with Sir Norman Lockyer as chairman, was appointed to report upon various matters connected with science and the State and the encouragement of discovery which were referred to by Sir Ronald Ross in his address delivered at the annual meeting of the guild in May last.

THE trustees of the *American Medicine* Gold Medal have awarded the medal for 1914 to Dr. George W. Crile as the American doctor who in their judgment "has performed the most conspicuous and noteworthy service in the domain of medicine and surgery during the past year."

ST. GEORGE'S HOSPITAL.—The annual dinner of the St. George's Hospital Medical School will be held at Prince's Restaurant, Piccadilly, on Thursday, Oct. 1st, at 6.30 for 7 o'clock, when the Right Hon. Sir Gerard Lowther, joint treasurer of the hospital, will take the chair. The annual introductory address will be delivered on the same day at 3 P.M. in the hospital by Mr. A. E. Shipley, F.R.S.; Master of Christ's College, Cambridge.

DONATIONS AND BEQUESTS.—A further gift of £10,000 has been made to Cardiff Medical School by the anonymous donor who has previously made donations equivalent to £90,000.—Mr. Lynn Thomas, on giving up private practice, has presented to King Edward VII. Hospital, Cardiff, his local private hospital for paying patients, the value of the gift being estimated at £4000

SOUTH-WEST LONDON MEDICAL SOCIETY.—At the annual meeting of this society on July 8th the following were elected as office-bearers for the 1914–15 session:—President: Dr. W. D. Murray. Treasurer: Dr. C. J. Martin. Secretaries: Mr. R. F. Chance and Mr. H. B. A. Pearson. Librarian: Dr. C. J. Martin. Council: Dr. E. H. Brock, Dr. G. F. Hugill, Dr. G. Ross Laing, Surgeon-Major M. Robinson, and Dr. C. M. Young.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.—The usual monthly meeting of the executive committee of this society was held at 429, Strand, W.C., on July 17th, Dr. F. J. Allan being in the chair. The half-yearly balance-sheet submitted to this meeting showed that the society's reserves continue to expand. The funds amount to over £260,000, and the income of the society is well over £35,000 per annum and shows a steady rise every year. The grateful letters from members who attain the age of 65 and receive their bonus are highly satisfactory to those under whose careful management the society has prospered sufficiently to enable this bonus to be paid, and the amount actually paid increases every year, and reached £1500 in 1913. This fact proves that many attain 65 years, and that insured medical men are, taken as a whole, good lives. The claim account presented was slightly lower than that of last year and was under the expectation provided for by the tables. The new business report was good and shows an increase over that for the same month of the preceding year. A prospectus and all information can be obtained from the secretary, 33, Chancery-lane, London, W.C.

Obituary.

THE RIGHT HON. SIR CHRISTOPHER NIXON, BART., P.C., D.L., LL.D., M.D. DUB., F.R.C.P. IREL.,

VICE-CHANCELLOR OF THE NATIONAL UNIVERSITY OF IRELAND; PAST PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

THE death of Sir Christopher Nixon occurred on Sunday, July 19th, at his residence, Roebuck Grove, Co. Dublin, at the age of 64 years. He had been seriously ill with disease of the heart for several months past, and it was known that his chance of ultimate recovery was small. Nevertheless, his death came as a surprise to all except his intimate friends.

SIR CHRISTOPHER NIXON.
(Photo by Lafayette, Dublin.)

Sir Christopher Nixon received his education at Trinity College, Dublin, and the Catholic University School of Medicine. He obtained the Licences of the Royal Colleges of Ireland at an early age, subsequently graduating B.A. and M.B. of Dublin University. He then studied for some years in Paris. On his return to Ireland he was appointed professor of anatomy and physiology in the Catholic University School of Medicine in Cecilia-street. This post did not occupy his entire time, and his appointment as physician to the Mater Misericordiæ Hospital gave him scope for his clinical abilities. To these two institutions and to the interests that arose out of them he gave the best of his life-work. To his gifts as a teacher both owed much, and for years he enjoyed the reputation of being the best clinical instructor among Dublin physicians. He soon changed the chair of anatomy for that of medicine, and his professorial lectures on that subject were attended by students from all the Dublin schools. As time passed his reputation as a practising physician became as great as his reputation as a teacher. Success came to him early, but this did not lead him to take his work lightly or to neglect self-improvement. Up to the failure of his health a year or two ago he took the utmost pains in the preparation of his clinical lectures. He carefully selected his cases for demonstration, and he made a habit of devoting the evening before his lecture to the perusal and even close study of the clinical notes of the cases selected, so that everything might be in order for his lecture. The same care distinguished the systematic course which it was his duty as professor of medicine to deliver. In such careful, honest teaching in the hospital and the school, and careful, honest work in the ward and the consulting-room, Nixon's purely professional activities were mainly expended. He found little time for writing. In his earlier days, indeed, he published several papers which showed not only accurate study but originality of thought. He wrote one book, "Handbook of Hospital Practice and Physical Diagnosis," which was published in 1889. Books on diagnosis are now plentiful enough, but a quarter of a century ago Nixon might fairly be regarded as a pioneer. The book was excellent for its purpose, clear, lucid, terse, and it proved its utility to many successive generations of students. It is to be regretted that lack of time prevented his revising it and bringing it into touch with current knowledge. In his clinical work Nixon took chief interest in the diseases of the heart—a fact which leads inevitably to the recollection that some of the most able students of, and trustworthy authorities on, diseases of the heart have themselves been sufferers from cardiac trouble. To go no further, we may add to Nixon, of Dublin, the names of Gairdner, of Glasgow, and Gibson, of Edinburgh.

Sir Christopher Nixon's teaching duties, together with his hospital work and large private practice, would have been to most men sufficient occupation, but, as a matter of fact, for many years past his extra professional activities occupied a large part of his time and thought. He took a great interest in the development of his school and hospital, and his power of organisation and business ability played an important part in leading to the success which has crowned the work of both these institutions. He felt keenly that his co-religionists in Ireland suffered some inequality in the matter of university education, and therefore he threw himself warmly into the working of the Royal University. At a later date he was active in the work which led up to the establishment of the National University, of which he became the first Vice-Chancellor. He was one of the first to take up warmly the question of establishing a veterinary college for Ireland. His efforts were successful, and when the Royal Veterinary College of Ireland was founded he was appointed first president. In addition to the posts already mentioned, he held several of the medical posts of importance. He was

personality, at once genial and kindly. He was a foreign member of the Royal Society, an LL.D. of the four Scottish Universities—Aberdeen, Edinburgh, Glasgow, and St. Andrews—as well as D.Sc. of Cambridge. Physiology is vastly the poorer for his death, and his friends will ever keep green the memory of this amiable, accomplished, genial, and erudite physiologist.

THE NATIONAL INSURANCE ACT.

THE WORKING OF THE ACT.

EXPERIENCE that is long enough to be of some service is now accumulating in respect of the working of the Act. With regard to the supply of drugs and appliances, for example, the settlement of the 1913 accounts discloses, as all our readers know, some heavy deficits. A discussion on the subject will be found in a leading article in THE LANCET of June 27th. The Commissioners have been considering steps to obviate the anticipated recurrence of similar deficits in the current year. At a conference with the medical and pharmaceutical members of the Advisory Committee the causes of these deficits were carefully considered, and the conclusion, we believe, was arrived at that a substantial part of the deficits could be traced to the lax methods of prescribing of a few practitioners. The Pharmaceutical Society is anxious, we know, not to attribute too much of the present situation to over-prescribing, and it must be remembered that the cost of the supply of drugs may sometimes have caused the deficits, while, of course, in certain areas the varying incidence of sickness must lead to extraordinary expenses. Lancashire was selected by the Pharmaceutical Society as the area in which to make an inquiry into the matter from the chemists' point of view, but a conference between insurance, panel, and pharmaceutical committees in that county has not resulted so far in any definite suggestions.

The safeguards against lax or excessive prescribing are contained in Article 40 of the Regulations under which a Pharmaceutical Committee by making representations to a Panel Committee may require the latter committee to investigate and report on the subject to the Insurance Committee concerned, and this last body can surcharge the practitioners responsible for the excess. We do not know how often Pharmaceutical Committees have made the necessary representations to Panel Committees, but the Panel Committees have failed to put machinery into operation. The responsibility for the situation appears, therefore, to lie to some extent at the door of the panel practitioners, but we can understand that they may find the *métier* of informer a very difficult and unpleasant one to exercise. This difficulty, we are informed, has been recognised by the Advisory Committee, and their recommendations to the Commissioners may result in some readjustment of the financial machinery of the Act. It seems that this is all the more necessary, inasmuch as a Panel Committee, though the only one of the three statutory bodies interested which can control prescribing is the particular one which is the least interested in the task of control, and more and more as the division between medical practice and the making up of prescriptions becomes pronounced will this position become confirmed. The Advisory Committee have advised the Commissioners that it is undesirable that panel practitioners should have a direct financial interest in the business of chemists on the panel in the same neighbourhood, and the probability is that the use by doctors of chemists' shops as surgeries or consulting-rooms will gradually decline.

Other matters which may call for revision of the Medical Benefit Regulations, and which were recently discussed between the Commissioners and the members of the Advisory Committee, included the procedure in regard to complaints by insured persons of the professional services of panel practitioners and the question of the utilisation of new machinery, such as medical refereeing and laboratory facilities, to the best advantage. It is a gratifying circumstance to note that the number of complaints against panel practitioners has been small and also that the character of these complaints has mostly been unimportant; but it is a fact that the existing machinery for dealing with offenders, whose errors are not sufficiently grave perhaps to warrant representations with a view to removal from the panel, is not satisfactory. For the good of the whole medical profession some of these lax practitioners ought none the less to receive some more effective check than a warning in which no publicity is given to their names, for undoubtedly the protection afforded by anonymity is almost complete. On the other hand, the punishment suggested by publication of names would be very great, and we can conceive grave hardship to follow any unfortunate error. The fact is that Insurance Committees would be well advised to shift the responsibility in really bad cases on to the shoulders of the General Medical Council. Where Insurance Committees are in full possession of facts which point to professional misbehaviour we think that it would be for the good of the public, of our calling, and of the panel service alike, if the cases were brought before the disciplinary body of the profession.

MR. MASTERMAN AND THE PHARMACEUTICAL SOCIETY.

Mr. Masterman, as chairman of the National Health Insurance Commissioners, together with some of his colleagues on the Commission, received a deputation from the Pharmaceutical Society on the subject of the insufficiency of the drug funds in several localities to pay in full the druggists who have undertaken to make up prescriptions under the Insurance Act. Mr. Edmund White, President of the society, on behalf of the deputation, spoke of the funds as being sufficient in about 150 areas out of 196, and of the deficiency where it existed as varying from 3 to 30 per cent. He referred to the high sickness rate among insured women as a contributing cause, and to the receipt of ordinary medical benefit by tuberculous patients who should be receiving sanatorium benefit as another. He said that the agreement by druggists to allow a discount when necessary had been entered into in error, and he urged that the profits on accounts were too small to allow any margin for discounts. Mr. Masterman, in reply, said that the conditions as to discount on druggists' accounts could not be reconsidered until the existing Regulations had been fully utilised. The Government had a small fund wherewith to meet the contingency of excessive sickness, but it was not intended to meet a demand due to excessive prescribing. He recognised that Pharmaceutical Committees in some areas were exercising their visiting physician to Dundrum Criminal Lunatic Asylum and to the College of Maynooth, and he was consulting physician in lunacy to the High Court of Chancery. Since the establishment of University College, Dublin, as a constituent college of the National University, he occupied its chair of medicine. He represented the Royal University, and more recently the National University on the General Medical Council. He was President of the Royal College of Physicians of Ireland. and was physician to more than one Viceroy of Ireland, including the present Lord-Lieutenant, Lord Aberdeen.

Many public honours came to him. He was a magistrate and a deputy lieutenant for the county of Dublin. In 1885 the Royal University conferred on him the degree of M.D. *honoris causâ*, and in 1912, on the occasion of the bicentenary celebrations of the medical school of Trinity College, he received a similar honour from his *alma mater*. In 1895 he received the honour of knighthood, and in 1906 he became a baronet of the United Kingdom. Within the present year his name was added to the list of His Majesty's Privy Council in Ireland. He married in 1872 Mary Agnes, daughter of Dominick Edward Blake, of Castlegrove, county Galway, by whom he had issue one son and three daughters.

Sir Christopher Nixon performed an enormous amount of public work with ability and assiduity. He was a physician of skill and learning, and a teacher of the first order. It may be regretted by his friends that he did not find time to give to a wider audience, by means of his pen, the wealth of learning which he lavished on his class of students. That he could have increased his reputation by writing more is certain, but had he done so, much of what he actually accomplished must have been left undone. His was a fine practical career.

TWO DISTINGUISHED PHYSIOLOGISTS.

(FROM A CORRESPONDENT.)

THE physiological world has had to deplore recently the loss of two of its most distinguished continental representatives, Professor Dr. Ludimar Hermann, who for many years occupied with such *éclat* the chair of physiology in the University of Königsberg, and Professor Kronecker, professor of physiology in the University of Berne.

Dr. Ludimar Hermann was born in Berlin on Oct. 31st, 1838. He attended the university and took his degree in 1859, and afterwards as *privat-docent* dedicated himself to physiology in his native city. In 1868 he was called to Zürich as professor ordinarius of physiology, and reference to Pflüger's Archiv and Poggendorff's Annalen shows how active and fertile were both his brain and pen. Many of his contributions to physiology showed a distinctly physical bias, while some were largely chemical. Those physiologists who are old enough to recall the elaborate and vastly unsatisfactory theories of Professor du Bois Reymond, of Berlin, by way of explaining the "muscle current," the "nerve current," and the so-called "negative variation," may also recall how, as it were, with one illuminating suggestion Hermann swept away all this theorising. To-day Hermann's theory of the muscle current holds the field. Not the least of Hermann's services to physiology and to medicine in general is that he in 1863, along with von Recklinghausen, W. Kühne, and Ph. Munk, founded the *Centralblatt für die Medicinischen Wissenschaften*, the parent of *Centralblatts* galore. His "Grundriss der Physiologie," written in a terse, didactic style, ran into many editions, and two of these editions (fifth and sixth) were translated into elegant English by the late Professor Arthur Gamgee. It was also translated into several other languages. Following the idea of the first classic German "Handwörterbuch der Physiologie" (1842-53) and Todd and Bowman's "Cyclopedia of Anatomy and Physiology," Hermann edited as well as contributed to his well-known "Handbuch der Physiologie" which bears his name, and in which some of the epoch-marking contributions to physiology during the latter part of last century may still be read with profit. His "Lehrbuch der Allgemeinen Toxikologie" (1874) was a notable contribution to this subject in these now, alas, far-off days. In 1884 Hermann was called to succeed the versatile von Wittich in the Northern Prussian University of Königsberg, where for many years he added greatly by his contributions to the advancement of that science to which he had dedicated the highest efforts of his intellect. At this time when attacks are made against what is called "vivisection" in this country, it may not be amiss to recall that Hermann published a pamphlet, which was translated into English in 1877 by A. Dickson, of Edinburgh, under the title "The Vivisection Question Popularly Discussed," the original German title being somewhat more terse, to wit, "Die Vivisectionsfrage."

In Berne one day after the death of Hermann Dr. Hugo Kronecker, professor of physiology in the University of Berne, died. Hugo Kronecker was born in Liegnitz in Silesia in 1839. He studied in Heidelberg under Helmholtz and also in Berlin, and graduated in Berlin in 1863; his dissertation dealt with muscular fatigue. As private assistant to the world-renowned physician Traube, Kronecker acquired an intimate knowledge of practical medicine, which served him in good stead as an army surgeon during the campaigns of 1866 and 1870–71. For his services he was rewarded with the decoration of the Iron Cross. He also carried out chemical investigations under Willy Kühne, and in 1868 he went to Leipsic and became assistant to, as well as one of the most esteemed pupils and friend of, Carl Ludwig. He was *privat-docent* in 1872 in Leipsic, and his dissertation "On the Fatigue and Recovery of Cross-striped Muscle" became famous. In 1875 he was elected professor extraordinarius; in 1877 he was called to Berlin; and in 1885 he became professor in Berne, and was thus in the line of succession of the great Haller himself. He liked to call his institute the "Hallerianum." For some years along with Senator he edited the *Centralblatt für die Medicinischen Wissenschaften.* Kronecker's scientific activity was many-sided and catholic in its scope. His studies on muscle form the basis of our knowledge of the laws of muscular fatigue. He discovered that during the first part of a cardiac contraction the heart is inexcitable to stimuli, a phenomenon also discovered by Marey, and by him called the "refractory period." Kronecker's point in the heart is well known, and so are his researches on excised surviving organs, more especially the heart, uterus, and vagina. Reflex action, respiratory movements, swallowing of fluid, vaso-motor centre, sources of animal heat, the action of cardiac poisons, and many other subjects were studied by himself and his numerous pupils. Later in life he made important studies on the effects of rarefied air on the circulation, which have borne important practical results more especially in the process of tunnelling through mountain masses. Kronecker stood in the front rank of physiologists, and his influence on physiology was far greater than might be inferred from the list of papers published under his own name. Like his great master, C. Ludwig, much of the work he inspired was published in the names of his pupils. Everything he did was thorough, and because he had an almost encyclopædic knowledge he was able to give every question he handled an appropriate historical setting. He gave to all his co-workers and pupils "without money and without price" the benefits of his rich stores of knowledge. He was a most lovable, amiable, and generous-hearted man. He was an accomplished linguist, almost a polyglot. In Ludwig's laboratory he could be heard enlightening the latest Italian arrival, who knew no German, in accents as elegant as those spoken by any true-born son of Italy.

All who knew Kronecker—and his friends were legion—became attached to him, for he had a gracious winning personality, at once genial and kindly. He was a foreign member of the Royal Society, an LL.D. of the four Scottish Universities—Aberdeen, Edinburgh, Glasgow, and St. Andrews—as well as D.Sc. of Cambridge. Physiology is vastly the poorer for his death, and his friends will ever keep green the memory of this amiable, accomplished, genial, and erudite physiologist.

THE NATIONAL INSURANCE ACT.

THE WORKING OF THE ACT.

EXPERIENCE that is long enough to be of some service is now accumulating in respect of the working of the Act. With regard to the supply of drugs and appliances, for example, the settlement of the 1913 accounts discloses, as all our readers know, some heavy deficits. A discussion on the subject will be found in a leading article in THE LANCET of June 27th. The Commissioners have been considering steps to obviate the anticipated recurrence of similar deficits in the current year. At a conference with the medical and pharmaceutical members of the Advisory Committee the causes of these deficits were carefully considered, and the conclusion, we believe, was arrived at that a substantial part of the deficits could be traced to the lax methods of prescribing of a few practitioners. The Pharmaceutical Society is anxious, we know, not to attribute too much of the present situation to over-prescribing, and it must be remembered that the cost of the supply of drugs may sometimes have caused the deficits, while, of course, in certain areas the varying incidence of sickness must lead to extraordinary expenses. Lancashire was selected by the Pharmaceutical Society as the area in which to make an inquiry into the matter from the chemists' point of view, but a conference between insurance, panel, and pharmaceutical committees in that county has not resulted so far in any definite suggestions.

The safeguards against lax or excessive prescribing are contained in Article 40 of the Regulations under which a Pharmaceutical Committee by making representations to a Panel Committee may require the latter committee to investigate and report on the subject to the Insurance Committee concerned, and this last body can surcharge the practitioners responsible for the excess. We do not know how often Pharmaceutical Committees have made the necessary representations to Panel Committees, but the Panel Committees have failed to put machinery into operation. The responsibility for the situation appears, therefore, to lie to some extent at the door of the panel practitioners, but we can understand that they may find the *métier* of informer a very difficult and unpleasant one to exercise. This difficulty, we are informed, has been recognised by the Advisory Committee, and their recommendations to the Commissioners may result in some readjustment of the financial machinery of the Act. It seems that this is all the more necessary, inasmuch as a Panel Committee, though the only one of the three statutory bodies interested which can control prescribing is the particular one which is the least interested in the task of control, and more and more as the division between medical practice and the making up of prescriptions becomes pronounced will this position become confirmed. The Advisory Committee have advised the Commissioners that it is undesirable that panel practitioners should have a direct financial interest in the business of chemists on the panel in the same neighbourhood, and the probability is that the use by doctors of chemists' shops as surgeries or consulting-rooms will gradually decline.

Other matters which may call for revision of the Medical Benefit Regulations, and which were recently discussed between the Commissioners and the members of the Advisory Committee, included the procedure in regard to complaints by insured persons of the professional services of panel practitioners and the question of the utilisation of new machinery, such as medical refereeing and laboratory facilities, to the best advantage. It is a gratifying circumstance to note that the number of complaints against panel practitioners has been small and also that the character of these complaints has mostly been unimportant; but it is a fact that the existing machinery for dealing with offenders, whose errors are not sufficiently grave perhaps to warrant representations with a view to removal from the panel, is not satisfactory. For the good of the whole medical profession some of these lax practitioners ought none the less to receive some more effective check than a warning in which no publicity is given to their names, for undoubtedly the protection afforded by anonymity is almost complete. On the other hand, the punishment suggested by publication of names would be very great, and we can conceive grave hardship to follow any unfortunate error. The fact is that Insurance Committees would be well advised to shift the responsibility in really bad cases on to the shoulders of the General Medical Council. Where Insurance Committees are in full possession of facts which point to professional misbehaviour we think that it would be for the good of the public, of our calling, and of the panel service alike, if the cases were brought before the disciplinary body of the profession.

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THE SANITARY CONGRESS AND NATIONAL INSURANCE.

At the twenty-ninth annual Congress of the Royal Sanitary Institute interesting references to the working of the National Insurance Act were made by many speakers. Dr. James Niven, medical officer of health of Manchester, said that it would not be claimed that the Act had produced any great immediate effect on public health administration except as regards tuberculosis, but it promised to do so. It had not hitherto diminished the difficulty of obtaining enough medical practitioners for poor areas to enable patients to receive the time and attention necessary. A State service by whole-time medical officers paid by salaries to attend a definite number of patients was a remedy suggested which was growing in favour. The public health staff had felt the strain of sanatorium benefit work added to their duties, and other public health work had to some extent suffered, but this difficulty was a temporary one only. Dr. Meredith Young spoke of the results of the Act in procuring the early diagnosis of such diseases as Bright's disease, cancer, and heart disease as not so far satisfactory, and Dr. Alfred Greenwood, medical officer of the Kent county council, described institutional treatment under the Act as not having had a fair chance of showing good results, as few sanatoriums as yet had been able to treat any large number of the early cases for which they were intended. In the course of a discussion upon the housing question some vigorous and suggestive observations were made by Dr. J. Holroyde upon the responsibility of the slum dweller for the conditions in which he lived, and upon "lazy and dirty tenants being allowed to be nuisances and breeders of disease, and to go unpunished" as such. He spoke of the slum dweller as unworthy, in the majority of instances, of the "sentimental utterances of a certain type of social reformer whose fetish was the 'liberty of the subject.'" Alderman J. W. Midgley said that the greatest difficulty was not in compelling owners to put their property in a sanitary condition, but in compelling the occupiers to keep it so.

THE LIFE ASSURANCE MEDICAL OFFICERS' ASSOCIATION AND THE ACTS.

A communication has been issued by the secretary of the Life Assurance Medical Officers' Association announcing the intention of the association to extend the scope of its work in order to include all medical questions connected with assurance. The next meeting of the association will be held in November, and will be devoted to a discussion on the Certification of Incapacity under the National Insurance Act. The honorary secretaries are Dr. R. A. Young, 57, Harley-street, W., and Dr. Otto May, 19, Well-walk, Hampstead, N.W.

BLACKBURN INSURANCE COMMITTEE.

At the quarterly meeting of the Blackburn Insurance Committee it was reported that the amount due to medical men on the panel for the year was £20,156, of which £19,644 had been paid, and of which the balance, r senting money accumulated in respect of unallotted in persons, would be divided among the practitioners o panel in proportion to their lists. In consequence of a of over-prescribing being made by the Pharmaceutical mittee it was resolved to go through all prescription calculate in respect of each medical man on the the average price of prescriptions given by him, average number of prescriptions issued per person, average cost of drugs ordered, and also the averages fo same matters over the whole area. A letter was rec from the Commissioners calling attention to the d bility of reminding medical men to comply with conditions necessary for the protection of the drug fund

DUNDEE INSURANCE COMMITTEE: PRIVACY IN CAS OF COMPLAINTS.

At a meeting of the Dundee Burgh Committee held week the suggestion of the Medical Subcommittee o Dundee Insurance Committee—viz., that "the nam persons concerned with cases of complaint reported o the Medical Service Subcommittee shall not be printe the reports of such committee, and the persons conce shall only be referred to in any discussion in the Insur Committee as 'the patient' and 'the doctor,' or such terms as will assure that identification is impossible"— under discussion. The chairman of the Medical Se Subcommittee wrote that he considered the motion *vires*, because the Commissioners had issued regulation which the proceedings of the subcommittee were regula and unnecessary because these regulations prescribed the proceedings of the subcommittee were to be priv So far as he knew that condition had always been obser and no name, either of the insured person or of the doc had appeared in any of the subcommittee's rep Eventually the previous question received 16 votes t for the Medical Committee's motion.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Fate of Bills.

MR. ASQUITH, on Friday, July 17th, made a statement c cerning the Bills with which the Government propose proceed this session and those which they would aband In the list of the abandoned measures are the Direct Re sentatives of the General Medical Council Bill, the H (Substitutes) Bill, and the Naval Medical Compassion Fund Bill. Amongst the Bills which the Government h to pass are the Milk and Dairies Bill, the Milk and Dair (Scotland) Bill, the Inebriates Bill, and the Elementa Education (Defective and Epileptic Children) Bill. The la mentioned measure was read a third time in the House Commons on Friday, July 17th.

Asylum Officers' Superannuation Act.

Some negotiations have been taking place with the Ho Secretary in regard to the amendment of the Asylu Officers' Superannuation Act. A private Member's Bill this subject was introduced into the House of Commons th session, but it has not in all respects been acceptable to t Home Office.

Midwives (Scotland) Bill.

One amendment of substance has been introduced into th Midwives (Scotland) Bill which came before the Standi Committee on Scottish Bills of the House of Commons o Wednesday, July 22nd. Clause I., amongst its other pr visions, laid down that after Jan. 1st, 1921, "no woman sh attend women in childbirth otherwise than under th direction of a registered medical practitioner unless sh be certified under this Act." This provision was wid than the corresponding provision in the English Ac The prohibition there is that "no woman shall habit ally and for gain attend," &c. In order to meet certa opposition in the House of Commons an arrangeme was come to that the more restricted phraseology o the English statute should be introduced into the Bi in committee. Mr. BARNES, who is taking charge o the Bill, brought forward an amendment to giv effect to the arrangements. He confessed that he d so with feelings of regret, but at this stage of the sess there were only two alternatives. The Bill must either b sacrificed or the amendment introduced. Medical opinio preferred to take the Bill in its amended form than ll. Several honourable Members took the same line, h they admitted that the introduction of the amend- ould not conduce to the effective working of the Bill. ely by 21 votes to 3 the committee decided to insert ds "habitually and for gain." The Bill as amended ered to be reported to the House.

Early Mental Cases.

Russell in the House of Lords on Wednesday, 22nd, presented a Bill to deal with early mental cases. d that its object was to enable persons who were in rly stages of lunacy to be placed under control on the rity of a medical man. The Bill avoided the use of the "certificate" because it was desired that it should carry ma. The Bill was read a first time. It is not proposed ceed further with it this session.

HOUSE OF COMMONS.

WEDNESDAY, JULY 15th.

Medical Inspectors under Mental Deficiency Act.

Snowden asked the Home Secretary what appoint- s had been made to the posts of medical inspectors the Mental Deficiency Act, whether all the persons nted were men, at what salaries they had been nted, whether the posts were advertised, whether it intended to appoint a woman or women medical ctors, and, if so, at what salaries.—Mr. McKenna d: Three such appointments have been made, all of at the following salaries: chief inspector, £200, in ion to his salary as inspector under the Inebriates one inspector, £500, rising to £800; one inspector, £400, to £600. The last two posts were advertised. It is ded to appoint a woman medical inspector, and pro- n is made in the Estimates for a salary of £350, rising to The Board of Control has not yet secured the services uitable person.

Sanatorium Benefit Funds.

jor Hope asked the honourable Member for St. George's- e-East, as representing the Insurance Commissioners, her there was any limit to the percentage of the sana- m benefit account for which Insurance Committees t take credit and expend on purposes of general adminis- on expenses of the committees.—Mr. Wedgwood Benn ered: No part of the sanatorium benefit funds of an rance Committee may be applied to defray the cost of administration expenses other than those actually rred either directly or indirectly in the administration natorium benefit. The amount so applied necessarily s in different areas, but is in all cases subject to review e Treasury auditors.

jor Hope: Is it possible to keep the administration nses of sanatorium and other benefits separate?—Mr. gwood Benn: I do not think it is practicable to do so.

Unremunerative Scientific Work.

Cowan asked the Prime Minister whether any existing is available out of which men of science might be pensated for losses incurred by them in doing un- nerative scientific work when such work had proved e of advantage to His Majesty's Government and cts; and whether, if no such fund was available, he ld consider the advisability of providing funds for ting such cases in the future.—Mr. Asquith said in y: I am not aware of any fund other than the Civil . The conditions for the granting of Civil List sions are laid down by Sections 5 and 6 of the I. and II. Vict. c. 2. I am not satisfied that further ision is necessary. I may add that nine pensions were nted last year for scientific services, two to scientists nselves and seven to their widows or daughters.

Housing in Rural Districts.

eplying to Mr. Lane-Fox, Mr. Runciman (President of Board of Agriculture) said that the number of local orities carrying out building schemes in agricultural ricts was extremely small. In selecting the agricultural ricts in which cottages were to be built under the pro- ns of the Housing Bill the Board would have regard to urgency of the demand and to the practicability of ining land at a reasonable price. He was prepared to der any representations which might be made to him half of local authorities, but the Board could not bind lf to refrain from exercising its powers in any particular ict merely on the ground that the local authority had not taken action under the Housing and Town ning Act. In reply to further questions the right ourable gentleman said that the experience in England that the local authorities had done very little in the cultural districts, but having embarked on this scheme osals brought forward for agricultural or other districts ld be considered on their merits.

Answering Mr. C. Bathurst, Mr. Asquith said that he hoped that the Government Housing Bill would be treated as a non-contentious measure and carried into law this session.

Medical Inspection in Secondary Schools.

Mr. Astor asked the President of the Board of Education whether any provision was made for the medical inspection and medical treatment of children attending secondary schools, and if so from what source was payment provided. —Mr. J. A. Pease wrote in reply: Medical inspection is provided in some secondary schools, and is paid for out of the funds available for the maintenance of the school. Where medical treatment is provided it is generally, I think, provided at the cost of and by arrangement with the parent. The honourable Member will find some information on the subject in the annual report for 1912 of the chief officer of the Board.

Committee on Food Preservatives.

In reply to Colonel Ivor Philipps, Mr. Herbert Samuel (President of the Local Government Board) wrote that he hoped to be in a position very shortly to announce the names of the Committee on Preservatives in Cream and other Food.

THURSDAY, JULY 16TH.

Scottish Clerks' Association and Medical Benefit.

Mr. Nield asked the honourable Member for St. George's-in-the-East, as representing the Insurance Commissioners, whether application was made by the Scottish Clerks' Association, whose head office was in Glasgow, to have their special medical scheme whereby a member had free choice of doctor, paid the charge incurred, and upon verification of such payment was reimbursed by the society, and which scheme the society had worked successfully for many years, recognised by the Commissioners in the event of them granting the application of the society to be an Approved Society under the Act; whether the society was informed, and when, that their medical scheme was accepted; whether such acceptance was subsequently repudiated; and, if so, when and for want reason.—Mr. Wedgwood Benn answered: The scheme referred to has at no time been approved by the Commissioners. The latter two parts of the question do not therefore arise.

Supply of Drugs by Panel Practitioners.

Mr. Wedgwood Benn informed Mr. Pratt that an arrangement was expressly provided for in the Regulations that in districts where there was no chemist available the Local Insurance Committee should arrange with the doctors on the panel for the supply of drugs and medicine for a capitation payment of 1*s.* 6*d.* per insured person. The arrangement had been found to work satisfactorily.

The Nursing Grant.

Major Hope asked the Chancellor of the Exchequer whether the House would have the opportunity of considering any scheme for the allocation and administration of the Budget grant in aid of nursing for the current year before such scheme was finally approved.—Mr. Lloyd George replied: It is proposed to present a supplementary estimate to Parliament this session in respect of the service referred to, and I hope that there will be an opportunity for discussion upon it.

Health Lectures.

Answering Mr. Astor, Mr. Herbert Samuel wrote: Section 60 (1) (*b*) of the National Insurance Act provides that the Insurance Committee of a county or county borough may make such provision for the giving of lectures and the publication of information on questions relating to health as it thinks necessary or desirable, and Section 61 (3) of that Act empowers any local authority to subscribe such sums as it may think fit towards the general purposes of the Insurance Committee. Subject to this I am not aware of any general statutory authority for county councils or sanitary authorities in England and Wales to provide lectures on matters relating to public health.

MONDAY, JULY 20TH.

Choice of Medical Man.

Mr. Nield asked the honourable Member for St. George's-in-the-East, as representing the Insurance Commissioners, whether the Commissioners, or any of the Insurance Committees acting under their directions, claimed to have an arbitrary power to refuse an insured person the choice of a medical attendant; if so, was there any appeal, and to whom, from any decision come to; and had any regulations been made upon the subject of applications by insured persons to make their own arrangements, or any definite directions given as to what circumstances should be taken into account in considering such applications.—Mr. Wedgwood Benn replied: Section 15 (5) of the Act of 1911 lays upon Insurance Committees the duty of deciding in the first instance upon applications from insured persons to make their own arrangements. Regulations have been made in pursuance of the section and the provisions of Section 67 (2) are applicable to these cases.

Medical Treatment of Sailors in Port.

Mr. FRED HALL (Dulwich) asked the honourable Member for St. George's-in-the-East whether in cases in which insured seamen were taken ill in a British port and ordered by a doctor into hospital the expenses which the hospital authorities might require the ship-owner to guarantee were in any circumstances recoverable from the insurance authorities; if they were not so recoverable, whether the ship-owner could be compelled to pay such expenses; and whether, in any proposals brought forward for the amendment of Part I. of the National Insurance Act, consideration would be given to the question of at any rate relieving ship-owners of any responsibility for expenses incurred in connexion with the medical treatment of insured seamen while in British ports.—Mr. WEDGWOOD BENN said in reply: The liability of a ship-owner to provide surgical and medical advice and attendance and maintenance during periods of illness in respect of the seamen employed by him is determined by the Merchant Shipping Acts, and is not affected by the provisions of the National Insurance Acts. I cannot undertake to anticipate the provisions of future legislation with regard to the liabilities of ship-owners to their employees.

Middlesex Insurance Surplus Funds.

Mr. WORTHINGTON-EVANS asked the honourable Member for St. George's-in-the-East whether the Middlesex Insurance Committee had yet distributed among the panel doctors any of the surplus funds for 1913; if not, what was the reason of the delay; and, if so, would he say what addition it had made to the fixed remuneration per head of persons treated.—Mr. WEDGWOOD BENN answered: Advances had been made to a total amount in excess of the amounts due in respect of insured persons on doctors' lists only, but the difference between the amounts due on the latter basis and the amount due in respect of the total insured population of the area entitled to treatment by doctors on the panel cannot be ascertained until the completion of the settlement now in progress.

Tuberculosis Treatment in Middlesex.

Mr. WORTHINGTON-EVANS asked the honourable Member for St. George's-in-the East whether the Middlesex Insurance Committee had distributed among the panel doctors of their area any sum for tuberculosis treatment; and if no such distribution had taken place, would he say what was the cause of the delay.—Mr. WEDGWOOD BENN replied: The answer to the first part of the question is in the affirmative. The second does not therefore arise.

Baby Clinics and Infant Dispensaries.

Mr. RAMSAY MACDONALD asked the Prime Minister whether it had now been decided what departments were to be responsible for the administration of grants to baby clinics and schools for mothers; and whether he could say what the arrangement was.—Mr. ASQUITH said in reply: Any funds available for grants to institutions of the nature of baby clinics and infant dispensaries, whose primary object is to provide medical and surgical advice and treatment for infants and little children, will be administered by the Local Government Board. Grants to institutions of the nature of schools for mothers, the object of which is primarily educational, which provide training and instruction for mothers in the care and management of infants and little children, and which may include systematic classes or home visiting or infant consultations, the provision of specific medical and surgical advice and treatment, if any, being incidental, will be administered by the Board of Education. Any cases of doubt or difficulty will be investigated by a joint committee of officers of the two Boards, which will include women medical officers.

Urban Housing.

Sir A. GRIFFITH-BOSCAWEN asked the Prime Minister whether the Government intended to deal with the question of urban housing.—Mr. ASQUITH replied: Yes, sir.

Imperial Military Nursing Service.

Dr. CHAPPLE asked the Under Secretary for War whether, under the regulations of Queen Alexandra's Imperial Military Nursing Service, it was compulsory for a staff nurse or sister to hold a certificate of three years' training in a recognised hospital.—Mr. TENNANT answered: Yes, sir.

Medical Inspectors under Mental Deficiency Act.

Lord NINIAN CRICHTON-STUART asked the Secretary of State for the Home Department whether he could state the names of the medical inspectors lately appointed under the Mental Deficiency Act.—Mr. MCKENNA answered: The names of the inspectors in order of seniority are:—Dr. R. W. Branthwaite, Dr. A. E. Evans, and Dr. S. E. Gill.

Outbreaks of Cow-pox.

Mr. W. THORNE asked the President of the Local Government Board whether the reports of the medical inspectors of the Board who investigated the outbreaks of cow
Frome in 1909, Sudbury in 1909, Oundle in 1911, and
in 1911 had been published.—Mr. HERBERT SAMUEL
Of the outbreaks referred to in the question onl
namely, that at Frome—was investigated by an insp
the Local Government Board. The origin of this o
of cow-pox could not definitely be ascertained, and
not considered necessary to publish the report. The
basis for the suggestion that the cows had been infe
the milkers, and I may mention that the affected c
were attacked subsequently to the cows on whic
attended. No fresh strains of vaccine lymph were o
in connexion with the outbreak.

TUESDAY, JULY 21ST.

Imperial Military Nursing Service.

Dr. CHAPPLE asked the Under Secretary for War w
there was an ample supply of applicants to fill staff
vacancies in Queen Alexandra's Imperial Military
Service.—Mr. TENNANT replied: Yes, sir, the supply is

WEDNESDAY, JULY 22ND.

Tenure of Medical Officers of Health.

Mr. CHARLES BATHURST asked the President of th
Government Board whether he proposed to issue bef
end of this session a general order which would sec
district medical officers of health and sanitary ins
greater security in the tenure of their offices; and
when such order would be issued.—Mr. HERBERT S
replied: The matter is still under consideration. I
be able to come to a conclusion on it at an early date.

BOOKS, ETC., RECEIVED.

BAUERMEISTER, F., 19, West Regent-street, Glasgow.

Lehrbuch der Grenzgebiete der Medizin und Zahnheilk
Studierende, Zahnärzte und Aerzte. Bearbeitet und
gegeben von Dr. Julius Misch (Berlin). Price 36s.

GRIFFIN, CHARLES, AND CO., London.

Treatment of Diseases of the Digestive System. By
Saundby, M.D., M.Sc., LL.D., F.R.C.P. (Lond. et I.), P
of Medicine in the University of Birmingham. Second
revised and enlarged. Price 4s. net.

HEINEMANN, WILLIAM, London.

The Salvarsan Treatment of Syphilis in Private Practice, wi
Account of the Modern Methods of Diagnosis. By
Stopford-Taylor, M.D., M.R.C.S., and Robert William Ma
M.A., M.D., B.Ch., Physicians to the Liverpool Skin H
Price 5s. net.

HIRSCHWALD, AUGUST, Berlin.

Abwasserreinigungsanlagen ihre Leistungen und ihre K
vom chemisch-praktischen Standpunkt. Von Prof. Dr. K. T
Price M.2.80.

HIGGINBOTHAMS, LIMITED, Madras.

Diabetes: Its Nature and Treatment. What Diabetic P
ought to Know. By the Honourable Dr. T. M. Nair, M.D.

HOLDER, ALFRED, Wien und Leipzig.

Die Krankheiten des höheren Lebensalters. Von Prof. He
Schlesinger (Wien) 1. Teil: Allgemeines, Bewegungsa
Blut und Blutdrüsen, Stoffwechsel, Respirations- und Z
tionstrakt. Price M.12.

KING, P. S., AND SON, London.

The Probation System. By Cecil Leeson. With an Introd
by J. H. Muirhead, LL.D., Professor of Mental and
Philosophy, University of Birmingham. Price 3s. 6d. net.

LAUPP'SCHEN, H., Tübingen.

Festschrift Herrn Dr. Heinrich Bircher, Direktor der Kant
Krankenanstalt Aarau (Schweiz) und Chefarzt der Chirurg
Abteilung zu Seiner 25 Jährigen Amtstätigkeit Überreicht
Freunden und Ehemaligen Assistenten 1887-1912. Price

LEHMANN, J. F., München.

Chirurgische Diagnostik in Tabellenform für Studierend
Ärzte. Von Dr. med. J. Cemach. 100 Tabellen, 10
fortlaufender Text und 440 schwarze und farbige Abbild
auf 112 Tafeln. Price M.14.

Lehmann's Medizinische Atlanten. Band XII. Die Faden
krankungen des Menschen. Von Dr. Robert Otto
Assistent der Wiener Universitätsklinik für Geschlechts
Hautkrankheiten. Mit 78 Abbildungen auf 3 schwarzen, 1
und 11 Vierfarbdrucktafeln. Gebd. Price M.10.

Abhandlungen über Salvarsan. Herausgegeben von Professo
Ehrlich Band IV. Price M.9.

LITTLE, JAMES, Collins-street, Melbourne.

Therapeutics, Dietetics, and Hygiene: An Australian Text
By John William Springthorpe, M.A., M.D. Melb., M.
Lond., Senior Physician to the Melbourne Hospital. Vo
Therapeutics. Price 25s.

MACMILLAN COMPANY, New York.

Bacteriology for Nurses. By Isabel McIsaac, R.N. Second e
revised. Price 5s. 6d. net.

Materia Medica for Nurses. By A. S. Blumgarten, M.D., Inst
in Materia Medica at the German Hospital Training Scho
Nurses, New York. Price 10s. 6d. net.

N AND Co., London.

ce Nightingale to her Nurses: a Selection from Miss htingale's Addresses to Probationers and Nurses of the htingale School at St. Thomas's Hospital. Price 1s.

, A., Paris.

ection Puerpérale Diagnostic-Traitement. Par Prof. Contin Daniel (Bucarest).

Caractères Médicaux dans l'Ecriture Chinoise. Par le Dr. ien-Graux. Price Fr. 4.

LOUIS, Berlin.

rten-Rückgang und Geburten-Regelung. Im Lichte der ividuellen und der sozialen Hygiene. Von Prof. Dr. med A. otjahn (Berlin). Price M.6.

ROUGH, E., AND Co., London.

ese Self Taught. By John Darroch, Litt.D. Price 5s.

AND MENTAL DISEASE PUBLISHING COMPANY, New York.

Myth and Birth of the Hero: a Psychological Interpretation Mythology. By Dr. Otto Rank, of Vienna. Authorised nslation by Drs. F. Robbins and Smith Ely Jelliffe. Price $1.

LMOSCOPE PRESS, Thayer-street, W.

strain in Everyday Practice. By Sydney Stephenson, M.B., M. Edin., D.O. Oxon., F.R.C.S. Edin., Surgeon to Queen's ospital for Children. Second edition. Price 3s. 6d. net.

HERINE PRESS, THE, 34, Norfolk-street, Strand, W.C.

le of Body. By Hugh de Sélincourt. Price 1s. net.

FIC PRESS, LIMITED, London.

lical Homes for Private Patients, 1914, with Alphabetically rranged List of Medical Consultants. Edited by R. Pritchard lnnie. Price 6d. net.

, GEORG, Leipzig.

r die Ernährung des Auges. Von Dr. med. C. Hamburger Berlin). Price M.8.

IANN, ALFRED, Giessen.

historischen Biologie der Krankheitserreger. Materialien. tudien und Abhandlungen. Herausgegeben von Karl Sudhoff nd Georg Sticker. Heft 7. Die Variolation im achtzehnten ahrhundert. Ein historischer Beitrag zur Immunitätsorschung. Price M.3.

SITY TUTORIAL PRESS, W. B. CLIVE, High-street, Oxford-t, W.C.

e London Matriculation Directory, June, 1914, containing Examination Papers with Answers. Price 1s. net.

UND SCHWARZENBERG, Berlin und Vienna.

chnik der Speziellen Klinischen Untersuchungsmethoden. Herausgegeben von Professor Dr. T. Brugsch (Berlin) und Professor Dr. A. Schittenhelm (Königsberg). II. Teil. Preis des kompletten Werkes, M.36.

mpendium der Arzneimittellehre mit besonderer Berücksichtigung der neuen Arzneimittel, der Organotherapie, Serologie und Nährpräparate. Von Dr. Lipowski. Price M.5.

sterreichisches Bäderbuch. Offizielles Handbuch der Bäder, Kurorte und Heilanstalten Oesterreichs. Herausgegeben von kais. Rat Dr. Karl Diem. Two volumes.

HT, JOHN, AND SONS, LIMITED, Bristol.

he Newer Physiology in Surgical and General Practice. By A. Rendle Short, M.D., B.S., B Sc. Lond., F.R.C.S.Eng., Hunterian Professor, Royal College of Surgeons. Third edition, revised and enlarged. Price 5s. net.

L, F. C. W., Leipzig.

urzgefasstes Handbuch der gesamten Frauenheilkunde Gynäkologie und Geburtshilfe fur den praktischen Arzt. Herausgegeben von Privatdozent Dr. W. Liepmann in Berlin. Band II. Pathologische Anatomie und Histologie. Von Privatdozent Dr. O. Frankl, Wien. Price M.30.

Book PRESS, 31, Museum-street, W.C.

Girls' School Year Book, 1914. Price 3s. 6d. net.

Appointments.

essful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

TH, R. M., M.B. Belf., has been appointed House Surgeon at the Royal Victoria Hospital, Belfast.

ON, GERALD C., M.B., Ch.B. Manch., has been appointed Second House Surgeon to the Manchester Royal Eye Hospital.

MING, G., M.B., C.M., M.R.C.P.E., has been appointed Medical Superintendent to the Durham County Sanatorium.

STRIN, T. B., M.B., Ch.B. Edin., has been appointed to the newly created office of Lecturer and Demonstrator in Anatomy at University College, London.

LOCH, J. PARLANE, M.D. Glasg., D.P.H. Cantab., has been appointed to the newly created Lectureship in Public Health at the University of Aberdeen.

ALLY, CHARLES J., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Assistant Anæsthetist to the Royal Dental Hospital, London.

ISE, S., M.B. B.Ch., has been appointed House Surgeon at the Royal Victoria Hospital, Belfast.

SON, W. MAXWELL, M.B., Ch.M. Edin., F.R.C.S., has been appointed Surgeon to the Ear, Nose, and Throat Department at the Dewsbury and District Infirmary.

OLIVER, M. W. B., M.A., M.B., B.C. Camb., F.R.C.S. Eng., has been appointed Assistant Ophthalmic Surgeon to the Miller General Hospital.

PURCE, G. R. B., M.B. Belf., has been appointed House Surgeon at the Royal Victoria Hospital, Belfast.

STIRLING, WILLIAM, M.B., Ch.B. Manch., has been appointed Resident Surgical Officer to the Manchester Royal Eye Hospital.

WILLIAMSON, JAMES, M.B., Ch.B. Glasg., has been appointed Senior House Surgeon to the Manchester Royal Eye Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BANBURY, HORTON INFIRMARY.—House Surgeon. Salary £120 per annum, with board and residence.

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL.—House Surgeon. Salary £150 per annum, with residence, board, and laundry.

BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

BETHNAL GREEN INFIRMARY, Cambridge Heath, E.—Second and Third Assistant Medical Officers. Salary at rate of £180 and £160 per annum respectively, with apartments, board, and washing.

BIRKENHEAD BOROUGH HOSPITAL.—Senior House Surgeon. Salary £120 per annum, with board and laundry.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Locum Tenens as Junior House Surgeon. Salary 5 guineas weekly, with board and lodging.

BIRMINGHAM, QUEEN'S HOSPITAL.—House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing. Also Secretary and General Superintendent. Salary £400 per annum.

BIRMINGHAM, ROMSLEY HILL SANATORIUM FOR CONSUMPTIVES.—Assistant Resident Medical Officer, unmarried. Salary £200 per annum, with board, apartments, and laundry.

BIRMINGHAM UNION, SELLY OAK INFIRMARY.—Resident Assistant Medical Officer. Salary £160 per annum.

BLACKBURN AND EAST LANCASHIRE ROYAL INFIRMARY.—Junior House Surgeon. Salary £100 per annum, with board, residence, &c.

BOOTLE BOROUGH HOSPITAL.—Senior and Junior House Surgeons. Salaries £120 and £100 respectively, with residence, board, and laundry.

BRADFORD ROYAL INFIRMARY.—House Surgeons, unmarried. Salary £100 per annum, with board, residence, and washing. Also Locum House Surgeon. Salary 6 guineas per week, with board, residence, and washing.

BRIGHTON THROAT AND EAR HOSPITAL, Church-street, Queen's-road.—Non-Resident House Surgeon for six months. Salary at rate of £150 per annum.

BRISTOL CITY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, washing, and attendance.

CAMBERWELL INFIRMARY AND GORDON-ROAD INSTITUTION.—Assistant Medical Officer. Salary £200 per annum. Also Assistant Medical Officer for Infirmary. Salary £190 per annum. Apartments, board, and washing in each case.

CARDIFF, KING EDWARD VII.'S HOSPITAL.—Two House Surgeons for six months. Salary at rate of £100 per annum, with board, residence, and laundry.

CHELSEA INFIRMARY, Cale-street, S.W.—Second Assistant Medical Officer. Salary £160 per annum, with board, washing, apartments, &c.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £75 per annum, with board, residence, and washing.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Surgeon and House Physician. Salary £100 per annum each, with board, residence, and washing.

DEVONPORT, ROYAL ALBERT HOSPITAL.—House Surgeon, unmarried. Salary £150 per annum, with board and laundry.

DORCHESTER COUNTY ASYLUM.—Second Assistant Medical Officer. Salary £300 per annum, with board, &c.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—House Physician. Salary at rate of £75 per annum, with board, residence, and washing.

GLASGOW UNIVERSITY.—Lecturer in Pharmacology. Salary £350 to £400 per annum. Also Assistant in Department of Physiology. Salary £150 per annum.

GRIMSBY AND DISTRICT HOSPITAL.—Senior House Surgeon. Also Junior House Surgeon. Salaries £100 and £[illegible] per annum respectively, with board, lodging, attendance, and washing.

HARTLEPOOL, BOROUGH OF.—Medical Officer of Health and School Medical Officer. Salary for combined appointment £[illegible] per annum.

HELLINGLY, EAST SUSSEX COUNTY ASYLUM.—Assistant Medical Officer.

HEXHAM RURAL DISTRICT COUNCIL.—Medical Officer of Health. Salary at rate of 250 guineas per annum.

HULL ROYAL INFIRMARY.—Senior House Surgeon, unmarried. Salary £150 per annum, with board and apartments. Also Assistant House Surgeon. Salary at rate of £[illegible] per annum, with board and lodging.

HULL, VICTORIA CHILDREN'S HOSPITAL, Park-street.—Female Assistant Resident House Surgeon. Salary £[illegible] per annum, with board and laundry.

INVERNESS, NORTHERN INFIRMARY.—House Surgeon. Salary £100 per annum, with board, &c.

JOHANNESBURG, SOUTH AFRICAN INSTITUTE FOR MEDICAL RESEARCH.—Superintendent of Routine Division. Salary £[illegible] per annum. Also Curator of Museum, Photographer, and Photomicrographer, unmarried. Salary £[illegible] per annum.

LEAMINGTON SPA, WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—House Surgeon and House Physician. Salary £100 and £[illegible] respectively, with board, residence, and laundry.

LEEDS, CITY HOSPITALS FOR INFECTIOUS DISEASES AND TUBERCULOSIS.—Two Assistant Medical Officers, unmarried, for six months. Salary at rate of £130 per annum each, with board, lodging, and washing.

LEEDS GENERAL INFIRMARY.—Two House Physicians for six months, without salary, but with board, residence, and laundry. Also Assistant Clinical Pathologist. Salary £150 per annum and luncheon. Also Resident Medical Officer at the Ida and Robert Arthington Hospitals for six months. Salary £60 per annum, with board, residence, and laundry.

LEEDS TUBERCULOSIS ASSOCIATION SANATORIUM, Gateforth, near Selby.—Resident Medical Officer for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

LEICESTER ROYAL INFIRMARY.—Assistant House Surgeon and Assistant House Physician for six months. Salary at rate of £100 per annum, with board, apartments, and washing.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.—Research Assistant at Runcorn Research Laboratory. Salary £150 per annum.

LONDON LOCK HOSPITAL.—House Surgeon to Female Hospital, Harrow-road, W. Salary £100 per annum, with board, residence, and washing.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Assistant House Surgeon for six months. Salary at rate of £105 per annum. Also Assistant Resident Medical Officer for six months. Salary at rate of £80 per annum, with board and residence.

MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £250 per annum, with quarters, board, attendance, washing, &c.

MAIDSTONE, KENT COUNTY OPHTHALMIC HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and laundry.

MAIDSTONE, WEST KENT GENERAL HOSPITAL. — Assistant House Surgeon, unmarried. Salary £80 per annum, with board, lodging, &c.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Secretary. Salary £250 per annum. Also Resident Medical Officer, unmarried, for six months. Salary at rate of £100 per annum.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer and Pathologist. Salary £60 per annum. Also Resident Medical Officer for In-patient Department, Bowdon, Cheshire. Salary £100 per annum, with board, apartments, washing, &c.

MANCHESTER, HULME DISPENSARY, Dale-street, Stretford-road.—House Surgeon. Salary £180 per annum, with apartments, attendance, coal, and gas.

MANCHESTER, MONSALL FEVER HOSPITAL.—Fourth Medical Assistant. Salary £150 per annum, with board, lodging, and washing.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Park-place, Cheetham Hill-road.—House Surgeon. Salary £120 per annum, with apartments and board.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with residence, board, and washing.

MANCHESTER ROYAL INFIRMARY.—Medical Officer for Out-Patients and Accidents for six months. Salary at rate of £100 per annum, with board and residence.

MANCHESTER, ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—Four House Surgeons.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—House Surgeon and Assistant House Surgeon for six months. Salary at rate of £60 and £40 respectively, with board and washing.

NATAL, PROVINCE OF.—Medical Officer for Medical Inspection of Schools. Salary £700 per annum.

NEWARK-UPON-TRENT HOSPITAL.—Resident Medical Officer, unmarried. Board, lodging, and laundry provided.

NEWCASTLE-UPON-TYNE, ROYAL VICTORIA INFIRMARY.—Medical Registrars and Surgical Registrars. Salary at rate of £50 per annum.

NORTHAMPTON GENERAL HOSPITAL.—House Surgeon. Salary £120 per annum, with apartments, board, washing, attendance, &c.

NOTTINGHAM, BAGTHORPE INSTITUTION AND INFIRMARY.—Resident Assistant Medical Officer, unmarried, for six months. Salary at rate of £165 per annum, with apartments, &c.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £180 per annum, with apartments (not board), attendance, light, and fuel.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Physician for six months. Salary at rate of £100 per annum, with board, residence, and laundry.

OLDHAM ROYAL INFIRMARY.—Senior House Surgeon and Third House Surgeon for six months. Salary at rate of £140 and £100 per annum respectively, with residence, board, and laundry.

OXFORD, CITY OF.—Assistant Medical Officer of Health and School Medical Officer. Salary £300 per annum.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House Surgeon. Salary at rate of £80 per annum, with board, residence, and washing.

PLYMOUTH INCORPORATION OF GUARDIANS WORKHOUSE AND INFIRMARY.—Resident Assistant Medical Officer. Salary £200 per annum, with apartments, rations, and washing.

PORTSMOUTH ROYAL HOSPITAL.—House Surgeon for six months. Salary £90 per annum, with board, &c.

PUTNEY HOSPITAL, Putney Common, S.W.—Resident Medical Officer. Salary £100 per annum, with rooms, board, and laundry.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—House Surgeon for six months. Salary £80 per annum, with board, residence, and washing. Also Female House Physician and Casualty House Surgeon for six months. Salary £80 per annum, with board, residence, and washing.

READING EDUCATION COMMITTEE.—Assistant Medical Officer. Salary £300 per annum.

RETFORD, STATE CRIMINAL LUNATIC ASYLUM.—Assistant Medical Officer, unmarried. Salary £225 per annum, with quarters, coals, light, and attendance.

ROCHDALE INFIRMARY AND DISPENSARY.—Senior House Surgeon, unmarried. Salary £120 per annum, with board, residence, and laundry.

ROYAL DENTAL HOSPITAL, Leicester-square, W.C.—Two House Anæsthetists.

ROYAL EYE HOSPITAL, Southwark, S.E.—Junior House Surgeon. Salary £50 per annum, with board and quarters.

ROYAL NAVAL MEDICAL SERVICE.—Twenty-five Appointm

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, P
Assistant Resident Medical Officer. Salary at rate
annum, with board, residence, and laundry.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, Paddington,
strator of Physiology. Salary £150 per annum.

ST. MARY'S HOSPITAL, Paddington, W.—Resident As
thetist for six months. Salary at rate of £100 per
board and residence.

SALFORD ROYAL HOSPITAL.—Junior House Surgeon
House Surgeon. Salary at rate of £100 per annu
board and residence.

SALFORD UNION INFIRMARY.—Resident Assistant Med
unmarried. Salary £150 per annum, with apartm
ance, and rations.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior and
Surgeons. Salaries £100 and £80 per annum resp
board, residence, &c.

SHEFFIELD CITY HOSPITALS (INFECTIOUS DISEASES AND T
—Assistant Medical Officer. Salary £150 per annum
lodging, and washing.

SHEFFIELD, EAST END BRANCH OF THE CHILDREN'S Ho
PATIENT DEPARTMENT).—House Surgeon. Salary £1
with board and residence.

SIAMESE GOVERNMENT.—Two Medical Officers.

SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH
WESTOE DISPENSARY.—Junior House Surgeon. Sa
annum, with residence, board, and washing.

SOUTHWARK UNION INFIRMARY, East Dulwich-grove
Assistant Medical Officer. Salary at rate of £1
with board, lodging, and washing.

STOKE-UPON-TRENT UNION INSTITUTE AND HOSPITAL,
Newcastle, Staffs.—Assistant Resident Medical Offic
Salary £160 per annum, with rations, apartments, an

SUNDERLAND ROYAL INFIRMARY.—House Physician.
per annum, with board, residence, and laundry.

SWANSEA GENERAL AND EYE HOSPITAL.—House Sur
£125 per annum, with board, washing, and atte
House Physician. Salary £125 per annum, with boar
and laundry.

TRURO, ROYAL CORNWALL INFIRMARY.—House Surgeo
Salary £100 per annum, with rooms, board, and wash

WALSALL AND DISTRICT HOSPITAL.—Junior House Surg
thetist. Salary £110 per annum, with board,
laundry.

WANDSWORTH UNION INFIRMARY, Ouseley-road, Ba
Second Assistant Medical Officer, unmarried. Salary
per annum, with board, lodging, and washing.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assis
House Surgeon and Anæsthetist, unmarried. Sal
annum, with board, residence, and washing.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford
Medical Officer. Salary £160 per annum. Also
Physician and Senior House Surgeon. Salary £1
Also Junior House Physician and Junior House Su
£100 per annum. Board, residence, and washing p
case.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Res
Officer and Anæsthetist. Salary at rate of £40 per
board, lodging, &c.

WEST RIDING COUNTY COUNCIL.—School Medical Insp
£325 per annum.

WEST RIDING OF THE COUNTY OF YORK, STORTHES
Kirkburton, near Huddersfield.—Assistant Medical
£230 per annum, with rooms, board, attendance, and

WESTON-SUPER-MARE HOSPITAL.—House Surgeon, unm
£120 per annum, with residence, board, and laundry.

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL.—Ho
Salary £80 per annum.

WOOLWICH INFIRMARY, Plumstead.—Resident Assistant
unmarried. Salary £180 per annum, with apartmen
washing.

YORK COUNTY HOSPITAL.—House Physician for six m
at rate of £100 per annum, with board, residence, &c.

THE Chief Inspector of Factories, Home Office, Londo
notice of vacancies for Certifying Surgeons unde
and Workshop Acts at Ashton-under-Lyne, in t
Lancaster; and at Uppingham, in the county of Rut

Births, Marriages, and D

BIRTHS.

HOLLAND.—On July 21st, at 55, Queen Anne-street, W
Eardley Holland, M.D., of a daughter.

MCCARDIE.—On July 12th, at Frederick-road, Edgbaston,
the wife of Dr. W. J. McCardie, of a son.

MARRIAGES.

FREER—PARKER.—On July 18th, at the Parish Church,
Man, Robert Mylcraine Freer, M.D., M.S., D.P.H.
daughter of George and Edith Parker, of Balladoo
Isle of Man.

DEATHS.

MASON.—On July 19th, at York-road, Birmingham,
Mason, M.R.C.S., aged 66 years.

NIXON.—On July 19th, at his residence, Co. Dublin, t
Sir Christopher Nixon, Bart., P.C., D.L., LL.
F.R.C.P.Irel., aged 64.

KEITH.—On July 14th, at Gilcomston Park, Aberdeen, A
M.D., aged 84 years.

N.B.—A fee of 5s. is charged for the insertion of Notic
Marriages, and Deaths.

, Short Comments, and Answers to Correspondents.

H AND SANITATION IN NORTHERN NIGERIA.

st detailed report received at the Colonial Office on airs of Northern Nigeria states that malaria con- to be the most prevalent cause of ill-health. It has ointed out by medical and sanitary authorities that adily increasing mining and commercial activities country have been responsible for the introduction nbers of Europeans who have never previously in the tropics, while the number of natives who the aid of the medical department is yearly g. It follows that it is quite possible that for some o come malarial fever may increase statistically in point of fact it may be really decreasing. The of medical officers and residents to combat small- mongst the natives by vaccination continue to be ful; tactful handling yearly induces a larger r to offer themselves for vaccination. The infant ity from small-pox and fever is enormous, and the native is slow to take any precaution for f he is easily approached when the danger to ildren is made manifest to him. Only ocular strations, however, will induce him to believe that grubs," as he knows them, become mosquitoes, s ocular demonstration of the further connexion n mosquitoes and fever cannot yet be given, pro- n combating fever must be slow.

ing sickness is well known in the valley of the and in the southern provinces generally, and its ce is also reported in the Central Province. The "cure" is the application of raw rubber to an n in the neck which exposes the gland; rubber and ogether are torn off when the rubber has coagulated. provinces have established segregation villages for and in Yola the results are reported to be satis- , but the Resident of Bornu states that segregation s extremely unpopular, and this may probably be s the general attitude.

time of the two European officers of the Sanitary ment has been occupied principally in advising the ve on all matters affecting hygiene and sanitation, visiting the provinces and reporting on the sites of ent stations, or advising where future sites should particular spots on which residential quarters be erected. With the active coöperation of the l officers the sanitary officers are endeavouring to s on native chiefs the need for, and benefits that will from, the proper sanitation of their towns. In the nlightened northern provinces possessing effective administrations much progress is being made, but be difficult to induce the natives of the southern belts to make improvements until effective native strations have been created in those districts. The l of sewage and refuse are matters in which the generally is not concerned, but in many of tive towns of the north, notably Kano, where ve cultivation is practised, the demand for e tends to the removal of insanitary refuse, and ultivators in those districts understand the ial value of combustible rubbish burned on the . The water-supply is principally derived from s, streams, wells, and marshes. Excepting in the f well-built European dwellings the houses have ed roofs, so that any large collection of rain water is ssible. At most of the stations Europeans are daily d with condensed water for drinking and cooking es. All the water supplied to prisons and native ls is boiled. Everything possible is being done to the natives to safeguard their wells by the con- on of parapets to keep out the surface drainage, and cting sites for the sinking of wells away from the ourhood of salgas (native latrines) to guard against nination. There is no system of pipe or other form erground drainage, and surface drainage is effected natural fall of the ground towards streams, but he greater part of the country percolation is free a rule, fairly rapid. A considerable amount of labour nded on clearing operations at the various stations the months of July, August, September, and October, getation then being exuberant. Bush is cleared he inhabited parts of stations, and the clearing is more extensive in regions where tsetse flies prevail. native towns the practice of keeping undergrowth y surrounding the town with short crops, such as nuts, sweet potatoes, and beans, is steadily spread- Elementary hygiene is being taught at the Govern- schools at Nassarawa, and one of the medical officers o is now attached to the schools and Kano City, his being tutorial as well as medical.

FORCIBLE FEEDING: A SIDE ISSUE.

A COMMUNICATION has been sent to us for publication signed by Dr. James W. McIntosh (chairman), Dr. L. Haden Guest, Sir Victor Horsley, Mr. C. Mansell Moullin, and Dr. Frank Moxon, of the Forcible Feeding Protest Committee of Medical Men, which refers to the possibility that prisoners if they do not give up voluntary starvation might be certified as insane and incarcerated in an asylum. The communication encloses a copy of a letter received on July 14th from a convicted male criminal who had refused food and undergone forcible feeding (according to his own account) 238 times at Northampton and Wormwood Scrubbs prisons, and had then been transferred to the Bucks County Asylum on a warrant of detention by order of the Home Secretary. Dr. McIntosh, Sir Victor Horsley and Dr. Guest state that they visited the asylum last week and found no evidence of insanity in this prisoner, but that he had been certified on the reception order by the medical men as insane on the ground that he refused food. They further allege that a week after transference to the asylum the medical superintendent made a report which not only contained no evidence of the prisoner being insane, but definitely stated that he talked quite coherently, that his memory was good, and that he had eaten his food since admission.

GLYCOSURIA AND THE SUGAR INDUSTRY.

To the Editor of THE LANCET.

SIR,—In your issue of April 18th there is a question from Dr. F. C. MacNalty, of Winchester, as to the occurrence of glycosuria amongst those working on sugar-cane estates. One of the hospital assistants here, a Chinaman, on his own initiative, examined some years ago many specimens of urine obtained from men engaged in the crushing of sugar-cane. He found that Fehling's solution was reduced by every specimen he tested. There is no muzzling of the ox that turns the stones between which the cane is crushed, and equally little restraint is put upon the men and boys engaged in the work.

I am, Sir, yours faithfully,

Swatow, China, June 29th, 1914. G. DUNCAN WHYTE.

PLAGUE IN JAVA.

A CONSULAR report on the affairs of Java (Dutch East Indies) states that there have been epidemics of cholera and small-pox, but that the health of the island was, on the whole, better in 1913 than in 1912. The measures taken to combat the plague in East Java have been continued vigorously, but the disease shows no signs of abatement. The number of cases of plague during 1913 was 12,055, and the number of deaths 11,305. There were about 600 European British subjects in Java at the end of 1913.

CONJUNCTIVITIS DUE TO FACE POWDER.

IN the *Journal of the American Medical Association* of April 8th, Dr. N. M. Black has called attention to a cause of conjunctivitis which appears not to have been previously recognised—the use of "face powder." For several years cases have come under his observation with a similar train of symptoms and microscopic appearances of the conjunctival secretion. The patients, invariably women, complain of vision frequently being blurred, inability to use the eyes for any length of time for near vision, and severe itching of the lids. The slightest rubbing of the lids produces marked bulbar hyperæmia and only aggravates the itching. In severe cases the lids become œdematous from the constant rubbing. There is a mucilaginous secretion in varying amounts, which is elastic, and on removal pulls out in long strings. Microscopic examination of the secretion shows numerous epithelial cells mixed with what appear to be pentagonal crystals, the majority having a central black spot. In a few cases many fine amorphous crystals are also present. Smears taken from these cases were shown to a number of pathologists, bacteriologists, and chemists, but a satisfactory explanation could not be obtained. Some suggested that the "crystals" might be secreted by the lacrymal gland, others that they were artefacts. Slides prepared from the eyes of two sisters having the usual train of symptoms were submitted to Dr. C. H. Bunting, professor of pathology in the University of Wisconsin College of Medicine. He wrote as follows: "After trying various solvents I found that strong alkalies caused the crystals to swell and become spherical, with a doubly contoured wall. When they swelled enough to rupture, iodine showed that they discharged soluble starch into the surrounding fluid. So you are dealing with plant cells, probably from face powder. They are not lycopodium." After examining various face and dusting powders Dr. Bunting said that the "crystals" came from rice powder. He thought they must be the cells from the hard exterior [illegible]. The fine "amorphous crystals" [illegible] in face but not in rice powder. He could not determine their nature. Several other patients presenting the same symptoms and microscopic conditions used face powder made by the same firm. Dr. Black gives the following explanation. When the powder is applied to the face with a puff some fine dust arises and lodges on the moist conjunctiva. The rice flour, rendered mucilaginous by the tears, is not washed away. The woody cells of the hard exterior of the rice grain swell, and, being angular, produce conjunctival irritation, which is aggravated by rubbing. Those who use chamois to apply the powder are less likely to cause fine dust to arise. This accounts for the conjunctivitis not being produced in every person using face powder. The symptoms are quickly relieved by flushing the conjunctival sac with boric or normal saline solution and the use of an ointment made of equal parts of lanoline and petrolatum, which seems to agglutinate the cells and allow their being easily flushed out.

A DISCLAIMER.

To the Editor of THE LANCET.

SIR,—May I ask the courtesy of your columns to state that an article purporting to express my opinions, and quoting from my medical writings, which has appeared yesterday in a daily journal, has been issued entirely without my consent or authority, and to my great annoyance.

I am, Sir, yours faithfully,
London, July 15th, 1914. R. FORTESCUE FOX.

GOGGLES FOR POLAR EXPLORERS.

THE officers of the forthcoming Antarctic Expedition, which is to be led by Sir Ernest Shackleton, have devoted special attention to the question of protection against snow blindness, which, as is well-known, has caused a great deal of suffering and inconvenience in previous expeditions to the Antarctic. Every member of the expedition has been supplied with a special pair of goggles, which it is anticipated will provide all possible protection. The form of these goggles in ordinary cases is a pair of gauze eye cups made of aluminium-nickel alloy, joined together by an adjustable leather bridge. The edges of the cups which touch the skin are leather bound and the goggle is fixed by an adjustable leather strap passing round the head. Each goggle has been glazed with lenses ground in euphos glass made to the formula of Professor Schantz, in the tint commercially known as No. 4. This glass has been proved experimentally at the National Physical Laboratory and elsewhere to absorb the whole of the ultra-violet rays. Up to the present the only instance recorded in which this glass has been used in polar exploration was on Amundsen's Expedition, when he and his assistant, Hansen, both wore Professor Schantz's glass, and were the only two members of the expedition doing so. They record that they were the only two members that did not suffer from snow blindness in any degree. In the case of one of the surgeons of the expedition, who is astigmatic to the extent of 3½ diopters, the only difference made has been to fix a leather-bound rigid bridge instead of the adjustable one so that the whole goggle front itself will be perfectly rigid, all minor adjustments for axis can be easily made in fixing the leather strap round the head. In the case of one of the geologists, who is myopic to the extent of 4 diopters, a film of euphos glass has been fused on to a white blank, on which blank the whole of the correction has been ground, so that equal tint protection is provided from centre to edge, irrespective of the varying thicknesses of the glass. Each man has been provided with a spare pair of lenses, and the frame is so made that on levering up a little of the leather binding on the edge of the cup a pin can be easily removed which opens the rims, and after replacing the broken lens the rims can be just as easily fastened together again by re-insertion of the pin. The expedition has also been supplied with tubes of a special preparation with which the lenses can be cleaned and polished, and which will prevent the condensation of the wearer's breath on the glass. Sir Ernest Shackleton has reported, after using specimen goggles made for experiment on his Norway Test Expedition, that they proved to be satisfactory in every particular, and it is anticipated that as a result of the wearing of these glasses there will be very little trouble caused by the effects of snow glare on the eyes of the members of the expedition.

URINE-COLLECTING BOTTLES.

IN reply to U.C.B.'s inquiry in THE LANCET of July 18th, a correspondent writes to say that the urine bottle referred to was suggested by Dr. H. Carter Thorp, of Ryde, and described in THE LANCET of August 23rd, 1902. It is made by Messrs. Down Bros., Limited, St. Thomas's-street, S.E., and shown in their catalogue.

PARTNERSHIP.[1]

MR. H. C. Emery has in a recent book compiled handy and convenient summary of the law of partn ships under the Partnership Act, 1890, and the Limit Partnership Act, 1907, which should be of use to perso entering upon commercial partnerships as well as lawyers in practice. The facts and circumstances medical partnership have little relation to those dea with in such a volume, but it may be suggested that t provisions of the Limited Partnership Act may sometim be of use to medical men who desire to invest capital minor commercial undertakings.

Messrs. Angus and Co., of 83, Wigmore-street, London, W have issued an abridged catalogue of the microscop and accessory apparatus manufactured by the fi C. Reichert, of Vienna, for whom they are the agents this country. It is interesting to note that since t foundation of the firm in 1876 they have produced an sold some 55,000 microscopes—a testimony to the scienti accuracy of their instruments.

◆

Mr. Boulton Hall.—The passage is correctly quoted fro THE LANCET, but much has since been written on t subject, indicating that nicotine is not the only harmf ingredient in tobacco-smoke.

A. V. (Barcelona).—This treatment is no longer regard seriously. The last reference was a special article o Some Constituents of Violet Leaves, which appeared i THE LANCET of April 22nd, 1905.

COMMUNICATIONS not noticed in our present issue wi receive attention in our next.

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[1] Partnership: A Concise Treatise on the Law and Practice Relatin to Partnerships. London: Effingham Wilson. 1914. Pp. 117. Pri 5s. net.

Medical Diary for the ensuing Week.

LECTURES, ADDRESSES, DEMONSTRATIONS, &

POST-GRADUATE COLLEGE, West London Hospital, Hammersmit road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 2 P.M., Medic and Surgical Clinics. X Rays. Mr. D. Armour: Operation Dr. Pritchard: Bacterial Therapy Department. Mr. B. Harma and Mr. Gibb: Diseases of the Eye.

TUESDAY.—10 A.M., Dr. Simson: Gynæcological Op tion 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin Operations. Dr. Davis: Diseases of the Throat, Nose, and Ea Dr. Pernet: Diseases of the Skin.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. D Davis: Operations of the Throat, Nose, and Ear. 2 P.M. Medical and Surgical Clinics. X Rays. Mr. Pardoe: Opera tions. Dr. Simson: Diseases of Women. Mr. Gibb: Disease of the Eye.

THURSDAY.—9 A.M., Dr. Bernstein: Bacterial Therapy Department 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour Operations. Mr. B. Harman: Diseases of the Eye.

FRIDAY.—10 A.M., Dr. Simson: Gynæcological Operation 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin Operations. Dr. Davis: Diseases of the Throat, Nose, and Ea Dr. Pernet: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis Operations of the Throat, Nose, and Ear. Mr. B. Harman Eye Operations. 2 P.M., Medical and Surgical Clinic X Rays. Mr. Pardoe: Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince o Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. H Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham) Gynæcological (Dr. Banister). 3 P.M., Medical In-patients (Dr R. M. Leslie).

TUESDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patien (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Nose, Throat and Ear (Mr. H. D. Gillies). X Ray and Electrical Method (Dr. Metcalfe). 3.30 P.M., Medical In-patient (Dr. A. J Whiting).

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies) 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. Dorell).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles) Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson); X Rays and Electrical Methods (Dr. Metcalfe).

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. E. Gillespie); Eye (Mr. H. P. Brooks). 3 P.M., Medical In-patient (Dr. G. P. Chappel).

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, Medical School, City-road, E.C.

MONDAY.—1.30 P.M., Department for the Prevention of Consump tion. 2 P.M., Cardiac Department, Dr. Stott; Out-patient Department, Dr. Phear, Dr. S. Thompson. 3 P.M., Wards, Dr. Phear.

TUESDAY.—9 A.M., Laryngological Department, Mr. Mant. 1.30 P.M. Department for the Prevention of Consumption. 2 P.M., Out patient Department, Dr. M. Leslie, Dr. B. King; Operations Mr. A. Evans. 3 P.M., Wards, Dr. White. 4 P.M., Wards, Dr. M. Leslie.

WEDNESDAY.—2 P.M., Wards, Dr. A. Davies; Out-patient Department, Dr. Drysdale, Dr. Kellie. 4 P.M., Wards, Dr. Drysdale. 4.30 P.M., Roentgen Ray Department, Dr. Jordan.

THURSDAY.—9.30 A.M., Dental Department, Mr. G. Thomson. 10 A.M., Cardiac Department, Dr. Stott. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department, Dr. Phear, Dr. S. Thompson. 4.30 P.M. Laryngological Department, Mr. Mant.

FRIDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Wards, Dr. Calvert; Out-patient Department, Dr. M. Leslie, Dr. B. King.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY AND FRIDAY.—3 P.M., Dr. A. Wylie: Diseases of the Larynx. 4 P.M., Dr. D. McKenzie: Endoscopy.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.

THURSDAY.—5.15 P.M., Clinical Lecture.

For further particulars of the above Lectures, &c., see Advertisement Pages.

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced. In 1914:—

May 1st–Nov. 1st (Lyons).—International Town Hygiene Exhibition.

„ 15th–Oct. 15th (Berne).—Swiss National Exhibition.

May-October (London, Shepherd's Bush).—Anglo-American Exposition.

June-July (Groningen).—University of Groningen 300th Anniversary Celebration.

July 27th–31st (London).—Fifth Annual Session of the Clinical Congress of Surgeons of North America.

„ 28th–31st (Aberdeen).—Eighty-second Annual Meeting of the British Medical Association.

July-September (Australia).—Eighty-fourth Annual Meeting of the British Association for the Advancement of Science. (July 28th to August 3rd at Perth, August 8th to 12th at Adelaide, August 13th to 19th at Melbourne, August 20th to 26th at Sydney, August 27th to Sept. 1st at Brisbane).

Aug. 2nd–10th (Paris).—Tenth Congress of Esperantists.

„ 3rd–8th (London).—Sixth International Dental Congress.

„ 10th–15th (St. Petersburg).—Twelfth International Congress of Ophthalmology.

„ 29th–Sept. 14th (Toronto).—Canadian National Exhibition.

Sept. 7th–12th (Berne).—International Congress for Neurology, Psychiatry, and Psychology.

„ 10th–12th (Fort William and Port Arthur, Ontario).—Fourth Annual Congress of the Canadian Public Health Association.

„ 21st–26th (Victoria, B.C.).—Dominion Exhibition.

„ 21st–26th (Vienna).—Third International Congress on Diseases of Occupation.

„ 30th–Oct. 4th (Brussels). Fourteenth French (de langue française) Congress of Medicine.

Oct. 31st–Nov. 2nd (Berlin).—First Congress of the International Society for Sexual Research.

Nov. 15th–21st (London).—Health Week. (Under the direction of the Health Week Committee appointed by the Royal Sanitary Institute.)

(St. Petersburg).—Third Mendeléeff Congress of Pure and Applied Chemistry and Physics.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. I. of 1914, which was completed with the issue of June 27th, were given in THE LANCET of July 4th.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1914 are now ready. Bound in cloth, gilt lettered, price 16*s.* carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 22nd, 1914.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
July 16	29·95	W.	0·01	125	71	57	59	64	Cloudy
„ 17	30·00	W.	...	123	75	53	59	64	Cloudy
„ 18	30·02	S.W.	...	131	76	57	61	65	Cloudy
„ 19	29·84	S.	0·05	112	74	62	63	66	Cloudy
„ 20	29·65	S.E.	...	119	75	62	63	67	Cloudy
„ 21	29·73	E.	...	111	76	65	62	67	Overcast
„ 22	29·63	S.W.	...	113	73	62	63	65	Cloudy

The following magazines, journals, &c., have been received:—

Clinique Ophthalmologique, American Journal of Obstetrics, Journal of Physiology, Albany Medical Annals, Medical Review of Reviews, British Journal of Dental Science, Calcutta Medical Journal, Military Medical Journal, Indian Journal of Medical Research, American Medicine, American Journal of Gastro-Enterology, Therapist, Proceedings of the Royal Society of Medicine, Medical Journal of South Wales, British Journal of Dermatology, British Dental Journal, Canadian Medical Association Journal.

Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; Anderson College of Medicine, Glasgow, Secretary of; Messrs. Armour and Co., Lond.; Ardath Tobacco Co., Lond.; Miss Maud Aldis, Lond.; Dr. K. B. Allan, Lond.; A. P. F.; Dr. T. C. Askin, Woodbridge; Mr. E. Arnold, Lond.; *American Medicine*, New York; Anglo-American Pharmaceutical Co., Croydon, Secretary of

B.—Bristol Myers Co., Brooklyn; Bromley Education Committee, Secretary of; *Burton-upon-Trent* Gas Works, Manager of; Mr. H. P. Byers, Melita, Canada; Mr. V. A. Bona, Moscow; Dr. F. E. Batten, Lond.; Birkenhead Borough Hospital, Matron to the; Dr. D. Bower, Bedford; Mr. H. Blakeway, Lond.; *Bournemouth, Medical Officer of Health* of; Dr. W. Blair Bell, Liverpool; Messrs. W. Baker and Co., Oxford; Blackburn and East Lancashire Royal Infirmary, Secretary of; British Science Guild, Lond., Secretary of; Bristol General Hospital, Secretary of; Mr. F. J. C. Blackmore, Lond.; Dr. Horace T. Brown, Lond.; Dr. A. G. Bateman, Lond.; Mr. A. D. Ballow, Lond.; Sir Thomas Barclay, Birmingham; *Dr. E. F. Bashford, Lond.*

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